THE JANUARY 1931

# RADEX INDEX

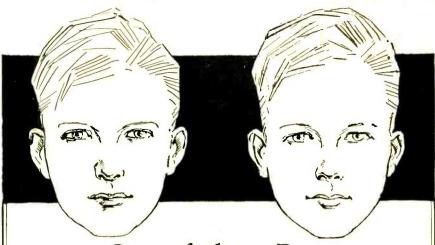
The Magazine that Doubles the Pleasure of Radio



(25°)

How to Build a Short Wave Adapter

A Grounded Aerial Brings Surprising Results



# One of these Boys Will Fail-IF

DOTH possess equal health and intelligence, both have qualities that make for success, but only one will succeed, for the other one stammers—be will fail. He is dominated by fear. He will dread to meet people, for he will lack the self-confidence so necessary to succeed in all walks of life, but especially in business; and the humiliation of his disability will result in an impairment of his nervous system—a condition often the beginning of ill health.

All stammerers are fully aware of their handicap; they know how it feels to be regarded as "different" from other people—and often laughed at. They know that their affliction sets them apart from all others who are normal. They know that stammering is a handicap which prevents their greatest success in business or their participation in social affairs. But all stammerers do not know that their handicap can be removed.

From childhood Benjamin Bogue was afflicted with a chronic case of stammering. For nearly twenty years he endured the experience common to all stammerers. But after long years of tireless effort, after endless nights of study and days of research he developed the method by which he cured himself.

# STAMMERING

In the book offered below, Mr. Bogue relates the story of his own experiences, and describes how he restored himself to perfect speech. As stammering is due to a lack of co-ordination between the speech muscles and the brain, he quotes in the book the eminent authorities that for years recognized the well-known fact that stammering cannot be "outgrown,"

but instead becomes "ingrown," and that in order to restore perfect speech it is necessary to establish proper functioning of the speech musculature.

Beginning on page 72 will be found an explanation of the causes of stammering. The results of stammering are also fully described, giving the basis of the conviction held by leading speech authorities that stammering should be removed before it hecomes deeply rooted in the muscular and nervous system. The text beginning on page 196 is devoted to a description of the Bogue Unit Method, which is based on the principle of coordination between the mind and the speech organs. It has restored perfect speech to stammerers everywhere. No drugs or medicine are used, and the method is highly endorsed by physicians.

In this book will be found the reason for the world-wide reputation of the Bogue Unit Method and its international recognition as the standard method for the cure of stammering and stuttering. Hundreds of helpful facts are embodied in this valuable book entitled "Stammering. Its Cause and Cure," a copy of which will be sent on receipt of ten cents mailed with the coupon.

BENJAMIN N. BOGUE, 14 52 Bogue Building, 1147 N. Illinois St., Indianapolis, Ind.
Enclosed is 10 cents for which please send me the book "Stammering—Its Cause and Cure"—and full information regarding the Bogue Unit Method for the cure of stammering and stuttering.
Name

Address .....

### THE JANUARY 1931





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## FRED CLAYTON BUTLER

Editor and Publisher

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### THE RADEX PRESS

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# BUILDING Short Wave ADAPTER

ITH the increased interest in short-wave reception many radio fans having sets designed for use on the regular broadcast waves, are wondering how they can build an adapter at a minimum cost, which will give them satisfactory short-wave reception. Having this general demand in view we are herewith presenting a two-tube, screengrid adapter circuit which has been found to give entirely satisfactory reception on the lower waves when used in conjunction with a battery-operated receiver. The adapter described in this article should not be used on all-electric receivers owing to the introduction of hum and line noises. A. c. adapters have not yet proved to be generally satisfactory and if you have an a. c. set, it is advisable to build a separate audio amplifier for the adapter, both the adapter and the amplifier being built on a single baseboard, thus really making a complete short-wave set.

Good short-wave reception is possible only with the use of apparatus especially designed for the purpose. For this reason it is quite a compromise to use plug-in short-wave coils in the r. f. stages of a regular broadcast receiver as the .0005mfd. variable condensers, with which most broadcast receivers are usually equipped, are too large in capacity for use with the coils designed for shortwave work. The adapter shown and described in this article is really a separate r. f. amplifier plus a detector, and it is plugged into the detector stage of the broadcast receiver, utilizing only the audio amplifier of the latter. In this way it is possible for you to tune in short-wave signals by building this simple adapter yourself, which will afford you interesting diversion besides effecting quite a saving.

#### The Parts Necessary

All that is necessary are a set of three or four short-wave coils covering the 20, 40, 80 and 150-meter wavebands, a few fixed and variable condensers, two tubes and sockets and a few resistors, besides a panel, baseboard and a suitable

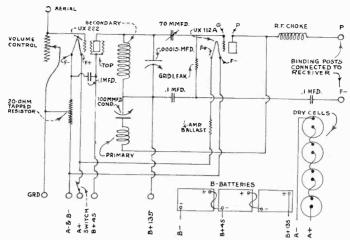
## With Plans and Parts By J. B. Smith

cabinet, although the latter can be eliminated if desired. The cost of these parts is much less than that of a regular complete short-wave receiver, and to all practical purposes it is just as good for those who wish to listen in occasionally. The complete list of materials for the adapter are as follows:

- 1 Electrad Tonatrol, Type P Variable Resistor for use as a volume control.
- 1 20 ohm, center-tapped resistor of the fixed type.
- 1 two to four-megohm grid leak and mounting.
- 1 4-ohm ¼ amp. ballast such as a No. 1A Amperite.
- 1 radio frequency choke coil such as the Hammarlund No. 250.
- 3 fixed condensors .1-mfd.
- 1 filament switch.
- 1 set of three or four plug-in short-wave coils with a condenser to match and a suitable mounting or socket which comes with the coils.
- 1 100-mmfd. variable condenser used for a sensitivity control.
- 170 mmfd. variable condenser.
- 1 UX-222 screen-grid tube and socket.
- 1 UX-112A tube and socket.
- 1 Hammarlund "Swap" adapter and cable which makes connection to the F and P terminals of the detector socket in the receiver.
- 8 binding posts.
- 1 bakelite panel about 7x14 inches.
- 1 suitable wood or bakelite subpanel or baseboard.
- 1 cabinet if desired.

Any type of short-wave coils made by a reputable manufacturer are satisfactory for the purpose, but care must be taken to get a variable condenser to match. Usually both the coils and the condenser come together in the form of a kit.

The storage battery which is used on the receiver can also be used for supplying the filament current to the adapter,



2-TUBE, SCREEN-GRID, SHORT-WAVE ADAPTER

although four dry cells, connected in series as shown in the diagram, can be substituted, while three 45-volt B-batteries supplying the receiver, also furnish plate current for the adapter.

#### The Assembly

In assembling the parts, four controls are mounted on the panel, namely, the tuning knob, the filament switch, the volume control and the sensitivity control, which is the 100-mmfd, variable condenser. The other parts are laid out on the baseboard as neatly as possible and in such a way that the leads connecting them will be as short as possible. especially the grid and plate leads. Also be sure not to run the grid and plate leads parallel to each other. It is better to make these leads longer in order to run them at right angles to each other. Follow the wiring diagram, Fig. 1, carefully. Solder all connections, using flux that will not cause corrosion, which, of course, eliminates acid flux of all kinds. The coils, one of which is used at a time, are plugged into the coil mounting or socket. Each coil covers a definite waveband below the broadcast range. A screen-grid tube is used for the r. f. stage in the adapter as its amplification value is greater than that of a UX 201A tube, and as it serves to block feedback and thus prevent reradiation caused by too much regeneration. You will note

that the regeneration system employed in this case is not directly coupled to the antenna circuit. For a detector, a 112A tube has been found most satisfactory in short-wave work, although a 201A tube can be substituted if desired. especially when working on the lower wavelengths. It was found that a UX 200A tube was too noisy for use as a detector in this adapter although it was sufficiently sensitive. The binding posts should be mounted on small bakelite strips held up by suitable brass brackets. Two binding posts are used for the aerial and ground, four for the battery connections and the cord on the adapter plug is connected to the remaining two, which form the output, marked F and P. The plug is substituted for the detector tube of the receiver when the adapter is used.

#### Connecting to Set

It is a comparatively simple matter to hook up the adapter, which is done in the following way: Disconnect the aerial from the receiver and connect it to the adapter binding post marked "aerial." Connect a ground lead to the "ground" binding post of the adapter. This may be a separate lead or it may be the regular ground lead of the receiver. Leads are then run from the terminals on the storage battery to the A-pos. and A-neg. binding posts of the adapter, (Continued on page 18)

# Some QUESTIONS are ASKED

### And Some Are Answered

TFIND that a large number of DXers cannot get Maine, New Hampshire or Vermont," writes Bruce P. Lundy, Jr., R.F.D. 2, Jersey Shore, Pa. "Is this because the stations are not powerful enough, or is it because the New York, Hartford and Boston stations drown them out?" Mr. Lundy has installed the U.S. standard ground described in a recent number of RADEX and says, "I would by all means recommend this ground. It is an excellent ground because it gives a low resistance. I do not have a quarter the noise I used to have on my set."

"Here is a little information for those who have not tuned in New Hampshire and Vermont stations," writes Robert R. Rawstrong, 31½ Sullivan Street, Claremont, N. H., "WKAV Laconia, N. H., 1310 kcys., Saturday evenings 7:00 to 8:30, and third Sunday in each month from 3:00 a.m. to 5:00 a.m. WNBX Springfield, Vt., 1200 kcys., Fridays 1:00

to 2:00 p.m.

"What has become of 6BY?" asks Mr. Rawstrong. This is now station CMHA, last heard from on 1150 keys.

"What station operates on 1440 keys. from the Drake Hotel, Chicago," asks a reader from Pekin, Ill. We hazard the guess that this is a harmonic of WGN, 720. This reader says that KGGF now announces from Coffeyville, Okla., although other readers report this station

from Coffeyville, Kansas.

"You have WBBZ at Ponca City, Okla.," states Victor J. Balt, 226 Sumner Avenue, Aurora, Ill., "but I heard from them November 9th and they gave their location as Arkansas City, Kansas." Commission still shows them at Ponca City. Have they moved? Mr. Balt sets up the target of KCRC Enid, Okla., which he states is on the air every Wednesday and Saturday night until 8:30 the next morning.

"Have noticed on Sundays that stations WOAX Trenton, N. J., and WHAP

New York, announce call letters together and wonder if they have combined. These two stations are on different frequencies," comments L. A. Deuchar, 119 N. 51st Street, Philadelphia, Pa.

Station Queries

"WIAS Ottumwa, Iowa, has moved from 1420 keys. to 1500, according to their own announcement," states Paul L. King, 1523 Madison Street, Madison, Wis. No notice to this effect from the Commission. How about it?

"Late Saturday afternoon, November 15th, while tuned in on 1100 kcys. I heard announced WALL, Wallingford, Conn.," writes Isaac O. Harper, 448 C Avenue, Coronado, Calif. "Can you throw any light on this station?" The Commission shows no such station, nor any station, in Wallingford. Perhaps some of our eastern readers can report.

From John W. Christie, 4136 Dorchester W., Westmount, Montreal, Que.: "November 22nd at 11 p.m., EST, while on WEAF I could hear women's voices singing right in back of WEAF's signal. They were rather faint and I was able to hear them only between numbers on WEAF. At 11:15 it was instrumental music, guitars or Hawaiian. It was not a part of WEAF's program and it was not anything spread from stations on either side as their programs were entirely different." Has any other reader had a similar experience on 660?

"Is station WEHS Evanston, Ill., still on the air?" asks Victor J. Balt, 226 Sumner Avenue, Aurora, Ill. "The last time I had them was two months ago and I wrote them but my letter came back marked 'no such address.'" The last list of the Commission still shows this station as "WEHS Inc., Evanston, Ill."

From Allen W. Mummey, R. 2, Walnutport, Pa.: "I wonder if a stage of screen-grid radio frequency (a screen-grid booster as made by the National) would help me to get a little more distance? I wish some of the users of such an accessory would let me know."

"Wednesday night, November 12th, at 9:45 p.m., EST., I heard a program

on 1400 kcys. announced in German and a song sung in the same language," says Charles Foster, 120 Hall Avenue, Colvin Station, Syracuse, N. Y. "Have you any idea what this station can be?" Can any of our readers enlighten Mr. Foster?

Joe Ribinski, 53 Kittell Avenue, Yonkers, N. Y., asks for information regarding a Pilot Wasp short wave set. He would like to hear from some reader who is getting good reception on such a to know when NBA, TIX and VAS are on the air.

Robert N. Brengle, Paris, Ill., and others, want to know if KDKA has finished its tests in synchronization. Mr. Brengle adds, "Keep up the good work of publishing your admirable little magazine, the best of its kind, while we fans listen, hope and pray that in some far-distant day radio announcers decide to give their call letters at least every three hours instead of giving us lessons



Lowell Thomas, writer and lecturer, whose acried wentures have carried him to the far corners of the earth, is the interpreter of the day's news on the Literary Digest Program. Every weekday at 6:45 E.S.T. over the National (WJZ) network.

set, regarding the requirements such as tubes, batteries, aerial, ground, etc.

Paul Nessler, 266 Born Street, Secaucus, N. J., would also like to learn something of the results that have been secured with the Pilot Super-Wasp.

L. Y. Briscoe, 3743 Hutchison Street, Montreal, asks for information as to what station announces as "The Smallest Station in America." Can any reader answer?

John J. Barlow, Berkeley, Calif., wants to know if KNX has increased its power. He states that he received them very loud at 4 o'clock on a clear, warm day and thinks they must be using at least 50.000 watts.

Joseph Brocius, 1746 West Chestnut Street, Shamokin, Pa., who has made a wonderful record in DX work, wants in the orthographical construction of Bulova which by this time we can spell perfectly anyway."

"WBBM and KFAB hetrodyne every day with WBBM getting in more words than KFAB," writes Gerald McGrath, 2211 South Clinton Street, Sioux City, Iowa. "I don't think KFAB should be the one to sign off as they have A-1 programs and WBBM broadcasts more hours per day. KMA Shenandoah, Iowa, is another that needs a little help. About 4:15 or 4:30 every afternoon, the interference starts on their station and entirely ruins their program. In the evening they absolutely cannot be heard."

The inquiry of O. W. Desmond is answered by Jack A. Bachman, 204 North 34th Street, Philadelphia. "Mr.

(Continued on page 20)

# WHISTLES and SQUEALS

#### The Technical Editor Prescribes

#### Volume Control Reduces Signal

I have a Crosley eight-tube, screen-grid receiver and I cannot get volume on it as I should. When I turn up the volume control and it gets halfway, the signals get weaker instead of stronger. New tubes have not remedied the trouble. Can you now kindly advise how to cure it

Your trouble that reception is muffled or deadened when the volume control is turned up beyond a certain point, is generally caused by the "loading up" of a tube. Often the plate voltage of the detector tube as well as that of the screen-grid tubes is too much, and there is more amplification of the signal than the detector can pass. The remedy is reduction of voltage until the volume control acts correctly. In other cases wrong C-bias is the cause of overloading, owing to one or more defective resistors, or a resistor in the circuit may be open. Proper adjustment of commercial receivers should be made by the service men of the concern handling them.

#### Logging Troubles in Super

I have a Northern-Electric Superheterodyne receiver with six 199 tubes and a 201 A tube for the power stage. I am using a thirty-foot aerial and intend to erect a longer one. The trouble I am having is that stations come in at several points on the dials and that the same stations never come in at the same dial readings, making it impossible to log them. I checked over the wiring very carefully with a dry cell and a pair of headphones but found all connections in good condition. I substituted new tubes but the trouble still persists. The set has eight variable controls on the panel. I live in Tornoto, Canada, and have been getting San Francisco until lately and the set works fine in every other way except that mentioned. How should I go about curing the trouble?

On the average superheterodyne there are two points at which the same station comes in. One of them is the fundamental

and the other is the harmonic. Sometimes superheterodyne receivers have several harmonics besides the fundamental. So really, this peculiarity is not abnormal with this type of receiver. In your case, however, there are more variable controls on the panel than usual and this accounts for the impossibility of getting stations repeatedly at the same points on the dial. It would be a good idea to experiment with the variable controls as follows: Set them for maximum volume, especially the coupling. Then without touching any controls except the two tuning dials and the volume control, tune in a number of stations. The same stations should always come in at the same points if the other dials are not moved. Another factor that often influences the tuning on a superheterodyne receiver is the oscillator tube. One tube is better suited for this purpose than another. and by changing them around you can readily determine which one is best. It should also be remembered that any change in the intermediate-frequency plate voltage will also cause a change in the dial readings.

#### Station Blankets Dial

Will you kindly explain the purpose and proper use of a shielded lead-in wire? I have recently put up a first-class aerial about sixty feet long, and am using between thirty and forty feet of shielded lead-in wire, with the shield grounded. I found that this reduced the volume considerably so that I was barely able to hear a signal. I then inserted a .00007-mfd. fixed condenser between the shield and ground, and and this prevents the reduction in volume. Another thing I do not understand is this: I get very good reception on numerous stations in all sections of the country. I have a very good set, an R. C. A. No. 80, a fine location, and a good aerial and ground. Yet one of the local stations comes in so weak that I have to disconnect the ground lead from the set to increase the volume. Can you suggest any reason for this phenomenon? It is rather incon-(Continued on page 20)

# BROADCASTING RELAY STATIONS

#### A List of the Short Wave Transmitters

Location of Transmitter	Call Signal	Frequency in Kilocycles (Meters in Parenthesis)	Power (Watts in Antenna)	
California	WCVAE	2,938 (112.1), 5,870 (51.11)		
				State Dept. of Agri- culture (Calif.)
	W6XAL	6,080 (49.34), 15,250 (19.672), 21,500 (13.953)	15,000	Pacific-Western Bdct. Federation
Colorado Denver	W9XA	830 (361)	12,500	General Electric Co.
Illinois Addison Chicago	W9XAQ W9XAA	6,040 (49.67) 6,080 (49.34), 11,840 (25.34), 17,780 (16.873)	1,000 500	Chicago Daily News Chicago Fed. of Labor
Downers Grove	W9XF	6,020 (49.83), 11,800 (25.42), 21,500 (13.953)	5,000	Gt. Lakes Radio Bdct. Co., 72 W. Adams St.,
Iowa Council Bluffs	W9XU	6,060 (49.5)	500	Chicago, Ill. Mona Motor Oil Co.
	W1XAZ	9,570 (31.35), 2,398 (125.1)	10,000	West'g'e Elec& Mfg.Co.
New Jersey Bound Brook Coytesville	W3XAL W2XAL	6,040 (49.67), 11,800 (25.42),	20,000 500	Nat'l Broadcasting Co. Aviation Radio Sta.
Kearny	W2XCX	15,250 (19.672), 21,460 (13.979) 6,080 (49.34)	500	L. Bamberger & Co.
New York				_
Bellmore Cross Hassock Bay New York (Portable) _	W2XE W2XBR	610 (491.5) 11,840 (25.34), 15,280 (19.634) 6,020 (49.83)	20,000 1,000	Nat'l Broadcasting Co. Atlantic Bdet. Corp. Baruchrome Corp.
South Schenectady South Schenectady	W2XAD W2XAF	15,340 (19,557) 9,530 (31,48)	$\frac{25,000}{40,000}$	Atlantic Bdct. Co. Gen. Electric Co. Gen. Electric Co.
	W2XAG	550 (545), 660 (455), 790 (380), 1,150 (260.9), 1,500 (200)	200,000	Gen. Electric Co.
Ohio Mason V	V8XAL	6,060 (49.5)	250	Crosley Radio Corp.,
Pennsylvania East Pittsburgh	W8XK	6,140 (48.86), 9,570 (31.35), 11,880	40,000	1325 Arlington St., Cincinnati, Ohio Westinghouse Elec. &
Philadelphia	W3XAII	(25.25), 15,210 (19.724), 17,780 (16.873), 21,540 (13.928) 6,060 (49.5), 9,590 (31.28)	500	Mfg. Co. Universal Brdc. Co.,
Canada		-, (20.0/, 0,000 (01.00)	300	1940 Market St.
Middlechurch, Man	CJRX	11,720 (25.6)	2000	James Richardson & Sons, Ltd.

# This Month's Changes

Trus Mortin 5 Changes
Call Letters:
KMIC Inglewood, Cal., 1120 kcys., now KMCS
WRBU Gastonia, N. C., 1210 keys., now WSOC
WFKD Philadelphia, Pa., 1310 kcys., no
WTEL.
WBNY New York, N. Y., 1350 kcys., no
WAWZ.
WBAM Greensboro, N. C., 1440 kcys., nov
WBIG.
WORD Chicago, Ill., 1490 keys., now WCHI.
Deleted:
XFA Mexico City, 540 kcys.
KFHA Gunnison, Colo., 1200 keys.
WMAY St. Louis, Mo., 1200 keys.
WCSO Springfield, Ohio, 1450 kcys.
WFJC Akron, Ohio, 1450 keys.
Power:
KFYR Bismarck, N. Dak., 550 keys., 500 to
1000.
WIBW Topeka, Kans., 580 kcys., 500 to 1000
CKPC Preston, Ont., 1210 keys., 25 to 50.
KFKU Lawrence, Kans., 1220 kcys., 1000 to 500
WFBR Baltimore, Md., 1270 kcys., 250 to 500
WJDX Jackson, Miss., 1270 keys., 500 to 1000
KID Idaho Falls, Ida., 1320 keys., 500 to 250.

WQDM St. Albans, Vt., 1370 keys., 5 to 100.

Frequencies:

CNRE Edmonton, Alta., 930 to 580.

XFI Mexico City, 590 to 818.

NEZ Mexico City, 700 to 588.

XET Mexico City, 630 to 890.

XFC Jalapa, Mex., 630 to 895.

XFE Villahermosa, Mex., 920 to 632.

XEO Mexico City, 980 to 674.

XEM Tampico, Mex., 765 to 841.

CHNS Halifax, N. S., 930 to 910.

CNRH Halifax, N. S., 930 to 910.

XEX Mexico City, 920 to 1300.

XFF Chihuahua, Mex., 920 to 915.

XEH Monterrey, Mex., 960 to 1132.

XEB Mexico City, 670 to 1091.

XEC Toluca, Mex., 1330 to 1133.

WIBU Poynette, Wis., 1310 to 1210.

New Stations: New Stations: lew Stations:
XEQ Ciudad Juarez, Mex., 750 kcys.
XEK Mexico City, 1000 kcys.
XEG Mexico City, 970 kcys.
XEV Puebla, Mex., 1035 kcys.
XETA Mexico City, 1100 kcys.
KGVO Missoula, Mont., 1420 kcys.
WSYB Rutland, Vt., 1500 kcys. Reinstated:

WBOQ New York City, 860 kcys. WRBI Tifton, Ga., 1810 kcys.

# "LET'S CALL a MEETIN"

### A Forum For Our Readers

Arnold Ridings, who signs himself "Just a Soldier," Fort McDowell, Calif., calls our attention to the fact that the new map shows Holy City near Los Angeles when it should be near San Francisco. We can't explain this unless there has been an earthquake that we haven't heard about. Mr. Ridings has had some cards printed to use in verifying reception, which he says have doubled his replies. One side of the card is selfaddressed and the other contains a verification of reception so that the station merely has to fill in the date and sign it. Mr. Ridings closes his letter by saying, "Your magazine, RADEX, is absolutely, positively the greatest, finest, big-little radio informative in the world, and believe me I've tried scores of them."

Jerry S. Gascon, 537 W. 44th Street, New York City, has this to say about the new map: "Every radio listener should have one like it near his set, because it is so clear, so easy to find the city that you're hearing, and in a few seconds you can tell how far it is from your town."

Laurence Angel, Jr., sports editor of the Tarrytown Daily News, Tarrytown, N. Y., writes, "Incidentally I find the new RADEX map the best I have come across in eight years. Like RADEX it fills the bill. The distance hound must have it when he is roaming the ether for a new thrill." Mr. Angel says that he is not such an envious fan as to question the foreign reception of others, even if his present receiver, a 7-tube screen-grid model, has never yet taken him across the ocean, although KNX on some nights comes in very loud. He would like to find the secret of snaring signals from points well outside the boundaries of the U.S.A. We are sorry we have no inside information to offer Mr. Angel and other inquirers. Many of the authentic foreign records have been made on ordinary sets. Foreign reception seems to be the result of a combination of a

number of factors and there is no royal road to it.

A number of readers call our attention to numerous changes the Cuban stations are making. James L. Cavanagh, Jr., 101 North Spring Avenue, LaGrange, Ill., and several others, send us lists of the Cuban stations sent to them from Cuba, but even these lists are not at all accurate. Our readers will be glad to know that we have arranged with a correspondent in Havana to supply us each month with any changes in frequency, power, location, etc., of stations in that country. We hope to receive the first report in time to include it in this issue.

From Earl R. Roberts, 4310 East 30th Street, Indianapolis, Ind.: "Those Cuban stations must be jumping waves something awful. I have heard several I'd like to identify. One came in at about 585 kcys. between WOW and WSAZ." (This was probably CMW on 588.) "II heard a Spanish-speaking station on the same wave as WABC, but according to my loop it came from the direction of



Miss Corinne Jordan, program director of KSTP, meets Mr. Televox, the automatic man who obeys "his master's voice"

Cuba rather than Mexico." Mr. Roberts has now heard a total of 465 stations.

Mrs. W. R. Horton, 512 Sixth Street. N., Great Falls, Mont., wants us to publish the Pacific coast networks, as there are many good programs there. We endeavored to do this at one time, but owing to the distance the programs reached us too late to be of any value and we have had to content ourselves with the Pacific coast stations on the regular NBC and Columbia networks. "Tonight the radio reception is very unusual," comments Mrs. Horton, "We have had WTAM as clearly as our own local station, WJZ came in clearly before 9 o'clock, and WTIC, WGP and WEAF have come in as loud as our west coast stations do. Even WSB, WSM and WRVA have come in well and they gave me quite a thrill because I have never had them before."

Several readers answered the inquiry in the December issue regarding WRDS. Stanley H. Bond, Oakland, Md., reports that he has a verification from this station showing that it is owned by the Michigan State Police, is located at East Lansing, Mich., and broadcasts on 1603 keys. They broadcast police ininformation, but also use musical programs in testing. WRBE in the same inquiry is a ship station according to Ivan D. Ives, Box 312, Genoa, Ill., and the name is the "John Purroy Mitchell."

The inquiry by "Miss Anonymous," Helena, Mont., as to the foreign station received on 1110 kcys. is believed to be KTRH Houston, Texas, by H. J. Jandron, 77 Marion Road, Watertown, Mass. "They announce in both English and Spanish and fooled me the first time I got them. The reason she has to use so much power is that she is ten kcys, off the proper frequency. Ask her to try them on 1120 under the same conditions and see how she makes out."

Regarding WCLB Long Beach, N. Y., F. E. Wilkes, Ossining, N. Y., writes that this station has been inactive about a year although it is still licensed. Mr. Wilkes is worried about the ethics of counting as stations received those that have come in on harmonics of short waves, and would like to know what other DXers think about it.



Did you hear "Bill" Munday, he of the Georgia drawl, describe the "Knutre" Dame and Southern California football battle?

Raymond I. Keim, Box 107, Shamokin, Pa., thinks that the interference complained of with WMC may have been XEW Mexico City. He has been receiving this station nightly since November 24th but has interference with WBBM until the latter signs off at 1:00 a.m. and then XEW comes in strong.

"I received my copy of 'Radio Trouble Shooting' and say, there is a book. I've learned more about radio in the week I've had it than I've ever known in the four or five years I've been in radio. A great book!" is the comment of K. J. Louden, P.O. Box 523, Orangeville. Ont. "I have added another 100 feet to my present aerial and now I have a 300-foot aerial in between two supports 30 feet apart. Sounds impossible, but it does the best job in town.'

One reader asks how it was possible for Guy B. Welsh, 144 Brown Street, Reynoldsville, Pa., to receive both WBTM and WLVA during the same moment, as he stated in the December issue, in view of the fact that these two stations share time. Mr. Welsh explains that he happened to tune in this frequency at the moment they switched (Continued on page 24)

# PUZZLES are GETTING TOUGHER

#### So Are Our Puzzlers

Something surely will have to be done about this. Our puzzlers are getting altogether too good. No wonder they asked for something harder. Well, the December puzzle will probably hold them a while and now for January we are going to have something even harder. Remember, you asked for it.

Some of our readers want us to list the owners of stations alphabetically and others want us to print a list of slogans. If we were to make it any easier to solve these puzzles than they are now, we would have to print the month through just to supply copies for premiums. One or two complained that some of the keys referred to the new map of which they didn't have a copy. We did this to test the ingenuity of our readers. Here's the secret. The map wasn't necessary because the Index by States gives the new map key and "N-15 on the new map" can be very easily found in this index if one knows his geography.

Walter Kolojay, 5031 Northcote Ave., East Chicago, Ind., says he solved the November puzzle in twenty-one and one-half minutes and Billy McQuade, 6617 Leland Way, Hollywood, Calif., says it "took only two of his study periods in school!"

It's too early in the month as we write this for us to comment on the returns on the December puzzle. We thought it would be pretty hard but maybe not. Anyway, here is the correct solution:

> wRvAsDvEwXew IaSxe TaHwEl kWpEnBaSbTkEgRmSk kUtNaAaBwRrIkDbGkExDq wOcFrcRlAwDcIpOw

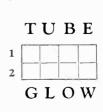
The list of stations from left to right are: WRVA, VAS, WEVD, XEW, WIAS, XET, WHAT, WELK, WPEN, NBA, KTBS, KREG, KSMR, KUT,

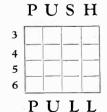
NAA, WBAA, WRR, KDBG, KGB, KEX, WQDX, WOC, CFRC, WALR, WADC, WOPI.

We found that the call for "In a State Capital" KUT could also be answered by KFUP, Denver, and therefore counted as correct either of the two solutions. In spite of our very best endeavors to make no mistakes in compiling these puzzles, errors just will creep in. "One of the three 250-watters in its state" should have been "one of four," KGB. And one of the letters I in the puzzle was not used in any call.



But if you think that was a hard one, just try this one. We want to change the first word in each of these puzzles, into the last word. We do this by changing two of the letters in each word to give us the call of a station as shown in the Index by Call Letters in the December RADEX. We must not change the order of the letters. Thus, in the first puzzle shown we want to change SOLO into TRIO. We keep the O-O and change S to W and L to K, giving us WOKO. Now we keep the W and the second O, changing the first O to R and the K to D, giving us WRDO. We now keep the R and O and change the W to T and the D to I thus solving the puzzle. Now you can proceed on your own and make TUBE GLOW.





#### 

Once more we will send to the successful contestants, their choice of the new map or the February RADEX. But get your solutions in before January 20th.

#### Key

- 1. On 1200.
- 2. In Pennsylvania.
- 3. Last three letters stand for owner.
- 4. Last three letters stand for owner.
- 5. First three letters stand for state.
- 6. Last three letters stand for state.
- 7. Last three letters stand for owner. 8. On 1310.
- 9. A Columbia station.
- 10. First four letters of a city.
- 11. On 1210.
- 12. Last three letters are first three of city.
- 13. Last three letters are initials of owner.
- 14. 500 watts daytime.
- 15. Call spells city. 16. 10 k.w.
- 17. 100-watt Texan.

# Roll Your Own

All right, if you think it is so easy to make up these cross-call puzzles, here is a chance to try your hand at it. Using this issue of RADEX, see if you can fit calls to the blanks in this square so they will be keyed both ways. When you have it completed, copy or cut out this square and fill it in. Send it to the Editor with the list of calls you have used for both horizontal and vertical and, for the best one submitted, we will send a year's subscription to RADEX. For the next best, a half-year's subscription; for the third, a map with leatherette cover. It will not be necessary to write descriptions for the calls.

### A Ground Phenomenon

ACCIDENTLY discovered that my ground wire had become detached from its post on the set. When I made proper connection, the reception immediately became faint, but it became strong again as soon as I disconnected the ground," reports Norman E. Hills, 1501 20th Avenue, N., St. Petersburg, Fla.

"Thinking that I could get better reception on other stations without the ground wire connection, I tried it but found that the reception was better when the ground wire was properly connected except in the case of stations situated across water. Cuba, for example, where conditions in that respect resemble the Mexican stations, came in better without a ground."

Why stations whose signals must cross water come in better without a ground connection, is a question for the engineers to answer

Both aerials and grounds are so full of surprises that nothing will so repay the experimenter as trying the various methods his ingenuity will suggest. No law seems to govern them as what works for one fails for another.

/	2	3	4	100	5	6	7		8	9	10	//
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3/		32	33	34	35		36	37	38	39	. 64	40
			41	42	43	44	45	46	47		A)	
48	49	50	51	52	53	54	55	56	57	58	59	60
61	in	62	H	63	64	65	66	67		68		69
70	7/	72	73	74	7.5	76	77	78	79	80	81	82
M			83	84	85	86	87	88	89	10 C		
90		91	92	93	94		95	96	97	98		99
100	101	102	/03		104	105	106		107	108	109	110
///	//2	//3			114		115			116	117	118
119	120	/2/	122		/23	124	125		126	127	128	129



VINCENT SOREY

That humble instrument, the mandolin, was responsible for Vincent Sorey's musical career. This young Italian musician who is heard directing the Columbia Salon Orchestra, the Columbia Review and the Columbia Melody Parade, was the son of a music-loving mother, who had for some reason or other specialized in the study of the mandolin.

So complete was her mastery of string and pick that she was known throughout many of the Italian provinces. She had many pupils and frequently appeared with them in concerts.

As the public repertoire of mandolin music is very limited, she undertook to interpret the more difficult music of the violin and was able to accomplish surprising duplications of this instrument.

Almost as soon as little Vincent was able to walk, he was taught, inductively, facts about music, and as soon as he could hold a mandolin in his hands, he was learning to play it. Presently he studied theory and then became a student at the Italian Royal Conservatory at Turin.

At fifteen he won the Grand Prix, the youngest person ever to win that honor. He went to Paris and studied with Andolfi, a pupil of Sarsate, and made his debut at the Salle Gavo, playing Mozart's Fourth Concerto.

During the war he remained in Italy and played more than 250 concerts. He also played with the Philharmonic in Turin during President Wilson's visit there. Later he went to Buenos Aires.

Mr. Sorey's most recent work has to do with the collecting of Spanish and Mexican folk songs, many of which he presents on his program over WABC.

### HERE'S A LITTLE SLIP

that will bring pleasure to you or your radio friends Obey that impulse and sign it now

### MONEY-SAVING COMBINATIONS

The Radex Press, 1367 East Sixth Street, Cleveland, Ohio. Enclosed find \$\_\_\_\_\_ for which send me postpaid my choice of your offers as checked below: One Radio Map of North America 250 One copy of the next RADEX 25c ☐ Trial subscription, next five issues of RADEX \$1.00 ☐ One year's subscription to RADEX, 10 issues, and Radio Map free ☐ Two subscriptions to RADEX with one leatherette cover and Radio Map, both free\_ 3.50 □ Leatherette Cover .50 One copy "Radio Trouble Shooting," by E. R. Haan 3.00 Write Name Plainly Street and Number City and State 45

# DIALING for Dx RECORDS

One of our friends, who asks that we do not use his name, as its use always brings him more letters than he can answer, has the following to say in regard to his methods in DX work:

"Many persons have the mistaken idea that DX is possible only late at night. This is not by any means the case. While certain very distant stations, such as those on the Pacific Coast, cannot be heard well before midnight, and while nothing can be heard except our locals and the big New York and Chicago stations on their respective channels while they are operating, nevertheless it is quite possible to log a very respectable list during the early evening.

"This listener last night started right after Amos and Andy at 7:15. By 9:30 sixty-one different stations had been heard. At 11 o'clock the total was eighty-one.

Early evening DX, of course, entails the sacrifice of chain broadcasting and one's other favorite features. But it is extremely interesting, especially on the crowded channels. Stations will fade in and out, two or three being on the same channel at the same time. One of them usually gathers sufficient strength to hold the floor long enough for one to identify it. Furthermore no really long log can be made unless one starts early, because there are a number of stations that sign off before 8:30 p.m. One hour in the early evening will produce more stations than two hours after midnight.

"An interesting and helpful plan to follow is to take a piece of paper and write down all the broadcasting channels, running from 550 to 1500 k.c., making ninety-six in all. See how many of these channels you can cover and mark them off as they come in. This saves time that might otherwise be wasted waiting for an announcement, only to find that the station had already been heard."

"No listener should ask for verification of a chain program for it is too easy to cheat. While some stations will verify a chain broadcast, they do it only because

# Roaming the Ether is Radio's Thrill

they do not like to disappoint a listener. It is not clean DXing."

"Do you know of any DX clubs which I might join? How can I get in the Newark News DX Club?" asks F. B. Gilliland, 3621 Sutherland Road, Shaker Heights, Ohio. The principal DX clubs of which we have record are the Newark News, the Chicago Daily News, Buffalo News and the Toronto Evening Telegram. Letters addressed to the radio editors of any of these papers will undoubtedly bring full information.

The Portland (Maine) Press-Herald, Evening Express and Sunday Telegram, have established a Radio Club in charge of Dan Hagerty, reports William Armstrong, 424 West 26th Street, New York City.

#### A Few Records

From Arborfield, Sask., John Forbes writes, "I am a DX tourist, but find it hard to pick up any great number of stations being so far north. The best I have had so far are KRGV, Harlingen, Texas, KGFL, Raton, New Mexico, and XEH, Monterrey, Mexico. I also heard CMK, Havana, lately. I got all these on a seven-tube DeForest Crosley and through the loud speaker. Can you tell me if KECA was operating in December, 1929?" We do not know when KECA, which is a sister station of KFI, first took the air. It appeared first in RADEX in January, 1930.

"I read RADEX from cover to cover and with its help I have received 260 stations since March, 1930," writes J. W. H. Johnston, 117 79th St., Niagara Falls, N. Y. "I have logged all 96 channels. Only since March have I been so enthused about verifications that I decided to join the Buffalo News DX club. Have logged and verified twenty west coast stations, one 100-watt at Reno, Nev., and one 100-watt at Wolf Point, Mont. Received verification from VAS just today. Can you give me any help on this one: A station on 1370 or 1380

kcys, at 6:15 a.m. October 16th with an organ recital. After each selection the announcer would say, 'Heigh-ho, Every-

body, Heigh-ho'."

"I have been at the DX game for six years," says Joaquin T. Russe, 21 Standish St., Provincetown, Mass. "Between October 1, 1930, and October 18th, I received over one hundred stations, including 22 on the Pacfic coast, one of which was KFVD, 250-watts, Culver City. Calif."

"VAS does verify," says Rufus C. Myretetus, 515 Lincoln Ave., Collingswood, N. J. "In addition to the card received VAS wrote me a little note, in which they said that I was the first person from the United States ever to send them a Canadian stamp, that the rest all sent U. S. stamps which were useless there. I was in Canada last summer on a vacation," explains Mr. Myretetus, "and brought a few Canadian stamps home for use in requests from Canada. Perhaps this is the reason I received their verification."

#### Conditions in Texas

Reception in the Lone Star State is rapidly becoming worse, according to letters we receive. This is because of that state's proximity to Cuba and Mexico, and the lack of any understanding between this country and those two countries such as exists with Canada. "By actual count there are only 26 of the 96 channels which are usually free of interference at night," states Wm. E. Kessell, 411 No. 8th St., Temple, Texas. "And at the present rate it won't take the Latin Americans long to ruin those. as the Cuban and Mexican stations are rapidly taking over our cleared waves. At the present rate unless some treaty is arrived at between the U.S. and these countries, reception will soon be practically impossible in Texas. It is certainly a deplorable situation."

"I have stations on every channel except 540, 1030 and 1500," says Geo. A. McGrew, Avondale Ave., Warrensville, Ohio. "Have been getting KEX, Portland, every morning before six."

"I have logged ten coast stations and three hundred others so far," says LeRoy Cattle, RFD 2, Paterson, N. J. 110 stations in the first fifteen days of October with the Crosley Showbox is the record of Ralph Visser, Sheboygan Falls, Wis. Included are many west coast stations, CMC, Havana, the 100-watt station at Wolf Point, Mont., and the 100-watt station at Woodside, N. Y. Mr. Visser's total record now exceeds 200 stations.

"I have 445 stations on my list. I have a 1928 No. 72 Majestic. I have 31 Canadian, 14 Cuban, 17 Mexican, two from Alaska, two from Honolulu, one from Porto Rico, and one from Lima, Peru," says Chris Tom Banakas, 28 No. Claybrook St., Memphis, Tenn. "This winter I hope to add 250 more. My aerial is only 53 feet long. I've tried 28 aerials and this one has twice as much power, which is a mystery to me."

From Warren A. Huntsinger, 13850 Manning Ave., Detroit, Mich., "I have my first a. c. set, a Serenader, one of the cheaper ones, have had it only three months and so far have logged 115 stations, I get CMW and CMC, Havana, regularly."

### A Voice From New Zealand

It is interesting to think that people on the other side of the globe whose feet are almost exactly opposite ours, are listening at the same moment to the same programs as we are here. We are sure our readers will find the following letter from a New Zealand reader of unusual interest:

"I received the September RADEX last week and, to say the least, I am sorry I did not know of its existence till then. I am indebted to Mr. C. Wells, of Concord, N. H., for introducing me to an excellent little magazine. I won't be able to send you my subscription for some weeks yet as I am working on a sheep-station (you'd call it a ranch) and see a post office only about every two months. I will send along my \$1.75 as soon as I get within range of a money order.

"I had an interesting night spent in solving the cross-call puzzle but I was working under a bit of a handicap in not being conversant with the terms 'Middle West,' 'East of the Smokies,' 'Where the World's Best Coffee Grows,'

etc. I am enclosing some New Zealand stamps to the equivalent of 26 cents in your coin so that I may make a claim for the Radio Map. Perhaps some philatelist over your way would be pleased to part with 25 cents for them.

"To say I am keen on DXing is putting it mild. My set is only a four-tube Browning-Drake which I constructed myself. The a.c. mains have not reached up here yet so I have to use dry batteries. I have 90 volts. I have heard almost ninety American stations, including XEN and a few Canadians. Some of the stations I have received verifications for XEN, KGFG, KGIQ, WFIW, WJDX, KGNF, WAPI, KOIL, WIOD and KPRC. Just last week I had a letter from WHK (1000 watts, Cleveland) which said I did not give them quite enough information for positive verification, so I'll have to write again. I can get them nearly any night. I have about twenty verifications to come in yet, including WSFA, KFBB, KVL, KTBS, KTRH and WABC. This last station has been coming in well lately on organ numbers. closing down at 5:30 N. Z. time or 1:00 a.m. EST. KMOX is the best U.S. station here, coming in at full speaker strength while it is still daylight, WTAM is another good one. WTIC comes in well if it is on late. A letter from Mr. Randall, WTIC Plant Manager, asked me if I would be their long-distance receiving station, letting them know how WTIC comes in. The first time I heard WTIC they were testing all night as W1XG; the music could be heard a hundred yards from my speaker but the difference in time does not allow regular reception.

"A station which should be included in your list of world stations is 2YA Wellington, N. Z., a 5 k.w. transmitter on 720 keys.

"If you put any of this in RADEX, please don't include my address. I might get more letters than I can buy stamps to answer. Radio takes the bigger half of my cheque, for batteries and tubes are expensive here.

"All success to RADEX. Yours sincerely, George Inglis, —, New Zealand."

# In your Spare Time

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# SKEPTICS VERSUS RECORDS

E will now close the debate on the veracity of DX reception. Carroll C. Foltz, 303 Central Avenue, North Baltimore, Ohio, rather sums the situation up when he says:

"I would be willing to bet that 95 per cent of the DX receptions reported in your magazine are correct. The reason that some of your readers think they are lies, is because they do not understand how to tune for DX stations. DX stations are not brought it, by merely twirling the dials. When I tune for DX, I take about 30 seconds to cover each graduation on the dial. The signals from DX stations are naturally weak and if the dial is rotated too fast, you will have tuned the station in and out again before you are conscious of one being there."

Robert R. Rawstron, 311/2 Sullivan Street, Claremont, N. H., adds to this, "Radios are like mules - sometimes they will and sometimes they won't. Here's an example of balkiness: WNBX with ten watts is about twenty miles from me. I tried for it one day with my eight-tube set and got blank. While I was trying, a friend nearby called me up and told me to listen to his radio over the phone. I did and heard the program clearly and when the announcement came, it was WNBX. And he has but five tubes. On the other hand, WTIC comes in like a house afire on my set while all he gets is a whisper."

"It is certainly strange," writes Mrs. L. R. Ledbetter, of Vicksburg, Miss., "that so many people are so skeptical concerning the DX records of others. I have had no astounding reception but I have received Montreal and Toronto before five o'clock p.m. I have been called not exactly truthful for saying I had received WLS at noon, but today, above the most awful interference, it was loud enough so that I had to turn the volume down. Surely everyone must realize how erratic radio is. Why, I get WREC Memphis almost as well as WJDX Jackson with the same power and the latter is only forty miles away. I have selected the coldest nights to DX

# Why Can't We All Get Japan?

only to be disappointed and then have brought in a long-coveted station on a supposedly bad night."

Many of us with good sets scarcely get out of the United States at all, but we know beyond dispute that others, perhaps with similar sets, are getting foreign stations. It's like a hole-in-one in golf, we read about others doing it but it never happens to us. If anyone thinks that he can tune in foreign stations in the same manner he dials for a local, he is very badly mistaken. Infinite patience and infinite care are necessary as well as infinite skill.

Let us take a concrete example: We have before us as we write, letters from foreign stations addressed to Frank A. Johnson, 317 West Englewood Avenue, Chicago. One of them is from Finland which states, "The items you mention are right." A second from 6LV London says, "This confirms your report of reception of our Liverpool station." Another from Budapest, Hungary, says, "You indeed heard our broadcasting station." JOBK, Japan, acknowledges the accuracy of the reception. One from Madrid, Spain, says, "Your data coincides exactly with our transmissions on the days you mention." Melbourne, Australia, 3DB writes: "On the day you mention a lady did sing 'Rose softly blooming,' and we consider it a very excellent performance for you to have picked us up at a distance of some 8.000 miles. The wavelength you heard us on is correct and the clipping you enclose is wrong."

Now if there is anything at all in veryfying reception, surely these are authentic proof. And if Mr. Johnson can do this in the heart of Chicago, what right have we to question the reception of others?

We have a letter from a reader whom we will allow to go unnamed. In this letter the word "liar" appears five times so we will let the letter go unpublished.

But the writer adds a postscript as follows: "I picked up WXYO Rutland. Vermont, this morning on 1500 kcvs." Others who report unusual reception are "liars," but this person sees nothing humorous in himself making a most extraordinary claim. In the first place, there is no WXYO. The new Rutland station is WSYB. In the second place to receive a hundred-watt station 200 miles distant in the morning is rather an achievement particularly when that station is on 1500 kcys, and there are six other stations on the same frequency within the same radius and none of them sharing time!

So that's that. We will continue to publish letters of interesting reception without vouching for their accuracy and certainly we cannot undertake the monumental task of trying to verify such reception. As Richard Douglas, 1130 Krug Park Place, St. Joseph, Mo., says: "By all means print DX records; if the DXers aren't honest it isn't hurting anyone but themselves."



SHERLOCK HIMSELF
Richard Gordon, who relives "The Adventures of
Sherlock Holmes" each Monday night at 10:00
E.S.T. over the N.B.C. (WEAF) Network.
The famous character of A. Conan Doyle's lends
itself well to radio.

# Grounding the Aerial!

THE antenna is such a vital and important part of radio reception that no line of experimenting is more interesting than trying new ideas in aerial construction. The history of radio is replete with instances where certain lines of procedure have been followed for years with the impression that they were the only ways to do a thing, only to have some ingenious experimenter discover much simpler and better ways of doing the same thing.

Dr. William F. Brokaw, 2301 Chatfield Avenue, Cleveland, Ohio, tried an entirely different aerial idea and the result, he says, was a most interesting experience with a revolutionary theory. This experiment he describes in the following article:

"My experience during the past year with an Atwater Kent a.c. 8-tube, screengrid set, has negatived to a marked degree the theory of careful aerial insulation. I have used for several years a wellinsulated aerial 110 feet high and this has been quite satisfactory but, about a year ago, on a hunch I took a six-foot length of gas pipe and drove it into the ground about three feet at a distance of ten feet south of the house. To the top of this was clamped a piece of ordinary stranded aerial wire which was brought in through a hole bored in the window casing and twisted into a small bight on the inside. A piece of flexible cord about a foot long with a small Mueller clip on each end makes a convenient way to snap onto the lead at the wall and from that onto the antenna post of the set.

"The regular ground wire from the set extends about 25 feet into the basement and is soldered onto the cold water pipe near the meter.

"This combination immediately brought in Havana and other southern stations in full volume and much better than the long, high, insulated aerial! I then tried another similar line ten feet to the west and with it came KFI and the western stations. A third line to the East brought in the eastern stations.

"Under conditions at all favorable, any one of these short grounded leads

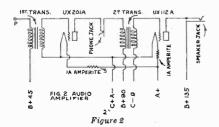
will bring in most anything from any direction and often the short eastward lead will have twice the signal strength of the 110 foot line.

"This experiment has afforded an opportunity to observe some of the vagaries of magnetic currents or carrying waves. The general impression is that these waves surge from South to North and back again often within a very few minutes or from East to West and back, or in a whirling motion, or up and down. The signal strength from the high aerial may be strong and then suddenly weaken and switching to the ground lead finds it strong there at the moment it is weak in the high aerial.

"An interesting instance of the surging wave current occurred early in October, at about 5 p.m., when without any aerial connection of any kind, KDKA came in with a volume almost equal to WTAM.

"With the ground leads, there is rarely fading of KDKA, something that has always been associated here with that station. The radio engineers probably have all this sort of thing cataloged and ready to spring on us at any time but you may let others have the benefit of my experience now."

(Editor's Note) What the doctor is using is really a large loop with the earth forming one side of it. His experience seems to upset the theory that the aerial must be perfectly insulated and also the idea that it must be high in the air. We hope some of our readers will try this arrangement and let us have their reports. It promises to be of great benefit, particularly to those who have scant space in which to erect a long, high antenna. It also provides a simple method of making some experiments in the directional qualities of aerials.



### Short Wave Adaptor

(Continued from page 3)

and leads from the B-battery are run to the B-neg. and B 135-volt binding posts on the adapter. The detector tube is removed from the receiver and placed in the second socket of the adapter. while the plug to which the F and P leads from the adapter are connected, is inserted in the detector socket of the receiver, and the UX 222 screen-grid tube is inserted in the r. f. stage of the adapter. Plug in the particular coil covering the waveband in which you wish to work, and then everything is ready for operation. Turn on the switch and rotate the adapter dial slowly. The tuning dials of your receiver have no function whatever when the adapter is in use. It is advisable to use a set of headphones to get distant stations and after signals have been tuned in satisfactorily, the loudspeaker can be substituted for the phones.

#### For All-Electric Sets

Fig. 2 shows an audio amplifier that can be used if your set is all electric. The parts required for this amplifier are two good audio-frequency transformers, two tube sockets for a standard UX 201A tube, two single contact jacks and two 1A Amperites passing one-quarter amp, each, or any other ballasts of the same rating. Follow the wiring as indicated. The only connection from the adapter to the amplifier is the one marked P, shown in both Figs. 1 and 2, This terminal is otherwise connected to the plug, which is not used when the adapter is wired to the amplifier. Connect the F-terminal to the A-neg. binding post of the adapter. The audio amplifier is connected to the batteries separately as indicated. Two jacks are used so that either headphones or loudspeaker can be attached, the first-stage jack being more satisfactory for headphone reception. Use a UX 201A tube for the first stage and a UX 112A for the second, although a 201A will also give good results in the last stage. With a 112A tube you need a C-bias of 9 volts, which is obtained from a C-battery. If a 201A tube is used in the last stage only 4.5 volts of C-bias are required. The filament current for both the adapter and amplifier should be taken from a storage battery instead of dry cells as the drain would be too great for the latter to operate economically.

Rolling Your Own Coils

For those who would like to make their own plug-in coils, the easiest procedure is to get four discarded radio tubes of the UX 201A type, a mailing tube 21/2 inches in diameter, and four strips of bakelite about one-half inch wide and 4, 31/2, 21/2 and 2 inches long respectively. Cut four lengths from the mailing tube the same length as the bakelite strips. Cut off the base of one of the old tubes and drill a hole though the center. With some No. 26 d. c. c. or enameled wire wrap two separate coils on each tube, taking care to wind them both in the same direction. Run the ends of the coils thus formed through small holes punched through the tube so that the ends will come inside of the tube. Wind one coil on one side and the other on the opposite side of the center of the tube, allowing about one-half inch of space between the two coils. Drill three holes through each bakelite strip and through the tube of corresponding length. One hole is drilled in the exact center of the strip and the other two at the ends. The strips are fastened to the tubes at the ends with small brass screws and nuts, after which four small holes are punched through each tube in the space between the coils to permit passing the ends of the wire out again for soldering to the tube-base prongs. Apply collodion to each soldered connection liberally, or better still, use short lengths of "spaghetti" tubing, these being slipped over the ends of the wire before soldering, and then pushed over the joint. This prevents short circuits. Attach the tube bases to the coils by passing a long brass machine screw through the hole in the base and then through the center hole of the bakelite strip and tube. When assembled in this way the bakelite strip protects the windings from injury and holds them in place.

#### Number of Turns

The following windings have been found suitable for short-wave work:

# Short Waves

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ADIO WORLD, the first and only national radio weekly, which publishes a great amount of circuits for short-wave as well as broadcast reception, offers you an opportunity to find out all the particulars of the 3-tube converter circuit, with blueprint and list of few parts needed. Send \$1.00 for 8 weeks' subscription, one copy a week for eight weeks, beginning with the November 8th issue, and receive the blueprint free. The November 8th issue and subsequent issues you will receive tell the whole story of this marvelous converter.

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For the 150-200 meter range a primary of 20 turns and a secondary of 25 turns; for the 80-150 meter range a primary of 10 turns and a secondary of 15 turns; for the 40-80 meter band, a primary of 9 turns and a secondary of 7 turns, and for the 20-40 meter band, a primary of 6 turns and a secondary of 3 turns. The first or 150-200 meter coil is wound on the 4-inch tube, the 80-150 meter coil on the 3½-inch tube, etc., each coil being wound on a tube of corresponding size. When connecting the coil ends to the tube-base prongs, care must be taken to run the corresponding ends of the coils to the same prongs on the tube base so that the coils, when interchanged, will be connected in exactly the same way. Coils attached to tube bases as just described fit any standard socket. The socket terminals must also be hooked up correctly so that the coils will be properly placed in the circuit. It was found that a .00025-mfd, variable condenser worked best with the coils just described.

#### Questions Are Asked

(Continued from page 5)

Desmond probably heard WCAU in Philadelphia. WCAU on 1170 and WPG on 1100 often couple up and broadcast programs from the Atlantic City Convention Hall, which is the largest in the East. It might interest your readers to know that football is played in this hall and a full-size dirt gridiron has been made, thirty carloads of dirt being hauled in from neighboring states. The games are played at night and broadcast over WCAU and WPG and possibly WFAN may be in the hookup."

The mystery of WCHI has at last been solved. Several readers report and this is now confirmed by the Commission that, after WCHI's license expired, their programs were broadcast over WORD, usually with an announcement giving both calls. WCHI has now taken over WORD's license and WORD is no more.

"The hetrodyne on WTAM very likely comes from one of the three 150-watt stations in Havana. One of my friends while listening recently on one of the new nine-tube superhets, heard a Spanish-

speaking station between WBAL, 1060, and WTAM, 1070. A number of the Cuban stations have recently been a little below their proper frequencies and, while my friend could not identify the station, it was apparently one of the Cuban stations. KMOX has a fine signal and, being twenty kcys. away from WTAM, should not cause any heterodyne." This report comes from C. M. Falconer.

### Whistles and Squeals

(Continued from page 6)

venient to be hooking and unhooking the ground lead-in all the time.

for the advantage claimed The shielded lead-in wire, namely the reduction of interference pickup, is greatly over-estimated, and practically just as good results can be obtained without it. The insertion of a small fixed condenser between your shield and the ground merely changes the capacity of the circuit and accounts for the difference in volume. Often broadcasting stations blanket radio receivers in the immediate vicinity. This is not only a peculiarity of your set but is quite common. Frequently a station can be tuned in louder at a distance of a hundred miles than is possible at a distance of two or three miles, owing to this effect. The only cure is to reduce the pickup of the signal by disconnecting the aerial or ground leadin to the set. It might be advisable to install a switch outside of the set which is a much handier arrangement than opening the set to disconnect the lead.

#### Microphonic in Majestic

I have a Majestic radio receiver No. 72, which has been giving considerable trouble and service men have not improved it at all. There is a noise that develops at times that I can usually eliminate by snapping the power switch on and off or by momentarily disconnecting the aerial. At times this method will not help. I have checked the tubes over several times and service men have given the circuit a continuity test but have not located the trouble. I thought that perhaps you may have had cases of this kind before, and could suggest a remedy. The set is very sensitive to electrical interference, although the interference is not

bad in this locality, but on my set it seems to be picked up more than on most sets in town. I have thought of modernizing the set by putting in 245 power tubes and 224 screen-grid tubes. Would there be enough benefit from such a change to pay for the expense?

Your trouble evidently is what is commonly called a "microphonic," and can usually be traced to the detector or first audio tube. Changing the detector with another of the same type, but one which is comparatively non-microphonic, may correct the trouble. The only method of finding a non-microphonic tube is by means of substitution. If this does not help, put a "howl arrester" on the detector tube. This is a heavy metal cap that is placed on the top of the tube, and it absorbs the small vibrations causing the trouble. In case the remedies just mentioned are ineffective, reduce the plate voltage on the detector and also the first audio tube. Do not attempt to remodel your set by using 224 screengrid tubes and a 245 power tube, as this change will only be inviting complications and trouble. Moreover, the advantages obtained by such a change do not compensate for the cost and trouble of making it.

#### Substituting 201A's for 199's

I have a No. 27 Zenith receiver which has five 199 tubes wired in series for the filament current, and one 171A at the audio end. The 189 tubes are wired for a C-bias differently than in most sets. Could I rewire the sockets for 201A tubes and use a different A-power supply, as the present one will not furnish enough current for 201A tubes in parallel? The 199 tubes usually last for about a week before they get noisy and then I have to turn up the two r. f. tubes very high in order to get anuthing at all. I do not get much volume except on powerful stations. If it is possible will you kindly tell me how to connect up the C-bias on 201A tubes connected in parallel in this set?

It would be highly inadvisable to make circuit changes in your case, but the trouble you are having can be corrected in a very simple way. Open the cabinet in the rear and you will find a double-conductor cable running from

one side to the other, across the top. These lines carry 110 volts. Remove the outside covering and cut one of the conductors in two, this being done, of course, with the set entirely disconnected from the lighting circuit. Get a porcelain socket or cleat receptacle and screw it to the inside of the cabinet so that the two ends formed by cutting one conductor can be connected to the socket terminals. Insert a 40-watt lamp in the socket. which will cut down the power supplied, if this size of lamp is not effective in curing the trouble, substitute a 50 or 60watt lamp until you find one of the right size. The reason why the exact size of lamp cannot be given is that line voltages vary considerably in different localities

#### Replacing 171A with 245

We have a customer who owns a ninetube Case receiver of the neutrodyne type. This receiver employs push-pull with 171A tubes. Our customer desires 245 tubes substituted. Please inform us if this change is really practical and advantageous, and if so will appreciate detailed information covering the wiring changes?

The object of developing the 245 tubes was not so much to obtain a better tone quality than that furnished by the 171A tubes, but merely to simplify receiver construction and wiring. The power packs usually furnished as integral parts of all-electric receivers are especially designed for use with a certain number of tubes of a certain kind in respect to voltage and current requirements. By substituting 245 tubes for 171A tubes previously used in a receiver, the fivevolt taps on the A-supply are not used as the 245 tubes need only 2.5 volts filament voltage, and they would have to be connected to the 2.5-volt terminals of the power unit. As it is questionable whether this part of the power-unit winding was made to stand an overload, the change is not advisable. In fact, one of our readers recently made such a change, after which a decided hum was noticeable in reception. I advised him to change back to the original hookup using 171A tubes. An alternative method of using the present power unit with 245 tubes is to cut down the voltage to the

proper value by inserting a resistor. However, this also reduces the current and it is doubtful whether there would be enough current left to supply the tubes. With too little current they would, of course, not be operating efficiently. Still another method of providing filament current for tubes is to use a separate transformer providing filament current at the proper voltage. Of all methods this one seems to be the most promising. The output terminals of the extra transformer are connected in parallel with the 2.5-volt output terminals of the power pack, and the input of the transformer is cut in the input lines to the power pack. The advantages obtained by making such a change would not be enough to compensate for the trouble and expense, and the difference in tone quality would not be appreciable.

#### Poor Amplification

I have a five-tube battery-operated set with r. f. coils 1½ inches in diameter, wound with fine wire for .00035-mfd. variable condensers, and it is perfect up to 375 meters, and from there to 550 meters it falls off in amplification. What can I do to overcome this? I have two other sets of coils for .00035-mfd. condensers. One set is two inches and the other 2³% inches in diameter, and they are wound with coarse wire. Will these larger coils overcome the trouble?

It is a peculiarity of all tuned radiofrequency receivers having coils wound for the broadcast waveband, that the stations on the lower end come in with plenty of volume, while those at the other end fall off in volume, exactly as in your case. Substituting coils with a few more turns on the secondary windings, and also using .0005-mfd. condensers, will reduce this trouble to some extent but will not eliminate it entirely. The trouble is more pronounced in one receiver than it is in another, owing to differences in the coils and condensers with which they are equipped. By using a long aerial instead of a short one, the signals from both low and high wavelength stations will be brought in louder. Those coming in too loud can then be toned down by means of the volume

control, and others previously too weak, will come in better than before.

#### Trouble With Two Sets

I have a model 20 Atwater-Kent radio, battery-operated. It works perfectly with batteries. I thought that I would try an eliminator so I did and it worked well for a couple of days. Then suddenly it stopped. I have tried the eliminator with other battery sets and it functions all right and I have also used batteries on my set after the eliminator would not work, with good results. I would appreciate very much if you would give information concerning this trouble. Also I have a National S.W. 4 "Thrill Box" but can't get anything but code on it. I took it to the dealer from whom I purchased it but he could not find anything wrong with it. This set is a combination shortwave and broadcast receiver with interchangeable coils. On the broadcast coil I get recepton barely audible with earphones. On the short-wave coils I get only code, which comes in quite loud. The set doesn't seem to have any push in it. Could you suggest anything on this set?

Your Atwater-Kent No. 20 receiver is designed to use only 20 or 22.5 volts on the detector plate, if you are using the same kind of tube that was originally recommended for use with this set. The plate voltage for the audio tubes on this set should not exceed 90 volts. Undoubtedly the B-eliminator you have been using produces greater voltage, which chokes the tubes and makes them inoperative. Take the B-eliminator to a radio service shop and have the output voltage tested with a high-resistance voltmeter. An ordinary low-resistance voltmeter, which is ordinarily used for battery work, will not give accurate readings when used on an eliminator. If there are any variable controls on the eliminator, adjust them so that the detector plate supply will be about 20 volts, and the maximum output for the audio stages will be about 90 volts. I notice that the A-positive binding post of this receiver takes both the A-positive and the B-negative leads. Now, if this does not cure your trouble, have the tubes tested, which would be a good idea at any rate. Possibly a new detector such as a UX 200A, which takes from

20 to 50 volts on the plate, will give better results. Concerning the "Thrill Box" it seems evident that an additional stage of r. f. amplification with a shortwave coil and condenser to match. would greatly increase the range and volume. Code signals always come through much louder than broadcast signals, and on a weak receiver, only the former will come through. On the other hand you may not have been tuning in at the exact time that the broadcasts on short waves were made. No short-wave receiver will be efficient on the broadcast wave-lengths, even though coils for the latter are used, as the condensers are not designed for the broadcast waveband, lower-capacity condensers being used for short-wave work. If you install an additional r. f. stage with a shortwave coil and condenser, the set will not pick up broadcast signals at all.

#### Voltage Causes Howl

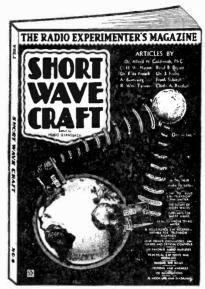
I have a model No. 55 Atwater-Kent radio set which has a tendency to break into oscillation every once in a while. Sometimes merely jarring the floor causes it to oscillate violently. The only remedy seems to be to take the detector tube out of its socket and then replace it. The trouble then stops for an indefinite period. Sometimes when the set does not oscillate, it will start doing so by placing the hand near the detector condenser. At other times the set will not cause anh trouble at all. I am also extremely bothered by microphonic noises in spite of the fact that I have the detector capped. I have also bought new tubes, but that does not cure it. Can you give me any idea as to the cause and remedy of these conditions?

It is absolutely necessary in the case of the Atwater-Kent No. 55 receiver to have a ground connection and a short aerial, the latter being separated as far as possible from pipes and other metal. The ground and aerial must not be interchanged as can be done with many receivers. The cause of your trouble is that the voltage constants are not correct, perhaps due to a faulty resistor. It seems quite certain that the plate voltage on the detector and first audio tubes is excessive. As this set has a complicated wiring system, including many

# The Radio Experimenter's MAGAZINE

SHORT WAVE CRAFT, Mr. Hugo Gernsback's latest radio magazine, has been called his greatest achievement in radio magazine publishing. SHORT WAVE CRAFT is the one and only real big magazine on short waves you have wished for so long. HERE IS PROOF!

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resistors, of which you do not know the value, it is advisable, under the circumstances, to call in the help of the Atwater-Kent radio service man of your locality. He has all the necessary information at hand concerning the values of the resistors, which determine the voltage applied to the tubes.

#### Weak Tubes Reduce Efficiency

Up to a few months ago I received stations below 950 kilocycles, but I do not get them any more although others in the neighborhood do. I receive stations above this mark, which are less powerful and further away. Some evenings I receive stations loud and clear, then cannot get them at all a few hours afterwards. Will you suggest where the trouble lies?

As you have received stations below 950 kilocycles up to a comparatively recent date, your trouble undoubtedly lies in the tubes, and if your set is battery-operated, also in the batteries. Have the tubes tested and replace those that do not show a normal reading. B-voltages must also be kept up to normal. It is a general fault or rather peculiarity of tuned radio-frequency sets to have greater volume on lower wavelength or high-frequency signals, than on higher wave-length or low-frequency stations, and as soon as the efficiency of the set is decreased, this peculiarity becomes pronounced, as it is in your case.

### "Let's Call a Meetin"

(Continued from page 9)

and heard WBTM signing off and WLVA coming on.

From Meyer Tuchinsky, "You might be interested in the schedule of WRAX. This station broadcasts programs in foreign languages only and is rather interesting. Their schedule is as follows: 10 a.m. and 2 p.m., German hours; 11 a.m. and 3 p.m., Polish hours; 12 noon and 4 p.m., Jewish hours; 1 p.m. and 5 p.m., Italian hours; all E.S.T. The only English spoken is the call letters every fifteen minutes and announcements each hour."

Carroll C. Foltz who wrote the article on wave-traps in the December issue adds this note: "For those readers who have trouble with receiving stations on harmonics, I recommend a wave-trap. In the daytime I receive a harmonic of WLW on 1400 which interferes with the reception of stations properly on that wave. I have found that if I set my wave-trap to absorb the wave of 700 kcys. it also eliminates the harmonic on 1400 but does not affect the reception of stations on 1400. Setting the wave-trap to absorb the 1400 frequency in order to get rid of the harmonic will not help any, for it will then absorb everything on that wave."

Regarding that contemplated booklet of Hours on the Air, Mr. Foltz writes: "I would prefer to know what hours any particular station was on the air. However, in case you print such a list you will just cut yourself a big slice of trouble. Many stations that share time reverse the hours they are on the air at intervals. By the time you could gather the information for such an issue, half of it would be incorrect because of changes. You would have to take a lot of criticism from readers who do not realize that at least half of the stations are constantly changing the hours they are on the air."

Herbert H. Seidler, 155 Hicks Street, Brooklyn, N. Y., calls attention to the fact that any schedule of time on the air of the various stations, to be of the greatest value, would have to show the time according to the four or five standards. Otherwise anyone desiring to tune in a particular station would have to first ascertain what time zone the station was in and convert that into the time of his own zone and by that time, probably, the station would be off the air.

The manifest difficulties in the way of publishing a really worth-while and accurate index of time-on-the-air make it inadvisable for us to undertake it at this time. We shall talk this over with officials of the Radio Commission in the near future.

"The stations in Halifax, N. S., are on 910," writes C. M. Falconer. "I enclose program received from the Canadian National Railways and I also have a letter from CHNS dated September 12th in which they state that they are on 910. The change occurred, I think, about September first." The October

report of the Dominion Government bearing date of September 30th, still carries the Halifax stations on 930 as does also the list of our own Department of Commerce dated December 6th. A number of readers have reported reception on 910 and we are making the changes accordingly.

Radio Station KFYR Bismarck, N. D., writes us that we were in error in reducing their power from 1000 watts to 500 as they have a license from the Radio Commission for 1000 watts at night and 2500 watts daytime. We are therefore again showing them with 1000 watts, although the Commission's list of December 6th still shows this station with 500 watts.

George S. Buckman, South Nyack, N. Y., sends us a letter from WGBS New York City in which they state that they no longer supply verifications of their programs. "Why is it," asks Mr. Buckman, "that the big 5000 watt stations on the Pacific Coast practically always send one of their "Thank You" cards in answer to your very, very specific request for verification? These cards are no kind of a verification and another line like "This verifies your reception of our station" would please their listeners."

When XED came on the air on November 8th with 10,000 watts, we naturally received many letters calling our attention to the fact that we had them listed on 770 instead of 960 kcys. As the November RADEX went to press on October 18th, there was no opportunity to make the change in the November issue but the new station with its proper rating, was correctly listed in December.

John Carter, 1119 West 9th Street, Erie, Pa., states that he has a card from CKAC Montreal, which gives their power as 20,000 watts and not 5000 as shown in RADEX. There are two ways of calculating power, one of them about four times the other.

J. R. Culver, 529 Concord Street, Boulder, Colo., and several others send us lists of stations which have verified for them although they have no marking in RADEX. As we have stated before, we cannot assign a symbol to these stations except upon their own written statement as we desire our rating to indicate what

the stations themselves promise, rather than the experience of our readers which is so often at variance. A large number of symbols are added in this issue as we have just sent another letter to stations not previously reporting.

"XED and CFRB interfere with each other so much I can get nothing but squealing, but as soon as the Toronto station signs off, XED comes in fine," comments Ralph Visser, Sheboygan Falls, Wis.

Ray E. Everly, 102 West Washington Street, Newton, Ill., thinks that temperature has more to do with reception than daylight. He finds that, in Illinois at least, there is less noise and better distance range between 40 and 60 degrees. He uses a 12-tube super and some of his daylight catches are the following: KNX at 6:45 p.m., E.S.T., WRUF at 12:38 p.m., CKAC at 10:15 a.m., WNAX at 6:50 a.m., KFJZ at 6:55 a.m., and WBBZ and WBIG at 7:00 a.m.

"Through WSSH Boston, I obtained the information that WMAF South Dartmouth, Mass., is no longer on the air," reports D. Ohlwiler, 19 Taft Street, Southbridge, Mass. The Commission still shows this station. Has anyone heard it recently?

WASH Grand Rapids is entitled to a big hand for announcing regularly, thinks Joseph Stokes, 7318 Woodlawn Avenue, Swissdale, Pa., who states that names of those writing in for verification are announced over the air by that station.

Robt. L. Stillson, Lonesome Lodge, Bradenton, Fla., thinks that the rule of the Federal Commission requiring the announcement of phonograph records is just an additional aggravation, for compared to the "raw advertising, poor jazz, and the great absence of common sense" the records average much higher than the rest.

Some western targets to shoot at are given us by R. G. Smith, 14916 Greenleaf Street, Van Nuys, Calif.: "CKWX has a special program for DX purposes Wednesday and Saturday nights from 11:30 P.S.T. to 1:00 a.m. KIDO Boise has an 'Idaho Spuds' Midnight Frolic Saturday nights and continues 'until the crowd goes home in the morning.' KOH is on the air every night at 6

o'clock P.S.T. KJR is on Saturday nights until 3 a.m. P.S.T. Here are some stations that are on the air after midnight P.S.T.: KFOX, KMTR, KTW, KOL, KXL, KWJJ, KGGC, KFYR, KJBS, KFXF, KRE and KGRS."

Station 10 BP of Wingham, Ont., writes us as follows: "Owing to many requests from American DX fans and readers of RADEX for information regarding any special DX programs from 10 BP this winter, we are glad to comply and have decided on the following periods: The 10th and 25th of December, January and February, E.S.T. from 1:00 to 2:30 a.m. We will gladly verify on proof of reception." Many thanks to 10 BP for this opportunity to work this 25-watt station on 1200 keys.

### Too Many Letters

AFTER you published my letter in the November issue, I received 203 letters from DXers asking me questions about my set. It is impossible for me to answer them all and I hope you can publish the following information, which answers their questions," writes Eugene Miller, 53 Hamilton Street, Harrison, N. J.

"I am using a Victor RE-45 a.c. set. It's a combination radio and phonograph. Antenna is about 100 feet long, in one piece, insulated wire. It is 75 to 80 feet high.

"I received 2BL Sydney, Australia, and JOAK Tokyo, when the local stations were off the air, in the morning between 4:30 and 6:00 o'clock.

"Every month, I remove the chassis of my set from the cabinet. I dust out the set carefully with a fine brush. (You'd be surprised at the amount of dust that gathers in a set.) I sandpaper the prongs of my tubes, my anetnna lead-in and my ground. Every four months, I have my tubes tested. I have a set of headphones installed so I can DX without interfering with the family's sleep. I do not use a short-wave set of any kind. All my records were made in the broadcast band."

Mr. Miller sends us the original verifications from several stations. 2BL Syd-

ney, Australia, writes, "Congratulations on your reception of our station." 2FC, also of Sydney, writes similarly. CKMO, Vancouver: "You were listening to one of our special DX programs." The general manager of The Radio Broadcasting Company of New Zealand writes a personal letter saying, in part: "As the particulars given check with our station log for the occasion in question, we have pleasure in verifying your reception."

# The Long and Short of It

NE of our readers who has a powerful screen-grid Philco was troubled with the local stations coming in with too great a volume. Even with the distance switch thrown to local it was necessary to turn the volume control down to the lowest possible point in order to prevent disagreeable volume. At this point reception was not satisfactory, as it was much like the wick of a lamp being turned so low that the light flickered.

To solve this difficulty, a short aerial was erected in the basement and this, as well as the long, outside aerial, was run to the set. An ordinary three-point electrical switch was secured and mounted underneath the set, out of sight. On a three-way switch there are four posts or screws but two of these are connected together, the other two being entirely separate. The aerial leads were attached to the separate posts while the common post had a lead to the antenna post of the set.

When local stations are desired, the switch is thrown to connect up the basement aerial. This cuts down the volume so that it is necessary to turn up the volume control to a point where the current is steady and does not fluctuate. When distant stations are desired, the outside aerial is brought into use.

The same result would be accomplished with an ordinary single-pole, double-throw knife-switch but the electrical device is better as it needs no insulated mounting and, reaching under the set, it is easily snapped from one setting to the other.

KEY	TO	CHAIN	STA	TIONS
NE 1	10	CHAIN	OIA	LIUNS

N-National	KEY	Y TO CHA	IN STATI	ONS	C—Columbia
CFRB	LAUL	II WBEN	II WEAA	II WJAA	H WOW
960 C	1270 C	900 N	" 800 N	900 N	590 N
CKAC	комо	WBRC	WEAN	WJDX	WOWO
730 C	920 N	930 C	610 C	1270 N	1160 C
CKGW	КРО	WBT	WFBL	WIJD	WPG
690 N	680 N	1080 C	1360 C	1090 C	1100C
KDKA	KPRC	WBZ	WFBM	WJR	WPTF
980 N	920 N	990 N	1230 C	750 N	680 N
KDYL	KRLD	WBZA	wFI VFI	WJZ	WQAM
1290 C	1040 C —	990 N	560 N	760 N	560 C
KECA	KSCJ	WCAE	WFIW	WKBN	WRC
1430 N	1330 C	1220 N	940 C	570 C	950 N ——
KFAB	KSD	WCAH	WFJC	WKBW	WREC
770 N	550 N	1430 C	1450 N	1480 C	600 C
KFH	KSL	WCAO	WGAR	WKRC	WREN
1300 C	1130 N	600 C	1450 N	550 C	1220 N ———
KFI	KSTP	WCAU	WFLA	WKY	WRR
640 N	1460 N	1170 C	620 N	900 N	1280 C
KFJF	KTAR	WCCO	WGN	WLAC	WRVA
1480 C	620 N	810 C	720 N	1470 C	1110 N ———
KFKX	KTHS	WCFL	WGR	WLBW	li WSAI
1020 N	1040 N	970 N	550 C	1260 C	1330 N
KFPY	KTRH	WCKY	WGST	WLBZ	WSB
1340 C	1120 C	1490 N	890 C	620 C	740 N
KFRC 610C	KTSA 1290 C	WCSH	WGY	WLIT	WSM
KFSD	KVI	940 N WDAE	790 N	560 N	650 N
600 N	760 C	1220 C	1150 N	WLS 870 N	WSMB 1320 N
KGO	KVOO	WDAF	WHAS	WLW	WSPD
790 N	1140 N	610 N	820 N	700 N	"1340 C
KGW	KWK	WDAY	WHEC	WMAK	WSUN
620 N	1350 N	940 C	1440 C	900 C	620 N
KHJ	KYW	WDBJ	WHK	WMAL	WTAG
900 C	1020 N	930 C	1390 C	630 C	580 N
KHQ 590 N	WABC 860 C	WDBO 1120 C	WHO	WMAQ	WTAM
KLRA	WADC	WDOD -	1000 N	670 C	1070 N
1390 C	1320 C	1280 C	WHP 1430 C	WMC 780 N	WTAR 780 C
KLZ	WAIL	WDSU	WIBO	WMT	WTIC
560 C	640 C	1250 C	560 N	600 C	1060 N
KMBC	I WAPI	WEAF	WIBW	WNAC	WTMJ
950 C	1140 N	660 N	580 C	1230 C	620 N
KMOX	WBAL	WEAN	WIOD	WNAX	WTOC
1090 C	1060 N	780 C	1300 N	570 C	1260 C
KOA 830 N ———	WBAP 800 N	WEBC	WISN	WOAI	WWJ
KOIL N	WBBM	1290 N WEEI	1120 C	1190 N	920 N ———
1260 C	770 C	590 N	890 N	WOC 1000 N ———	WWNC 570 C
KOIN	WBCM	WENR	WJAS	WORC	wxyz
940 C	1410 C	870 N	1290 C	1200 C	1240 C

		ENTER	YOUR	DIAL N	UMBERS	IN THESE	SPACE	ES	
510	610	710	810	910	1010	1110	1210	1310	1410
520	620	720	820	920	1020	1120	1220	1320	1420
530	630	730	830	930	1030	1130	1230	1330	1430
540	640	740	840	940	1040	1140	1240	1340	1440
550	650	750	850	950	1050	1150	1250	1350	1450
560	660	760	860	960	1060	1160	1260	1360	1460
570	670	770	870	970	1070	1170	1270	1370	1470
580	680	780	880	980	1080	1180	1280	1380	1480
590	690	790	890	990	1090	1190	1290	1390	1490
600	700	800	900	1000	1100	1200	1300	1400	1500

# WHAT'S ON THE AIR TONIGHT?

#### A WEEKLY CALENDAR

### Leading Features of the Network Programs

Time is given by Eastern Standard: For Central Time, subtract one hour; For Mountain Time, two hours; and for Pacific time, three hours.

Programs of the National Broadcasting Company begin with WEAF and WJZ; those of the Columbia Broadcasting System with WABC.

These programs are correct to date but are subject to change daily thereafter

Daily (Except Saturday and Sun	nday) 2:30-3:00 American S WABC WFBL	chool of the Air	WNAC WCAU	J
6:45-8:00 Tower Health Exercises WEAF CKGW WCAE WEEI WFI W WGY WRC 8:15-8:30 Morning Devotions	WJAS WLBW WHK WKRC WDOD WREC	WMAL WCAO WWNC WGST	WDBJ WADO WXYZ WSPD WDSU WOWO	2
WEAF WAPI WCAE WCKY WCSH W WFLA WBEN WGY WHAS WIOD W	VFI KFJF KRLD VJAR KOL KFPY	KTSA KLZ KOIN KHJ	KDYL KVI KFRC	
WRVA WSUN WTAG WWJ 8:30-9:00 Cheerio	KRLD KSCJ	KFPY KLZ  KVI WADC  WCAU WDAY	KMBC KOL WAIU WBCM WDBJ WDOD	
WCKY WCSH WDAF WEEL WFI W WBEN WGY WHAS WIBO WIOD W WJAX WJDX WMC WOAL WOW W	VFLA WEAN WFBM VIAR WISN WKBN	WGR WHEC WKRC WLAC WORC WPG	WHP WIBW WLBZ WMAI WREC WSPD	$\mathbf{L}$
WTAM WWJ 9:00-9:15 The Quaker Man	5:00-5:30 The Lady N WEAF KSD	ext Door WBEN WFAA	WHAS WRC	
WDAF WEBC WFAA WHAS WHO W	VJDX VOW WEAF WCAE WJAR WOC	WCSH WFAA WRC WTAG	WGY WHO	
	VDOD WEBC WEET WHAS WHO WOW WRC	WAPI WCAE WENR WFI WJAR WJDX WSAI WSB	WCSH WDAF WFJC WGY WMC WOC WSM WSME	
9:00-9:45 Morning Melodies WEAF WAPI WGY WBEN WHAS W WRC WRVA WSM WTAM WWJ 11:15-11-30 Radio Household Institute	WTAG WTAM 6:45-7:00 Literary Di WJZ KDKA WHAM WIOD WSUN	gest Topics WBAL WBZ	WBZA WFLA WPTF WRVA	
WEAF KFKX KPRC KSD KSTP K KVOO WAPI WCAE WCSH WEBC W WBEN WGY WHAS WJAR WKY W WMC WOAI WRC WSAI WSB W WSMB WTAG WTAM WTMJ WWJ	THS	WJAS WLBW WWNC WXYZ KSCJ WMT	WMAL WDBJ WDOD WFBM KLRA KFH KFPY KFRC	M
WFBM KSCJ WMT KMBC KLRA K	VDBJ WJZ CKGW	WIOD WJAX WRVA WSUN	WBZA WCKY WJR WLW	
KFRC CFRB WORC WGR  12:30-1:00 Columbia Revue WABC KEIF KFPY KFRC KMBC K	WJZ KDKA KHQ KOA OL WBZ WBZA	KECA KFSD KOMO KSL WEBC WHAM	KGO KGW KTAR KWK WRC WREN	
WDAY WDBJ WDOD WHEC WHP W WISN WJAS WKBN WLBW WLBZ W		Andy KPRC KSTP WEBC WHAS WREN WSB	KTHS KWK WJDX WMAG WSM WSME	Q
WJZ KDKA KFAB KFKX KOA K KSTP KTHS KVOO WAPI WBAL W WBZA WDAF WEBC WFAA WFLA W	VPRC 11:30-11:45 Amos'n' VBZ KECA KFSD VHAM KSL		кно комо	0
WKY WLW WMC WOAI WOC W	VOW VSM	Sunday		
WSMB WSUN  1:30-2:00 Harold Stern and Ambassador Orchestra WABC KFKJ KFPY WADC WAIU W	1:30-145 Echoes of th WJZ CKGW	e Orient KFAB WBAL	WLW WRC	
WBRC WCAO WDBJ WDOD WEAN W	VFAN 1:30-2:00 Neapolitan VLBZ WEAF KGO	Days KSD KSL WIBO WOC	WCAE WDAF WOW WTAN	

1.20 2:00 Canalage of Nations	7-30-8-00 Williams Oilematics
1:30-2:00 Conclave of Nations  WABC KFPY KLZ KMBC KMOX KSCJ  KVI WAIU WBCM WBRC WCAO WCAU  WDAY WDBJ WDOD WGR WHEC WHP	7:30-8:00 Williams Oilomatics WJZ KDKA KOA KSL KWK WBZ WBZA WGN WHAM WJR WLW WREN
WIBW WISN WKBN WLBZ WMAL WMT WORC WPG WREC WSPD WTAR WWNC WXYZ 2:00-3:00 Roxy Symphony Concert	7:35-8:30 Major Bowes' Family WFJC WFLA WGY WHAS WIOD WJAR WJDX WKY WLS WMC WOAI WRC WSAI WSB WSMB WSUN WTAG WWJ
WJZ CKGW KDKA KFAB KSTP KWK KYW WBAL WBZ WBZA WEBC WFAA WFLA WHAM WHAS WIOD WJAX WLW WPTF WRC WREN WRVA WSB WSUN	8:00-8:15 The World's Business  WABC KDYL KFPY KFRC KHJ KLZ  KMBC KOL KRLD KSCJ WADC WAIU  WCAO WDAY WDBJ WDOD WEAN WFBM
2:00-3:00 Cathedral Hour WABC KDYL KFH KFPY KLZ KMBC KMOX KRLD KSCJ KVI WADC WBCM WBRC WCAO WCAU WCCO WDBJ WDOD WEAN WFBM WHEC WHP WIBW WISN	WNAC WNAX WORC WREC WTAR WWNC
WKBN WKRC WLAC WLBZ WMT WNAC WORC WPG WSPD WTAR WWNC WXYZ 2:30-3:00 NBC Artists' Service Program	8:00-8:15 Enna Jettick Melodies WJZ KDKA KFAB KFI KFSD KGW KHQ KOA KOMO KPO KPRC KSL KSTP KTAR KTHS KVOO KWK KYW
WEAF KSD KSL WDAF WGY WLS WOW WTAG WWJ 3-00-4:00 National Youth Conference	WAPI WBZ WBZA WCKY WEBC WFAA WFLA WHAM WHAS WIOD WJAX WJDX WJR WKY WMC WOAI WPTF WREN
WJZ KDKA KFAB KFSD KGO KGW KOA KSL KTHS KVOO KWK WBAL WBZ WBZA WFAA WFLA WIOD WJAX WJDX WJR WLS WLW WOAI WPTF	WRVA WSB WSM WSMB WSUN WTMJ 8:15-9:15 Collier's Radio Hour WJZ KDKA KFI KGW KHQ KOA KOMO KPO KSL KWK KYW WBZ WBZA WHAM WJR WLW WREN
WREN WRVA WSB WSUN  3:00-5:00 New York Philharmonic Orchestra WABC KDYL KFH KFJF KFPY KFRC KHJ KLZ KMBC KMOX KRLD KSCJ KVI WADC WAIU WBCM WBCC WCAO	8:30-9:00 Chase & Sanborn Choral Orchestra WEAF KPRC KSD KSTP KTHS KVOO WCAE WCSH WDAF WEBC WFJC WFLA WGY WHAS WHO WIBO WIOD WJAR
WFBM WHEC WHP WIBW WISN WJAS WKBN WKRC WLAC WLBW WLBZ WMAQ	WJDX WRY WLIT WMC WOAI WOC WOW WRC WSAI WSB WSB WSMB WSUN WTAG WTAM WTIC WTMJ WWJ WBEN
WMT WNAC WORC WOWO WREC WSPD WTAR WWNC WXYZ WGR	9:00-9:15 Our Government, David Lawrence WEAF KSD WCAE WCSH WEBC WEEI
4:00-4:15 Florsheim's Sunday Feature WJZ KDKA KFAB KWK KYW WBAL WBZ WBZA WHAM WJR WLW WREN	WFAA WFJC WFLA WGY WHAS WHO WIOD WJAR WJDX WKY WLIT WMC WOAI WOC WOW WPTF WRC WSAI WSB WSM WSMB WSUN WTAG WTIC
4:00-5:00 Dr. S. Parkes Cadman WEAF KGO KGW KHQ KOA KOMO KPO KPRC KVOO WCAE WCSH WDAF	WWJ
WEBC WEEI WFAA WFJC WFLA WBEN WHAS WHO WIBO WIOD WJAR WJAX WJDX WKY WMC WOAI WOC WOW	9:00-9:30 Majestic Curiosity Shop WARC CFRB CKAC KDYL KFH KFJF KFPY KFRC KHJ KLRA KLZ KMBC KOIL KOIN KOL KRLD KTSA KVI WADC WBBM WBRC WBT WCAO WCAU
WPTF WRC WRVA WSAI WSB WSUN WTAG WWJ 5:00-5:30 Rev. Donald Grey Barnhouse WABC KMOX KOIL KRLD WADC WCAU WFBL WJAS WKBW WKRC WMAL WMAQ WNAC WOWD WXVZ	WCCO WDBJ WDEL WDOD WDSU WEAN WFBL WFBM WHK WIBW WISN WJAS WKBW WKPC WLAC WIBW WIRZ WMAL
	WNAC WOWO WPG WREC WSAZ WSPD WTAR WWNC WXYZ 9:15-10:15 Atwater Kent Hour
5:00-6:00 Davey Hour WEAF CKCW KSD WCSH WGY WHO WJAR WOC WOW WRC WSAI WTAG 5:00-6:00 National Vespers	WEAF CKGW KFI KGW KHQ KOA KOMO KPO KSD KSL KSTP WAPI WCAE WDAF WEEI WFAA WFI WGN
WJZ KFAB KGO KGW KHQ KOA KOMO KPRC KSTP KTAR KVOO KWK WBAL WBZ WBZA WEBC WFLA WHAM WIOD WJAX WJDX WLW WMC WOAI	WBEN WGY WHAS WHO WKY WMC WOAI WOC WOW WRC WSAI WSB WSM WSMB WTAM WWJ 9:30-10:00 Tone Pictures
WPTF WRC WREN WSB WSUN 5:30-6:00 The French Trio KDYL KFJF KFPF KLZ KMBC KSCJ KVI WADC WBRC WCCO WDAY WDBJ	WABC KFJF KFPY KLRA KLZ KMBC KMOX KOIL KOL KRLD KSCJ WADC WBCM WBRC WCAO WCCO WDAY WDBJ WDOD WEAN WFBL WHEC WIBW WISN
WDOD WEAN WFBM WHP WIBW WAS WKBN WLBW WLBZ WMAL WMT WNAC WORC WOWO WPG WREC WSPD WTAR WWNC WXYZ WGR	KMOX KOIL KOL KRLD KSCJ WADC WBCM WBRC WCAO WCCO WDAY WDBJ WDOD WEAN WFBL WHEC WIBW WISN WJAS WKBW WKRC WLAC WLBW WMAL WMT WNAC WNAX WORC WREC WSPD WTAR WWNC WXYZ 10:00-10:30 Jesse Crawford
6:00-7:00 Catholic Hour  WEAF KECA KGO KGW KHQ KOA  KOMO KPO KPRC KSD KSTP KTAR	WABC WFBL WKBW WEAN WNAC WCAU WLBW WMAL WCAO WADC WHK WKRC WGST WXYZ WSPD WLAC WOWO WBBM KMOX KMBC KOIL WRR KDYL KOL
WEBC WEEL WFIC WFLA WGY WKY WHAS WHO WIOD WJAR WJAX WJDX WLIT WMC WOAI WOC WRC WRVA WSAI WSB WSM WSMB WSUN WTAG	KFPY KOIN KHJ KFRC WJAS  10:15-10:45 Studebaker Champions WEAF KFI KGO KGW KHQ KOA KOMO KSTP WCAE WCSH WDAF WEBC
WTMJ WWJ 7:00-7:35 lodent Big Brother Club WEAF KSD WCAE WCSH WEBC WEEI	WEEI WFI WGN WBEN WGY WJAR WOW WRC WTAG WTAM WTIC WTMJ WWJ
WFJC WBEN WHO WJAR WLIT WLS WOC WOW WRC WSAI WTAG WTMJ WWJ	10:30-11:00 Around the Samovar WABC WADC WCAO WCAU WDBJ WEAN WHEC WHK WJAS WKBN WLBW WLBZ

WMAL WNAC WORC WPG WSPD WTAR WXYZ	WOW WPTF WRC WSAI WSMB WSUN WTAG WTIC WWJ
10:30-11:00 Lew White, Organist WJZ CKGW KDKA KWK WBZ WBZA WHAM WJAX WJDX WJR WREN WRVA	WOW WPTF WRC WSAI WSMB WSUN WTAG WTIC WWJ
WJZ CKGW KDKA KWK WBZ WBZA	8:15-8:30 Voice of Columbia WABC WFBL WKBW WLBZ WPG WJAS
10:45-11:15 Sunday at Seth Parker's	WLBW WMAL WTAR WDBJ WADC WWNC
10:45-11:15 Sunday at Seth Parker's WEAF CKGW KFSD KGO KGW KHQ KOA KOMO KPRC KSTP KTAR KYW	WBCM WDOD WREC WLAC WISN WGL
KOA KOMO KPRC KSTP KTAR KYW	WCCO KSCJ WMT KLRA WNAX WIBW
WCAE WCSH WDAF WEBC WEEI WFI WFJC WBEN WGY WHAS WHO WIOD	KFH KFJF KRLD KFPY WORC 8:30-9:00 Ingram Shavers
WILL WILL WAY WAS WOO WOW	WJZ CKGW KDKA KFAB KOA KPRC
WRC WSB WSM WTAM WTMJ WWJ  11:00-11:30 Kaffee Hag Slumber Music WJZ KDKA KWK WBZ WBZA WENR	KTHS KVOO KWK KYW WBZ WBZA
11:00-11:30 Kaffee Hag Slumber Music WJZ KDKA KWK WBZ WBZA WENR	WEBC WFAA WFLA WHAS WIOD WJAX WJR WKY WLW WMC WOAI WREN
WHAM WJR WLW WREN	WRVA WSB WSM WSMB WSUN WTMJ
11:00-12:00 Back Home Hour	8:30-9:00 Arabesque
WABC KFH KFJF KFPY KHJ KMBC KMOX KRLD WCCO WDAY WDBJ WDOD	WABC KFJF KFPY KLRA KMOX KOIL KRLD WBCM WCCO WDAY WDBJ WDOD
WFBM WHEC WIBW WISN WKBN WKRC	WEAN WFBL WGR WJAS WKRC WLBW
WFBM WHEC WIBW WISN WKBN WKRC WMAL WMT WNAX WPG WREC WTAR	WMAL WMAQ WMT WNAC WNAX WORC
WXYZ	WREC WWNC WXYZ
11:30-12:00 Russian Cathedral Choir WEAF CKGW KOA KSTP WBAP WEBC	8:30-9:30 A & P Gypsies WEAF KSD WCAE WCSH WDAF WEEI
WEIC WEEN WGY WHAS WIDD WOW	WGN WBEN WGY WHO WJAR WLIT
WRC WSB WTAM WWJ	WOC WOW WRC WSAI WTAG WTAM
Monday	WTIC WWJ
3:00-3:30 Phil Napleon and His Band	9:00-9:30 Maytag Orchestra WJZ KDKA KECA KGO KGW KHQ KOA KOMO KPRC KSL KSTP KTHS KVOO KWK KYW WBZ WBZA WCKY WEBC WHAM WJDX WJR WKY WMC
WJZ KDKA KPRC KWK WBAL WBZ	KOA KOMO KPRC KSL KSTP KTHS
WBZA WHAM WREN WSB WSM	KVOO KWK KYW WBZ WBZA WCKY WEBC WHAM WJDX WJR WKY WMC
3:30-4:00 Sixteen Singers WEAF CKGW KSD KSTP WBEN WFJC	WEBC WHAM WJDX WJR WKY WMC WOAI WREN WSB WSM WSMB
WHO WOC WRC WTAM	9:00-9:30 Mardi Gras
4:00-4:30 Hetel Cosmopolitan Orchestra	9:00-9:30 Mardi Gras WABC KDYL KFPY KFRC KMBC KRLD KSCJ WADC WBCM WCCO WDAY WDBJ
WJZ CKGW KGO KOA KOMO KSTP KYW WAPI WBAL WFAA WHAM WJAX	KSCJ WADC WBCM WCCO WDAY WDBJ WDOD WEAN WGR WIBW WISN WJAS
WJR WLW WREN WSB WSM WTMJ	WKRC WLAC WLBW WLBZ WMAL WMAQ
4-00-4-30 Rallad Hour	WKRC WLAC WLBW WLBZ WMAL WMAQ WNAC WNAX WORC WTAR WWNC WXYZ
WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOL KRLD KSCJ	9:30-10:00 Chesebrough Real Folks WJZ CKGW KDKA KWK KYW WBZ
KVI WADC WAIU WBCM WBRC WCAO	WRZA WHAM WIR WLW WREN
WCAU WCCO WDAY WDBJ WDOD WEAN	9:30-10:00 Bourjois—Evening in Paris
WGR WHEC WIBW WISN WKRC WLAC	WABC KDYL KFJF KFPY KFRC KHJ
WLBZ WMAL WMT WNAC WORC WPG WREC WSPD WTAR WWNC WXYZ	KLZ KMBC KMOX KOIL KOIN KOL KRLD WADC WBBM WBT WCAO WCAU
4:30-5:00 Wardman Park Hotel Orchestra	KRLD WADC WBBM WBT WCAO WCAU WCCO WDSU WEAN WFBL WGST WHK WJAS WKBW WKRC WLBW WMAL WNAC
WABC KDYL KFJF KFPY KFRC KLZ	W.IAS WKBW WKRC WLBW WMAL WNAC
KMBC KMOX KOL KRLD KSCJ KVI WADC WAIU WBCM WBRC WCAO WCCO	WOWO WPG WSPD WXYZ 9:30-10:00 General Motors Family Party
WDAY WDRI WDOD WEAN WFAN WGR	WEAR KECA KEI KGO KGW KHO
WHP WIBW WISN WLAC WLBZ WMAL	KOA KOMO KPRC KSD KSL KSTP
WMT WNAC WORC WPG WREC WSPD	WCAE WCSH WDAF WEEL WFAA WGN
6:00-6:30 WSPD Commodores	WBEN WGY WHAS WHO WJAR WJAX WKY WLIT WMC WOAI WOC WOW
WARC KEIF KEPY KERC KLRA KLZ	WRC WSAI WSB WSM WTAG WTAM
KOL KRLD WAIU WBBM WBCM WBRC	WTIC WTMI WWI
KOL KRLD WAIU WBBM WBCM WBRC WCCO WDAY WDBJ WDOD WFAN WFBL WHP WKBW WLBW WMAL WMT WREC	10:00-10:30 Robert Burns Panatela Program WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOIL KOIN KOL
WSPD WTAR WWNC	KLZ KMBC KMOX KOIL KOIN KOL
6:15-6:45 Mormon Tabernacle Choir	KRLD KTRH KTSA KVI WADC WBT
WJZ CKGW KDKA KFAB KFSD KGO KGW KOA KOMO KPO KSL KSTP	WCAO WCAU WCCO WEAN WFBL WFBM
KTAR KWK WAPI WBAL WHAS WLW	KRLD KTRH KTSA KVI WADC WBT WCAO WCAU WCCO WEAN WFBL WFBM WHK WJAS WKBW WKRC WLBW WMAL WMAQ WNAC WOWO WPG WSPD WXYZ
WRC WSM	10:00-10:30 Stromberg-Carlson Program
7:00-7:15 Current Events WABC KFH KFJF KFPY KFRC KLZ	WJZ KDKA KFI KFSD KGO KGW KHQ KOA KOMO KPRC KTAR KWK
WABC KFH KFJF KFPY KFRC KLZ KOL KSCJ KVI WBCM WCAU WDAY	KHO KOA KOMO KPRC KTAR KWK KYW WAPI WBZ WBZA WCKY WEBC
WORL WOOD WERM WHEC WHP WIRW	WELA WHAM WHAS WIOD WIAX WIDX
WISN WJAS WLBW WLBZ WMAL WMT WORC WREC WSPD WTAR WWNC WXYZ	WJR WKY WMC WOAI WREN WRVA WSB W8M WSMB WSUN
WORC WREC WSPD WTAR WWNC WXYZ 7:30-8:00 Colonial Beaconlights	10:00-10:30 Adventures of Sherlock Holmes
WEAF WBEN WCSH WEEI WGY WJAR	WEAF WCAE WCSH WEEL WGN WJAR
WTAG	WLIT WRC WSAI WTAG WTAM WWJ
7:45-8:00 Anheuser-Busch Program KFJF KLRA KMBC KMOX KOIL KRLD KTRH WAIU WDOD WDSU WFBM WHK	10:30-11:00 Empire Builders WJZ KDKA KECA KFSD KGO KGW
KTRH WAIU WOOD WDSU WFBM WHK	KHQ KOA KOMO KPRC KSL KSTP
WMAO WMT WREC WSPD WXYZ	KTAR KWK KYW WBAP WBZ WBZA
7:45-8:30 Roxy's Gang Program WJZ CKGW KFAB KGO KGW KWK	WEBC WHAM WJR WKY WLW WOAI WREN WTMJ
WRZ WRZA WHAM WIBO WSB WSM	10:30-11:00 American Maize Program
8:15-8:30 Fifteen Minutes in Nation's Capital	KDYL KEPV KFRC KHJ KLZ KNX
8:15-8:30 Fifteen Minutes in Nation's Capital WEAF KECA KFSD KGO KGW KOA WOOD KOOD KOOD KOOD KOOD KOOD KOOD KOOD	KOIL KOL KSCJ WADC WBBM WCAH WCAU WDAY WHK WHP WISN WJAS WKBN WKRC WLBW WMT WNAX WSPD
KOMO KPRC KSD KVOO KYW WCAE WDAF WFJC WFLA WHAS WHO WIOD	WKBN WKRC WLBW WMT WNAX WSPD

WMAL WNAC WORC WPG WSPD WTAR WJAR WJAX WJDX WKY WOAI WOC

10:30-11:00 Symphonic Rhyt WEAF WCAE WCSE WJDX WMC WOW WTAM WWJ WBEI	hm Makers		WKY WRVA WTAG	WMC	WOAI WSB	WOC	wow	WRC
WEAF WCAE WCSE	WDAF WEEL WRC WSB	WJAR WTAG	WRVA WTAG	WSAI	WSB	WSM	WSMB	WSUN
WTAM WWJ WBEI	1	W 111G	8:45-9:00 Pr	emier Sa	lad Dres	sers		
11:00-11:15 Musical Aviators WABC WKBW WLBZ	WIDE WEST	WIDW	WABC	KMOV	KFPY	KFRC	KHJ KOL	KLZ KTRH
WCAO WTAR WDB	WADC WKRC	WKBN	KVI	WADC	WBT	WCAO	WCAU	WCCO
WCAO WTAR WDB. WWNC WXYZ WBCI WISN WFBM WCCO	M WDOD WKEC WMT KMOX	WKBN WBRC KMBC KFJF	WDAE	WIAS	WERW	WEAN	WFBL	WGST WLBW
KLRA WNAX KOIL	WIBW KFH	KFJF	WMAL	WMAQ	WNAC	WCAO WEAN WKRC WOWO	WPG	WQAM
KOL KFPY CFRB 11:00-11:30 Florence Richard WEAF WGY WCAI WSM WOC WHO	WORC Ison and Her Orch	estra						
WEAF WGY WCAI	WSAI KSD	WTMJ	WJZ	WBZ	WBZA	WBAL WCKY	WHAM	KDKA
						WCKY	CKGW	
11:30-12:00 Horace Heidt an WEAF WWJ WDAJ WHO WEBC KSD 11:30-12:00 Fletcher Hender WEAR WBW WLBZ WTAR WDBJ WKR WBCM WDOD WREG WCO KSCJ WMT WNAX KOIL WIBW KEPY CERR WOR	d His Orchestra	W.00	WJZ KYW 9:00-9:30 H WABC WBBM WFBM WKRC WXYZ 9:00-9:30 EX	KFH	KMBC	KMOX	KOIL	WADC
WHO WEBC KSD	WGY	WOC	WBBM WFBM	WHK	WCAU	WCCO	WEAN	WFBL WKBW
11:30-12:00 Fletcher Hender	son and His Orche	stra	WKRC	WLBW	WMAL	WNAC	wowo	WSPD
WTAR WDBJ WKR	O WEBN WMAI	WCAO	9:00-9:30 Ex	WBEN reready P	rogram			
WBCM WDOD WREG	WBRC WISN	WFBM	WEAF	KGO	KGW WCAE	KHQ WCSH	AUA .	KOMO
WNAX KOIL WIBV	KMOX KMBO KFH KFJF	KLKA KLZ	KSD WFI	WEIC	WCAE	WCSH	WEBC WHAS	WEEI WHO
KFPY CFRB WOR	·		***************************************	HUDA,	11 1110	WGY WOC	WOW	WRC
12:00-1:00 Phil Spitalny and WEAF KSD KSTP WHO WKY WOC	KYW WDAF	WEIC	WSAI 9:30-10:00 F WEAF KOMO	WSB	WSM Inder Rai	WSMB	WTAM	WWJ
WHO WKY WOC	WRC WSM	WTAM	WEAF	KECA	KGO	KGW KSL	KHQ	KOA KVOO
wwj	adov.		KOMO WRAP	WCAE	WCSH	KSL	KSTP WEBC	KVOO WEEI
Luc	esday		WFI	WFJC	WBEN	WGY	WHAS	WHO
WJZ CKGW KDK	king Glass A KFAB KFKX	KPRC	MUM	WIAR	WDVA	WKY	WMC WSB	WOC WSMB
10:15-10:30 Through the Loc WJZ CKGW KDK, KVOO KWK WBZ WKY WLW WOAI	WBZA WHAN	WJR	WTAG	WCAE WFJC WJAR WRC WTAM	WTMJ	wwJ		WOMD
3:30-4:00 Golden Gema	WREN		9:30-10:00 F WABC	hilce Syn	nphony C	oncert KEIF	KMRC	кмох
WEAF KSD KSTP WJAX WOW WSUN	WEEI WEJC	WFLA WTIC	KOIL	KRLD	KTRH	KTSA	WADC	WBRC
4:00-4:30 Italian Idvll	WTAG WTAM	WIIC	WEAN	WEBL	WEBM	WCCO	WHEC	WHK
WABC KDYL KFJF KMBC KMOX KRLI WAIU WBCM WBRO	KFPY KFRC	KLZ	WISN	WJAS	WKBW	WKRC	WHEC WLAC WOWO	WLBW
WAIU WBCM WBRO	KSCJ KVI WCAO WCAU	WCCO	W MAL WREC	W M AQ WSPD	WMTAR.	WNAC	wowo	WPG
WDBJ WDOD WEAD	N WHK WIBW WMAL WMT	WISN	10:00-10:15	Enna Jet	tick Song	bird	WD.D	TI Day
WDBJ WDOD WEAR WKRC WLAC WLBZ WORC WOWO WPG WXYZ WGR	WREC WTAR	WWNC	WFI	WFJC	WBEN	WGY	WDAF WHO	WEEI WIBO
WXYZ WGR			9:30-10:00 F WABC KOIL WBT WEAN WMAL WREC 10:00-10:15 WEAF WJAR WTAM 10:00-10:15 WAU KHJ KOIN WADC WCAU WFRM	WOC	wow	WRC	WSAI	WTAG
4:00-5:00 Pacific Vagabonds WJZ KFAB KFSD WAPI WHAM WJAX	KGO KOA	KSTP	10:00-10:15	Graybar's	s, Mr. an	d Mrs.		
WAPI WHAM WJAX 5:00-5:15 Rhythm Kings	WJR WLW	WSM	WABC	KDYL	KFH	KFJF	KFPY	KFRC
WARC KDYL KFH	KFJF KLZ	KMBC	KOIN	KOL	KRLD	KFJF KMBC KTRH WBRC WDSU WHK WLAC WREC	KTSA	KVI
KMOX KRLD KSCJ	WAIU WBCM	KMBC WBRC WISN WTAR	WADC	WAIU	WBBM	WBRC	WBT	KVI WCAO
WCAO WCCO WDOI WKBN WLBZ WMA WWNC WXYZ WGR	D WFBM WHP L WMT WREC	WTAR	WFBM	WGST	WHEC	WHK	WEAN WISN	WIAS
WWNC WXYZ WGR 7:30-7:45 Musical Aviators C	)rchastra		WKBN	WKBW	WKRC	WLAC	WLBW	WMAL WTAR
KFH KFJF KFPY	KFRC KLRA	KLZ	WNAC WWNC 10:00-10:30 WJZ	WXYZ	WPG	WREC	Ward	WTAR
KOIL KRLD KSCJ WDAY WDBJ WDOI	WAIU WBRC	WCCO	10:00-10:30	Westingh	ouse Sal	ute VESD	KGO	KGW
WHP WIBW WISN			КНQ	KOMO KYW	KPRC	KSL	TZCOTO	KTAR
WLBW WMT WORK	WREC WTAR	WWNC	KWK	WERC	WAPI	WHAM	WBZ	WBZA WIOD
7:30-8:00 Soconyland Sketch	es		KHQ KWK WCKY WJAX	WJR	WKY	WBAL WHAM WMC WSMB	WOAI	WREN
WEAF WBEN WCSH	WEEI WGY	WJAR	WRVA	WSB	WSM	WSMB	WSUN	WTMJ
WTAG 8:00-8:15 Troika Bells	Way was	****	WRVA 10:15-11:00 WEAF KOA WDAF WBEN WIAX	KECA	KFSD	KGO	KGW WCAE	KHQ
WEAF WDAF WEEI WWJ	WFI WRC	WSAI	KOA WDAF	KOMO	WEEL	KTAR	WCAE WFJC	KHQ WCSH WFLA
8:00-8:30 Pure Oil Orchestra	LOWD LEATE	77 77777	WBEN	WHAS	WHO	WIBO	WIOD	WJAR
WBAL WEBC WHAI	M WHAS WJAX	WJDX	WJAX WRC	WIDX	WKY	WMC WSB	WOAI WSM	WOC WSMB
WWJ 8:00-8:30 Pure Oil Orchestra WJZ KDKA KFAB WBAL WEBC WHAI WLW WMC WPTF WSM WTMJ	WREN WRVA	WSB	WSUN	WJDX WRVA WTAG	WTMJ	wwJ		" CHID
WSM WTMJ 8:00-8:30 Blackstone Program			10:30-11:00	Paramoui	nt Publix	Kadio Pi		KFPY
8:00-8:30 Blackstone Program WABC KMBC KMO WBT WCAH WCAC	K KOIL WADC	WAIU WEAN WKBW WNAC	KFRC	CFRB KHJ KOIN	KLRA	KLZ	KFJF KMX KTRH	KMOX
		WEAN WKBW	WADC	KOIN WRRM	KOL WBCM	KSCJ	KTRH WBT	KTSA WCAO
WFBL WHEC WHK WLBW WLBZ WMA WORC WPG WSPD	L WMAQ WMT WXYZ	WNAC	WCAU	wcco	WDAE	WDAY	WDBJ	WDBO
8:30-9:00 Florsheim Frolic			WHEC	WHK	WEAN	KFH KLZ KSCJ WNRC WDAY WFBL WIBW	WFBM WISN	WGST WJAS
WEAF KOA KPRO		TEAM				** ***	1011	,, orac
	KSD KSL	KSTP	WKBN	WKBW	WKRC	WLAC	W LBW	WLBZ
KTHS KVOO WBAH WEBC WFI WFLA	KSD KSL WCAE WCSH WGN WBEN	WDAF WGY	WKBN WMAL WQAM	WKBW WMT WREC	WKRC WNAC WRR	WLAC WNAX WSPD	MOMO	WPG
WEBC WFI WFLA	KSD KSL WCAE WCSH WGN WBEN WJAR WJAX	KSTP WDAF WGY WJDX	WKBN WMAL WQAM WWNC	WKBW WMT WREC WXYZ	WKRC WNAC WRR	WLAC WNAX WSPD	W LBW	WPG

10:30-11:00 Cuckoo

11:00-11:30 Yoeng's Restaurant Orchestra

#### Wednesday

11:45-12:00 The Recitalists KFAB KOA KWK WBAL WHAM WSM

6:15-6:25 Smith Ballew and His Orchestra
WJZ KFAB WSM KOA KGO KTAR
KGW WBAL

WJZ KFAB WSM KOA KGO KTAR

KGW WBAL

7:00-7:30 Musical Aviators Orchestra
WABC WHEC WIBZ WORC
WLBW WMAL WTAR WDBJ WAIU WWNC
WXYZ WBCM WDOD WBRC
KLRA KFJF KVI KOL KFPY KFRC
CFRB
7:30-7:45 Evangeline Adams, A strologer
WABC CFRB KFJF KLRA KMBC KMOX
KOIL KTRH WADC WAIU WBRC
WEAN WFBL WFBM WGST WHEC WHK
WISN WKBW WKRC WLAC WLBW WMAL
WMAO WNAC WREC WRR WSPD WTAR
WMAO WNAC WREC WRR WSPD WTAR
WMAO WNAC KREC WRR WSPD WTAR
WWNC WXYZ

7:45-8:00 Back of the News in WEAF KECA KGO KGW
WFJC WGY WHO WIBO WKY
WFJC WGY WHO WIBO WKY
WFJC WGY WHO WIBO WKY
WWAG WRC WSAI WSB WHO WIBO WKY
WFJC WGY WHO WIBO WKY
WARD WRC WSAI WSB WHOW WRC WAAL
WSAB WFBM WGRC WAAL
WABC KFH KFJF KFPY KLRA KMBC
KOML KFJF KFPY KLRA KMBC
WANA WRC WSAI WSB WSM WSMB WTAG
WSAI WSD WTAR
WWAG WSAI WSW WSAI WSB WFBM WGR WHEC WIBW WISN
WSAI WSB WFBM WKRC WLAC WMAL WAQ
WGO CKAC WMBC KMOY KDLD WBPC
WAT WAG WOO'N WRC WAT WOO'N WRC WAT WOO'N WRC WSAI WSPD WTAR WWNC WXYZ

7:45-8:00 Eskimo Pie Program
WABC CKAC WMBC KMOY KDLD WBPC

7:45-8:00 Eskimo Pie Program
WABC CKAC KMBC KMOX KRLD WBRC
WBT WCAO WCAU WCCO WGST WHEC
WHK WJAS WKBW WKRC WLAP WMAL
WMAQ WNAC

7:45-8:00 Fifth Avenue Knights

0-11:00 Cuckoo WJZ KDKA WBZ WBZA WCKY WJR WJZ KDKA KFAB KSTP KWK KYW WREN WBZA WEBC WHAM WJR WRE

WEAF KGO KOA KJDX WOW KSD WWJ WTAM WIOD WEEI WJAR WTAG KFSD

"I-15-8:30 U.S., Marine band
WABC WGR WIBZ WEAN WNAC WORC
WJAS WLBW WMAL WTAR WDBJ WADC
WWNC WXYZ WBCM WSPD WDOD WREC
WLAC WBRC WCO KSCJ WMT KMBC
KLRA WNAX KFJF KFPY KFRC CFRB

KLRA WNAX KFJF KFPY KFRC CFRB
8:30-9:00 Toscha Seidel and Concert Orchestra
WABC WGR WLBZ WEAN WNAC WORC
WPG WJAS WLBW WMAL WTAR WDBJ
WKRC WWNC WXYZ WBCM WSPD WDOD
WBRC WOWO WMAQ WMT KSCJ KMOX
KMBC KLRA WNAX WIBW KFH KFJF
KRLD KFPY KFRC CFRB
8:30-9:01 ulda Novalty Orchesta

KVOO WFAA WJAR

WLIT WRVA

WSUN WTAG WTAM WWJ
1-5:30 Asbury Park Casino Orchestra
WABC KFH KFJF KLRA KLZ KRLD
WABC WARC WCCO
WDAY WDOD WFAN WFBL WGR WHP
WISN WLBW WMAL WMT WREC WSPD
WTAR WWNC WXYZ

5-6:25 Smith Ballew and His Orchestra
WFBL WABC WLAC WLAP WLBW WFAL WXYZ

9:30-10:90 La Palina Smoker
WABC KMOX KOIL WADC WBBM
WBT WCAO WCAU WCCO WEAN WFBL
WWT WCAO WCAU WCCO WEAN WFBL
WWW WISN WJAS WKWW WKRC WLBW
WWT WCAO WCAU WOWO WPG WREC WSPD
WWAL WNAC WOWO WPG WREC WSPD

| WSPD | WTAR | WWNC | WSPD | WSPD | WTAR | WWNC | WSPD | WSPD | WTAR | WWNC | WSPD |

WRC WRVA WSAI WSB WSMB WTAQ WTAM WTIC WWJ	8:30-8:45 Kaltenborn Edits the News WABC KMBC KMOX KOIL WADC WBT
11:00-11:30 Guy Lombardo and His Orchestra	WABC KMBC KMOX KOIL WADC WBT WCAO WCAU WCCO WEAN WFBL WJAS WKBW WKRC WLBW WMAL WMAQ WNAC
WABC WHEC WGR WLBZ WEAN WNAC WORC WPG WCAU WLBW WCAO WTAR WDBJ WADC WKRC WWNC WXYZ WBCM	WOWO WPG WSPD WXYZ 8:45-9:00 The Hamilton Watchman
WSPD WDOD WREC WBRC WISN WOWO	
WFBM WCCO KSCJ WMT KMBC KLRA WNAX KOIL WIBW KFH KFJF KFPY	WABC KMBC KMOX KOIL WADC WCAO WCAU WEAN WFBL WHK WJAS WJJD WKBW WKRC WLBW WMAL WNAC WOWO WSPD WXYZ
11:00-11:30 Vincent Lopez and His Orchestra	WSPD WXYZ
WEAF KOA KSD KSTP WCAE WDAF WFIC WFLA WGY WHAS WHO WIOD WJDX WLIT WMC WOC WOW WRC WSAI WSB WSM WSMB WSUN WTAM	9:00-9:30 Rhythm Choristers WABC WHEC WKBW WLBZ WEAN WNAC WORC WPG WHP WJAS WLBW WMAL
WJDX WLIT WMC WOC WOW WRC WSAI WSB WSM WSMB WSUN WTAM	WTAR WDBJ WADC WWNC WXYZ WBCM
WWJ	WTAR WDBJ WADC WWNC WXYZ WBCM WSPD WISN KSCJ WMT KMBC KLRA WNAX KOIL WIBW KFH KFJF KLZ
11:30-12:00 California Melodies WABC KFH KFPY KHJ KMBC KSCJ	KOL KFPY KFRC
WBCM WBRC WCAO WCCO WDBJ WDOD WEAN WFBM WHEC WHK WIBW WISN WKBN WKRC WLBW WMAL WMT WNAC	9:00-9:30 Arco Birthday Party WEAF CKGW KECA KGO KGW KHQ
WEAN WFBM WHEC WHK WIBW WISN WKBN WKRC WLBW WMAL WMT WNAC WNAX WORC WREC WTAR WWNC WXYZ	KOA KOMO KSD KSL KSTP KYW WAPI WBAP WCAE WCSH WDAF WEBC
	WEEL WEL WELC WEEN WCV WHO
Thursday	WOAI WOC WOW WPTF WRC WRVA
9:45-10:00 A & P. Program WEAF WJAR WTAG WCSH WRC WGY WCAE WTAM WWJ WSAI KSD WOC WHO WDAF WTMJ WEBC WRVA WPTF WIOD WELA WSUN WHAS WSM WMC	WSAI WSB WSM WSMB WTAG WIMJ
WEAF WJAR WTAG WCSH WRC WGY WCAE WTAM WWJ WSAI KSD WCC	9:00-9:30 Knox-Dunlap Orchestra WJZ KDKA KWK WBAL WBZ WBZA WCKY WHAM WIBO WREN
	WCKY WHAM WIBO WREN
WSB WAPI WSMB WJDX KVOO WBAP KPRC WOAI WKY WBEN WOW	9:30-10:00 Jack Frost's Melody Moments WEAF WCAE WCSH WFI WBEN WGY WIBO WJAR WRC WSAI WTAG WTAM
10:00-10:15 Ceresota Program WEAF KSTP KYW WBEN WCAE WCSH	WWJ
WEL WGY WIAR WRC WRVA WSAL	9:30-10:00 Maxwell House Ensemble WJZ KDKA KECA KGO KGW KHQ
WTAG WTAM WWJ 10:30-11:00 The Manhatters	KOA KOMO KPRC KSL KSTP KWK
WJZ KDKA KFAB KWK WHAM WIBO WLW WREN WSMB	WEBC WHAM WHAS WIOD WJAX WJR
4:30-5:00 The Crockett Mountaineers	WDVA WCD WCM WCMR WTMI
WABC WGR WLBZ WEAN WNAC WORC WPG WFAN WHP WLBW WMAL WCAO WTAR WDBJ WAIU WWNC WBCM WSPD	9:30-10:00 Detective Story Magazine WABC KMBC KMOX KOIL WCAO WCAU WEAN WFBL WHK WJAS WKBW WKRC WLBW WMAL WNAC WOWO WSPD WXYZ
WDOD WREC WBRC WISN WGL WCCO KSCJ WMT KMOX KMBC KLRA KOIL	WCAO WCAU WEAN WFBL WHK WJAS WKRW WKRC WLRW WMAL WNAC WOWO
KSCJ WMT KMOX KMBC KLRA KOIL WIBW KFJF KRLD KLZ KVI KOL	WSPD WXYZ
KFPY KFRC 5:00-5:30 In the Spotlight	10:00-10:30 Lutheran Laymen League Program WABC KDYL KFPY KFRC KHJ KLZ
5:00-5:30 In the Spotlight WEAF KFSD KGO KOA KOMO KSD KTAR WCAE WBEN WHAS WHO WJAR WKY WOC WRC WSAI WSM WSMB	WRBM WCAO WCAU WCCO WDSU WEAN
WKY WOC WRC WSAI WSM WSMB	WFBL WHK WJAS WKBW WKRC WLBW WMAL WMT WNAC WOWO WSPD WXYZ
WTAG WTAM WTIC  5:30-5:45 The Toddy Party WEAF CKGW KSD KYW WCAE WCSH WEEI WFIC WBEN WGY WJAR WLIT WRC WSAI WTAG WTIC WWJ	10.00 11.00 Victor Herbert Opera Series
WEAF CKGW KSD KYW WCAE WCSH WEEI WFJC WBEN WGY WJAR WLIT WRC WSAI WTAG WTIC WWJ	WBZA WHAM WREN
WRC WSAI WTAG WTIC WWJ 7:00-7:30 Mid-Week Federation Hymn Sing	10:00-11:00 Lucky Strike Dance Orchestra WEAF WEEI WJAR WTAG WCSH WFI
7:00-7:30 Mid-Week Federation Hymn Sing WEAF KOA WHAS WHO WIBO WJAR WMC WOC WWJ	WRC WGY WGR WCAE WFJC WWJ WSAI KSD WOW WKY WOAI KOA
7:30-8:00 Ward's Tip Top Club WABC KMOX WCAO WCAU WEAN WFBL WHK WJAS WKBN WNAC WXYZ	KSL WTMJ WIOD WHAS WSM WMC WSMB KYW WDAF WJAX KTHS WTAM
WHK WJAS WKBN WNAC WXYZ	ESTD WIDE EPRC WERC WRVA WELA
7:45-8:00 Friendly Five Footnotes WJZ WBZ WBZA WREN KWK KFAB WHAS WSM WMC WSB WAPI WSMB	KGW KFI KOMO KHQ off 10:30) (WOC
WHAS WEM WMC WER WAR WENR	WHO KTHS on 10:30) 10:30-11:00 Melody Moments
WJDX WRVA WPTF WJAX WIOD WFLA WSUN KGO KECA KOMO KHQ KTAR KFSD WBAL KDKA WIBO KOA KSL	WABC WFBL WHEC WGR WLBZ WEAN WNAC WORC WFAN WHP WJAS WLBW
	10:30-11:00 Melody Moments WABC WFBL WHEC WGR WLBZ WEAN WNAC WORC WFAN WHP WJAS WLBW WMAL WCAO WTAR WDBJ WADC WKRC WKBN WWNC WXYZ WBCM WSPD WDOD WLAC WISN WCCO KSCJ WMT KMBC KLRA WNAX KOIL WIBW KFJF KRLD
WEAF CKGW KECA KGO KGW KHQ WOA KOMO KPRC KSD KSL KSTP KTAR KTHS WAPI WBAP WCAE WCSH	WLAC WISN WCCO KSCJ WMT KMBC
WDAE WEDC WEDT WEI WEIC WCN	
WREN WCV WHAS WHO WIOD WIAR	11.00-11.30 Rep Rernie and His Orchestra
WOW WPTF WRC WRVA WSAI WSB	WORC WPG WHP WLBW WMAL WCAO WTAR WDBJ WADC WWNC WXYZ WBCM
	WSDD WDOD WREC WRRC WISN WEBM
8:15-8:30 Poets Gold WABC WGR WLBZ WORC WPG WFAN WJAS WLBW WMAL WTAR WDBJ WADC	WMT KMOX KMBC KLRA WNAX KOIL WIBW KFH KFJF KOL KFPY CFRB
WWNC WXYZ WBCM WSPD WDOD WREC WLAC WBRC WISN KSCJ WMT KMBC	WEAF WCAE WFI WRC WBEN WJDX
KLRA WNAX KFPY WIBW KFH KFJF KRLD	11:00-11:30 Florence Richardson's Orchestra WEAF WCAE WFI WRC WBEN WJDX KSTP CKGW (WWJ WSAI off 11:15) (KSD WOW WSM WSMB on 11:15)
MILD	

11:30-11:45 Duke Ellington and His Orchestra WEAF CKGW KSD KSTP WDAF WFI WFJC WJDX WOW WRC WWJ	WCAU WEAN WFBL WHK WJAS WKBW WKRC WLBW WMAL WMAQ WNAC WOWO WSPD WXYZ
Friday	9:30-10:00 Del Lampe's Eversharp Orchestra WEAF KSD WCAE WCSH WDAF WEEI
	WFJC WGN WBEN WGY WHO WJAR
11:00-12:00 NBC Music Appreciation Hour WEAF WJZ CKGW KDKA KFAB KOA	WLIT WOC WOW WRC WSAI WTAG
KPRU KSD KSL KSIP KVOO KWK	WTIC WWJ
KYW WAPI WBAL WBZ WBZA WCAE WCSH WDAF WEBC WEEI WENR WFAA	
WCSH WDAF WEBC WEEL WENR WFAA WFLA WGN WWJ WGY WHAM WHAS	KOA KOMO KSL KSTP KWK KYW
WHO WIBO WIOD WJAR WJAX WJDX	WAII WEE WEEL WEAR WHAM
WJR WKY WLIT WLW WMC WOAI WOC WOW WPTF WRC WREN WRVA	
WSAI WSB WSM WSMB WSUN WTAG	WSB WSM WSMB WTMJ
WTAM WTMJ	10:00-10:30 Crime Prevention Program WEAF KSD WCAE WCSH WJAR WRC
4:00-4:45 Dancing Melodies WEAF WEEI WTAG WCAE WFJC WTAM	TIME O
WWJ WOC WHO WOW WDAF WBEN	10:00-10:30 Armstrong Quakers
7:00-7:30 Howard Lanin's St. Moritz Orchestra	WJZ KDKA KFI KGO KGW KHQ
WABC WFBL WGR WLBZ WEAN WORD WHP WJAS WLBW WMAL WTAR WDBJ	KYW WBAP WBZ WBZA WCKY WEBC
WWNC WXYZ WBCM WDOD WBRC WISN	WHAM WHAS WJR WKY WMC WOAI
WCCO KSCJ WMT KLRA WIBW KFJF KLZ KOL KFPY KFRC	WREN WSB WSMB WTMJ
7:45-7:55 The Vagabonds	10:00-10:30 Radio Follies, Guy Lombardo WABC KDYL KFJF KFPY KFRC KHJ
WADU WHEU WEBZ WORU WHP WIAS	KLZ KMCB KMOX KOIL KOIN KOL
WLBW WCAO WTAR WDBJ WHK WWNG WXYZ WBCM WDOD WBRC WISN WGL	C KVI WADC WBT WCAO WCAU WCCO WDSU WEAN WFBL WGST WHEC WHK
WMAQ WCCO KSCJ WMT KMBC KLRA	WHP WIAS WKBW WKRC WMAL WMAO
KFJF KRLD KLZ KFPY KFRC CFRB	WNAC WORC WOWO WPG WRR WSPD WTAR WXYZ
7:45-8:00 Brownbilt Footlites WJZ_ KDKA KFAB KOA KSL KWK	10:30-11:00 RKO Theatre of the Air
WAPI WBZ WBZA WEBC WFLA WHAS	WEAF KFI KFSD KGO KGW KHQ
WIBO WIOD WJAX WJDX WMC WOAI WPTF WREN WRVA WSB WSM WSMB	KOA KOMO KSD KSL KTAR KTHS WCAE WCSH WDAF WEEL WFJC WFLA
WSUN WTMJ	WBEN WGY WHO WIBO WIOD WJAR
8:00-8:30 Nestle's Program	WJAX WJDX WKY WLIT WLW WMC WOAI WOC WOW WRC WRVA WSAI
WJZ KDKA KFAB KWK WBZ WBZA WHAM WIBO WJR WLW WREN	WSB WSMB WSUN WTAG WTAM WWJ
8:00-9:00 Cities Service Concert Orchestra	10:30-11:00 L'Orpheon de Montreal
WEAF CKGW KECA KGO KGW KHO	WABC WHEC WLBZ WEAN WNAC WORC WJAS WMAL WCAO WTAR WDBJ WADC
KOA KOMO KPRC KSD KSL KSTP KYW WCAE WCSH WDAF WEBC WEEI	WKRC WWNC WXYZ WBCM WSPD WDOD
WFAA WBEN WHO WJAR WKY WLIT	WLAC WBRC WISN WGL WCCO KSCJ WMT KMBC KLRA WNAX KOIL WIBW
WOAI WOC WOW WRC WSAI WTAG WTAM WTIC WTMJ WWJ	KFJF KLZ KOL KFPY
8:15-8:30 Grand Opera Miniatures	11:00-11:30 Musical Aviators Orchestra
WABC KDYL KFH KEJF KEPY KERC	WHEC WKBW WLBZ WEAN WNAC WORC WLBW WCAO WTAR WDBJ WADC WWNC
WADC WAIL WROM WDAY WORL WOOD	WXYZ WBCM WSPD WDOD WREC WRRC
WHEC WHP WIBW WISN WIAS WKRC	WISN WCCO WMT KMBC KLRA WNAX KOIL WIBW KFH KOL
WLAC WLBW WLBZ WMAL WMAQ WMT WNAX WORC WREC WSPD WTAR WWNO	11:00-12:00 Vincent Lonez and His Orchestra
WXYZ WGR	WEAF CKGW KOA KSD KSTP WCAE
8:30-9:00 Weed Tire Chain Program	WDAF WFJC WGY WHAS WHO WJDX WLIT WMC WOC WOW WRC WSB
WABC KFJF KMBC KMOX KOIL KRLD WADC WCAO WCAU WCCO WEAN WFBL WJAS WKBW WKRC WLBW WMAL WMAG	WSM WSMB WTIC WWJ
WJAS WKBW WKRC WLBW WMAL WMAG WNAC WOWO WSPD WXYZ	11:30-12:00 Romanelli and His Orchestra
	WABC KDYL KFH KFJF KFPY KLZ KMBC KMOX KOL WBCM WBRC WCAO
8:45-9:00 Natural Bridge Revue WJZ KDKA KFAB KWK WBZ WBZA WFLA WHAM WIBO WIOD WJAX WLW	WCCO WDAY WDBJ WDOD WEAN WHK
WFLA WHAM WIBO WIOD WJAX WLW WREN WRVA WSUN	WIBW WISN WKRC WLBW WLBZ WMAL WMT WNAC WNAX WORC WREC WSPD
9:00-9:30 Interwoven Pair	WTAR WWNC WXYZ
WJZ CKGW KDKA KECA KFSD KGO	C-41.
KGW KHQ KOA KOMO KPRC KSL KSTP KTAR KWK KYW WAPI WBZ	Saturday
WBZA WCKY WEBC WFAA WHAM WHAS	10:30-11:00 New World Salon Orchestra
WIOD WJAX WJR WKY WLW WMC WOAI WREN WRVA WSB WSM WSMB	WABC KDYL KFJF KMBC KRLD KSCJ WADC WAIU WBCM WCAO WCAU WDAY
WTMJ	WDBJ WDOD WEAN WFBM WHEC WHK
9:00-9:30 Cliquot Club Eskimos WEAF KSD WCAE WCSH WDAF WEEI	WISN WJAS WKBN WLAC WLBZ WMAL WMT WNAC WREC WWNC WXYZ
WBEN WGY WHO WIBO WJAR WLIT	
WOC WOW WRC WSAI WTAG WTIC	1:30-2:00 Savoy Plaza Orchestra WABC KLRA WADC WBCM WBRC WCAO
9:00-10:00 True Story Hour	WDBJ WDOD WEAN WFBL WGR WHP WJAS WKRC WLAC WMAL WSPD WTAR

9:00-10:00 True Story Hour WABC KMBC KMOX KOIL WADC WCAO

1:30-2:00 Savoy Plaza Orchestra

WABC KLRA WADC WBCM WBRC WCAO
WDBJ WDOD WEAN WFBL WGR WHP
WJAS WKRC WLAC WMAL WSPD WTAR
WWNC WXYZ

3:30-4:00 The Marionettes
WEAF KGO KOA KTAR WBEN WCAE
WGY WRC

4:30-5:00 Spanish Serenade WABC WGR WLBZ WEAN WNAC WORC WMAL WCAO WWNC WXYZ WFAN WHP WADC WAIU WPG WTAR WBCM WDBI WSPD WDOD WREC WLAC WISN KSCJ WMT KMOX KMBC KLRA WCCO KOIL WIBW KEJE KRLD KLZ KOL KFPY KFRC

5:30-6:00 Blue Aces WJZ KWK WHAM WHAS WMC WSB WSMB

6:00-6:15 The Jameses
WEAF CKGW KGO KGW KOA KSD
KTAR WCAE WFI WGY WHAS WJAR
WMC WOW WRC WWJ

6:00-6:15 Tom, Dick and Harry
WABC KDYL KFH KFJF KFPY KLZ
KMOX KRLD KSCJ WADC WAIU WBCM
WBRC WCCO WDAY WDBJ WDOD WFAN
WHEC WHK WHP WIBW WISN WKBN
WLBW WMT WREC WTAR WWNC WGR

6:15-6:40 Smith Ballew and His Orchestra WJZ KFAB KWK WBZ WBZA

7:00-7:15 Yoeng's Restaurant Orchestra
WABC WFBL WHEC WKBW WLBZ WORC
WHP WJAS WLBW WMAL WTAR WDBJ
WADC WKRC WAIU WKBN WWNC WXYZ
WBCM WDOD WBRC WISN WFBM KSCJ
KLRA WIBW KFH KFJF KVI KOL
KFPY KFRC CFRB

7:00-7:30 Peter van Steeden and Orchestra WEAF WJAR WFI WWJ WOC WHO WCSH WTAM WOW WSAI KSTP KOA KGO

7:15-7:30 Tastyeast Jesters
WJZ KDKA WBAL WBZ WBZA WCKY
WHAM WREN

7:30-8:00 Necco Surprise Party
WABC WEAN WFBL WHEC WKBW WLBZ
WNAC WORC

7:30-8:00 Silver Flute
WEAF CKGW KSD KSTP WCSH WDAF
WEBC WEEI WFI WBEN WHO WJAR
WOC WOW WRC WSAI WTAG WWJ

7:45-8:00 Pickard Family
WJZ CKGW KDKA KFAB KWK KYW
WBZ WBZA WHAM WLW WREN

8:00-8:15 Dixies Circus WJZ KDKA KPRC KSTP KVOO KYW WBAL WBZ WBZA WHAM WKY WLW WOAI

 8:00-8:15 Rodeheaver Sing
 WEAF KGO
 KGW
 KTAR
 KOA
 WJDX

 WSMB
 WFLA
 WSUN
 WOW
 KSD
 WWJ

 WTAM
 WGY
 WCSH
 WCSH
 WWJ

8:15-8:30 Radiotron Varieties WEAF WEEI WJAR WCSH WGY WBEN WEAF WCAE WTAM WWJ WSAI WIBO KSD WSUN WIOD WFLA WSMB WJDX WDAF WRVA WJAX WMC WKY WSB KPRC WOAI KOA KSL KGO KGW KECA KOMO KHQ KTAR KFSD

8:15-8:30 Dixie Echoes
WABC KDYL KFH KFJF KFPY KHJ
KMBC KSCJ WADC WBCM WCAO WDAY
WDBJ WDOD WFAN WHK WIBW WISN
WJAS WKBN WKKC WLAC WLBW WBZ
WMAL WMT WNAX WORC WOWO WREC
WSPD WTAR WWNC WXYZ WGR

8:30-9:00 Dancing Yesterdays
WABC KFH KFFF KFPY KFRC KLRA
KMBC KOIL KSCJ WADC WBCM WCAO
WCAU WDBJ WDOD WEAN WFBL WGR
WIBW WISN WJAS WKRC WLAC WLBW
WMAL WMT WNAC WNAX WORC WPG
WSPD WTAR WWNC WXYZ

8:30-9:00 Fuller Man
WJZ CKGW KDKA KECA KFAB KGO
KGW KHQ KOA KOMO KPRC KWK
WBAL WBZ WBZA WHAM WIBO WJR
WKY WLW WREN

9:00-9:30 Carborundum Hour WABC KMOX WCAU WHK WKBW WMAQ WNAC WXYZ

9:00-10:00 General Electric Hour

WEAF KFI KFSD KGO KGW KHQ KOMO KPRC WAPI WBAP KSD KSL WCSH KSTP KOA WCAE KTAR WDAF WBEN WEBC WEEI WFI WHAS WHO WJAR WJAX WRC WKY WRVA WMC WIBO WOAI WOW WSAI WOC WSMB WTAG WTAM WTMJ WWJ

9:30-10:00 Dutch Masters Minstrels
WJZ KDKA KWK KYW WBAL WBZ
WBZA WHAM WJR WLW WREN

9:30-10:00 Columbia Educational Features

WABC KFH KFJF KFPY KHJ KLRA
KLZ KMBC KOIL KOL KSCJ WADC
WBCM WCAO WCAU WCCO WDBJ
WEAN WFBL WFBM WHP WIBW WISN
WJAS WKBW WKRC WLAC WLBW WMAL
WMAQ WMT WNAC WNAX WORC WSPD

10:00-11:00 Lucky Strike Orchestra WEAF KFI KFSD KGO KGW KHO KOMO KPRC KOA KSD KSL KSTP KTAR KVOO WEBC WEEI WAPI WCAE WFI WCSH WFJC WDAF WEEI WFAA WBEN WGY WGN WHAS WHO WIOD WJAR WJAX WJDX WKY WOC WOW WRC WRVA WSMB WSUN WTAG WTMJ WMC WOAI WSAI

10:00-11:00 Hank Simmons' Show Boat

WABC KDYL KFH KFJF KFPY KFRC

KHJ KLZ KMBC KMOX KOL KSCJ

WADC WBCM WCAO WCAU WCCO

WDBJ WDOD WEAN WHK WHP

WISN WJAS WKBN WKRC WLAC

WLBZ WMAL WMAQ WMT WAC

WORC WOWO WPG WREC WSPD WTAR

10:00-11:00 Chicago Civic Opera WJZ KDKA WBAL WBZ WBZA WHAM

11:00-11:15 Troubadour of the Moon
WEAF KSTP WDAF WFI WHO WIOD
WJDX WOC WOW WRC WSAI WTAM

11:00-11:30 Jack Denny and His Orchestra
WABC KDVL KFJF KFPY KFRC KLZ
KMBC KOL KRLD KSCJ WBCM WBRC
WCAO WDAY WDBJ WDOD WEAN WFAN
WFBM WHEC WHK WHP WIBW WISN
WLBW WLBZ WMAL WMT WNAC WNAX
WORC WPG WREC WSPD WTAR WWNC

11:15-12:00 Horace Heidt and His Orchestra WEAF WFI WTAM WOC WHO WOW KSTP KOA WCAE KSD WSMB WJDX WFJC WTMJ

11:30-12:00 Guy Lombardo and His Orchestra
WABC KFJF KFPY KFRC KLZ
KMOX KOL KRLD KSCJ WBCM WBRC
WCAO WCAU WCCO WDAY WDBJ WDOD
WFBM WHEC WHK WHP WIBW WISN
WKRC WLBW WLBZ WMAL WMT WNAX
WNAX WORC WFG WREC WSPD WTAR
WWNC WXYZ

12:00-1:00 Rudy Vallee and his Orchestra
WEAF KOA KSD KSTP WDAF WFJC
WJDX WRC WSB WWJ

#### NOTICE OF COPYRIGHT

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#### KEY

Frequency in kilocycles. Wave lengths in meters. Second column symbols: \* Verifies receptions 2c; sends station stamp 10c; † Verifies 2c; no stamp; † Does not verify; § Did not reply. Third column shows night power in watts. Fourth column symbols: D, daytime only; \$, Sunday only; Stations dividing time have same small figures; X means station has been granted permit to increase power; + means station has greater power during day; CP indicates station has construction permit only; Some Cuban and Mexican stations have odd frequencies; Correct kilocycles shown in small figures; N means NBC chain; C means Columbia chain: Z has been granted permit to change frequency: Y given permit to move to another city. Dn—This daylight station may use evening hours under certain conditions.

## 540 kilocycles 555.6 meters

CKX † 500

XEY

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Brandon, Manitoba

Merida, Yucatan

## Manitoba Telephone System

#### 550 kilocycles 545.1 meters

KFDY	†	500	1+	Brookings, S. D.
KFUO	*	500	2+	St. Louis, Mo.
KFYR	t	1000	1+	Bismarck, N. D.
KOAC		1000		Corvallis, Ore.
KSD	†	500	2N	St. Louis, Mo.
WGR	*	1000	С	Buffalo, N. Y.
WKRC	+	1000		Cincinnati Ohio

105

## 560 kilocycles 535.4 meters

547

		5		
KFDM	*	500	$\mathbf{x}_{+}$	Beaumont, Texas
KLZ	*	1000	C	Denver, Colo.
KTAB	-	1000		San Francisco, Cal.
WFI	*	500	1N	Philadelphia, Pa.
WIBO		1000	3+N	Chicago, Ill.
WLIT		500	1Ň	Philadelphia, Pa.
WNOX		1000	$\mathbf{x}$ +	Knoxville, Tenn
WPCC	*	500	38	Chicago, Ill.
WQAM	*	1000	С	Miami, Fla.

### 570 kilocycles 526.0 meters

KGKO	*	250	+	Wichita Falls, Texas
KMTR	*	500		Los Angeles, Cal.
KXA	*	500		Seattle, Wash.
WEAO	†	750	1	Columbus, Ohio
WKBN		500	1C	Youngstown, Ohio
WMAC		250	2	Syracuse, N. Y.
WMCA	*	500	3	New York City
/WNAX	*	1000	С	Yankton, S. Ď.
WNYC		500	3	New York City
WSYR		250	2	Syracuse, N. Y.
WWNC	*	1000	C	Asheville, N. C.

### 580 kilocycles 516.9 meters

CFCL CHMA CKCL CKNC CKUA CNRE KGFX KSAC WIBW WOBU WSAZ	****	500 250 500 500 500 500 200 500 1000 250 250	3S 4 3 3 4 4 D 2+ 2+C 1	Toronto, Ont. Edmonton, Alta. Toronto, Ont. Toronto, Ont. Edmonton, Alta. Edmonton, Alta. Edmonton, Alta. Pierre, S. D. Manhattan, Kans. Topeka, Kansas Charleston, W. Va. Huntington, W. Va.
WSAZ WTAG	*	250 250	l N	Huntington, W. Va. Worcester, Mass.

## wH

S. D. State College Concordia Theological Seminary Meyer Broadcasting Co. State Agricultural College Pulitzer Publishing Co. Buffalo Broadcasting Co. WKRC Incorporated Partido Socialista del Sureste

# Magnolia Petroleum Co.

Magnolia Perfoleum Co.
Reynolds Radio Co., Inc.
Associated Broadcasters
Strawbridge & Clothier
Nelson Bros. Bond & Mortgage Co.
Lit Brothers
Sterchi Bros.
North Shore Congregational Church
Miami Broadcasting Co.

## WH

Wichita Falls Broadcasting Co. KMTR Radio Corp.
American Radio Tel. Co.
Ohio State University
W. P. Williamson, Jr.
Clive B. Meredith
Knickerbocker Broadcasting Co., Inc.
Gurney Seed & Nursery Co.
Dept. of Plants and Structures
Clive B. Meredith
Citizens Broadcasting Co., Inc.

eult

Dominion Battery Co.
Christian and Missionary Alliance
The Dominion Battery Co.
Canadian National Carbon Co., Ltd.
University of Alberta
Canadian National Railways
Dana McNeil
State Agricultural College
Topeka Broadcasting Assn., Inc.
WOBU, Inc.
WOSAZ, Inc.
Telegram Publishing Co.

KCYS.

MTRS.

DIAL

447.5

670

#### INDEX BY FREQUENCIES AND DIAL NUMBERS

590	kilo	cycle	es 5	08.2 meters	
CMW		1000	588	Havana, Cuba	
KHO		1000	+N	Spokane, Wash.	
WCAJ	*	500	1	Lincoln, Nebr.	
WEEI	+	1000	N	Boston, Mass.	
WKZO	*	1000	D	Berrien Springs, Mich.	
WOW	*	1000	iN	Omaha, Nebr.	
XEZ		500	<b>5</b> 88	Mexico City	
		500	CP	Lynchburg, Va.	

WH Columbus Commercial & Radio Co. Louis Wasmer, Inc. Nebraska Wesleyan University Edison Elec. Illuminating Co. WKZO, Inc. Woodmen of the World Joaquin Zamacona

Abe Cohen

600 kilocycles 499.7 meters Iroquois Falls, Ont. 250 500 Moose Jaw, Sask. Fleming, Sask. Ottawa, Ont. CJRM CJRW CNRO 500 500 San Diego, Cal. KFSD 500 +N250 2+ C Storrs, Conn. WCAC Baltimore, Md. New York City Waterloo, Iowa 250 2+ C 250 WMT 500 Lawrenceburg, Tenn. WOAN 500 \* WREC Memphis, Tenn. 500

Abitibi Power & Paper Co. Jas. Richardson & Sons, Ltd. Jas. Richardson & Sons, Ltd. Canadian National Railways Airfan Radio Corp. Conn. Agricultural College Monumental Radio, Inc. General Broadcasting System, Inc. Waterloo Broadcasting Co. WREC, Inc. WREC, Inc.

## 610 kilocycles 491.5 meters

KFRC	*	1000	С	San Francisco, Cal.
WDAF	*	1000	N	Kansas City, Mo.
WFAN	*	500	2C	Philadelphia, Pa.
WIP	*	500	2	Philadelphia, Pa.
WJAY	†	500	D	Cleveland, Ohio

Don Lee, Inc. Kansas City Star Co. Keystone Broadcasting Co., Inc. Gimbel Bros. Co. Cleveland Radio Broadcasting Corp.

#### 620 kilocycles 483.6 meters

KGW	*	1000	+N	Portland, Ore.
KTAR		500	+N	Phoenix, Arizona
WFLA	*	1000	1+N	Clearwater, Fla.
WLBZ	*	500	C	Bangor, Maine
WSUN	*	1000	1+N	St. Petersburg, Fla.
WTMJ	*	1000	+N	Milwaukee, Wis.

Oregonian Publishing Co. KTAR Broadcasting Co. Chamber of Commerce Maine Broadcasting Co., Inc. Chamber of Commerce Milwaukee Journal

## 630 kilocycles 475.9 meters

CFCT	*	500		Victoria, B. C.
ČIĞX		500		Yorkton, Sask.
CNRA		500		Moncton, N. B.
KFRU	*	500	1	Columbia, Mo.
WGBF	+	500	1	Evansville, Ind.
WMAL	*	250	+C	Washington, D. C.
WOS	*	500	1	Jefferson City, Mo.
XFE	-	250	632	Villahermosa, Mex.

Victoria Broadcasting Association Winnipeg Grain Exchange Canadian National Railways Stephens College Evansville on the Air, Inc. M. A. Leese State Marketing Bureau Gobierno del Estado de Tobasco

## 640 kilocycles 468.5 meters

KFI WAIU	*	5000 500	NX C Dn	Los Angeles, Cal. Columbus, Ohio
WOI	*	5000	D	Ames, Iowa
XFG		2000	638	Mexico City

Earle C. Anthony, Inc. American Insurance Union State College of Agriculture Secretaria de Guerra y Marina

## 650 kilocycles 461 3 meters

000 1				101.0 1110.0
KPCB	*	100	Dn	Seattle, Wash.
WSM		5000	N	Nashville, Tenn.

Wescoast Broadcasting Co. National Life & Accident Ins. Co.

## 660 kilocycles 454.3 meters

WAAW * 500 D Omaha, Now York	
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WH Omaha Grain Exchange National Broadcasting Co., Inc.

## 670 kilocycles 447.5 meters

WMAQ XEO	*	5000 101	C 674	Chicago, Ill. Mexico City	1

WMAQ, Inc.

F. Armida y Cia.

680 kilocycles 440.9 meters	Cett
KFEQ * 2500 D St. Joseph, Mo. KPO † 5000 N San Francisco, Cal. WPTF * 1000 N Dn Raleigh, N. C.	Scroggin & Co., Bank Hale Bros. & The Chronicle Durham Life Insurance Co.
690 kilocycles 434.5 meters	with
CFAC         500         1         Calgary, Alta.           CFCN         500         1         Calgary, Alta.           CHCA         500         1         Calgary, Alta.           CJCJ         500         1         Calgary, Alta.           CJSC         5000         4         Toronto, Ont.           CKGW         5000         2N         Toronto, Ont.           CNRC         500         1         Calgary, Alta.           CPRY         5000         2N         Toronto, Ont.           NAA         1000         Arlington, Va.           VAS         10000         685         Glace Bay, N. S.	The Calgary Herald Western Broadcasting Co. The Western Farmer Albertan Publishing Co., Ltd. The Evening Telegram Gooderham & Worts, Ltd. Canadian National Railways Canadian Pacific Railways U. S. Navy Canadian Marconi Co.
700 kilocycles 428.3 meters	Cu 74
WLW * 50000 N Cincinnati, Ohio	Crosley Radio Corp.
710 kilocycles 422.3 meters	ente
KMPC - 500 Dn Los Angeles, Cal. VWOR - 5000 Newark, N. J.	R. S. MacMillan Bamberger Broadcasting Service, Inc.
720 kilocycles 416.4 meters	w.H.
√WGN _ 25000 N Chicago, III. XEN † 1000 _ Mexico City 8WMC _ 500 722 St. Johns, N. F.	Chicago Tribune Compania Civil de Inversiones Urbanas Wesley United Church
730 kilocycles 410.7 meters	with
CHLS         -         50         1         Vancouver, B. C.           CHYC         -         5000         2         Montreal, Que.           CKAC         -         5000         2C         Montreal, Que.           CKCD         -         50         1         Vancouver, B. C.           CKFC         -         50         1         Vancouver, B. C.           CKMO         -         50         1         Vancouver, B. C.           CKWX         †         100         1         Vancouver, B. C.           CMK         -         2000         -         Havana, Cuba           CNRM         *         5000         2         Montreal, Que.	W. G. Hassell Northern Electric Co., Ltd. La Presse Publishing Co., Ltd. Vancouver Daily Province United Church of Canada Sprott-Shaw Radio Co. A. Holstead & Wm. Hanlon Cuban Broadcasting Co., Hotel Plaza Canadian National Railways
740 kilocycles 405.2 meters	will
KMMJ 1000 Dn Clay Center, Neb. WSB 5000 N Atlanta, Ga.	The M. M. Johnson Co. Atlanta Journal Co.
750 kilocycles 399.8 meters	204
WJR † 5000 N Detroit. Mich. XEQ 1000 Ciudad Juarez, Mex.	WJR, The Goodwill Station, Inc.
760 kilocycles 394.5 meters	WH
KVI 1000 C Dn Tacoma, Wash. WEW 1000 D St. Louis, Mo. WJZ † 30000 N New York City	Puget Sound Broadcasting Co., Inc. St. Louis University National Broadcasting Co., Inc.
770 kilocycles 389.4 meters	
CMI       -       500       775       Havana, Cuba         KFAB       *       5000       1N       Lincoln, Nebr.         WBBM       *       25000       1C       Chicago, III.         WJBT       -       25000       1S       Chicago, III.	Instituto Provincial KFAB Broadcasting Co. The Atlas Co., Inc. The Atlas Co., Inc.
780 kilocycles 384.4 meters	
CKY - 5000 3 Winnipeg, Manitoba CNRW - 5000 3 Winnipeg, Manitoba KELW - 5000 2 Burbank, Cal. KTM * 500 2+ Los Angeles, Cal. WEAN * 250 +C Providence, R. I.	Manitoba Telephone System Canadian National Railways Union Bank & Trust Co. Pickwick Broadcasting Corp. Shepard Broadcasting Service, Inc.

KCYS. 880

MTRS.

340.7DIAL

#### INDEX BY FREQUENCIES AND DIAL NUMBERS

WISJ WMC WPOR 250 Madison, Wis. + +N Memphis, Tenn. Norfolk, Va. Norfolk, Va. 500 - -500 ic WTAR 500 Mexico City XEW 5000

790 kilocycles 379.5 meters

500 791 Tuinucu, Cuba CMHC San Francisco, Cal. Schenectady, N. Y. KGO WGY 7500 N 50000

800 kilocycles 374.8 meters

1XN 1N Fort Worth, Texas Dallas, Texas 10000 WFAA XEU XFC 50000 Veracruz, Mex. 101 Jalapa, Mex. 350 805

810 kilócycles 370.2 meters

Minneapolis, Minn. **WCCO** WPCH Ď New York City

820 kilocycles 365.6 meters

Louisville, Kv. WHAS 10000 818 XFI 1000 Mexico City

830 kilocycles 361.2 meters

834 N Colon, Cuba Denver, Colo. Boston, Mass. KOA WHDH 1000 D Gainesville, Fla. WRUF 5000 Dn

840 kilocycles 356.9 meters

CFCA † 500 1 Toronto, Ont. Red Deer, Alta. Red Deer, Alta. 1000 CHCT 2 CKLC 1000 Havana, Cuba 500 2 CNRD 1000 Red Deer, Alta. Toronto, Ont. 500 500 841 Tampico, Mex. XEM

850 kilocycles 352.7 meters

10000 KWKH Shreveport, La. Balboa, Canal Zone New Orleans, La. NBA WWL 750 846 5000

860 kilocycles 348.6 meters

Tacoma, Wash. New York City New York City + Dn XC KMO WABC 500 **50**00 WBOQ 5000 Kansas City, Mo. C. Juarez, Chih. 500 D WHB 857 XEJ XFX 101 Mexico City, Mex. 500

870 kilocycles 344.6 meters

Chicago, Ill. Chicago, Ill. 50000 1N 1XN WENR WLS 5000

880 kilocycles 340.7 meters

10 Hamilton, Ont. Hamilton, Ont. CHCS CHML 50 4 3 100 Quebec, Que. Sydney, N. S. CHRC CJCB CKCI 50 3 Quebec, Que. Quebec, Que. 22.5 CKCV CKOC CNRQ 50 3 **5**0 Hamilton, Ont. Quebec, Que. Greeley, Colo. Oakland, Cal. 50 500 2+ 500 KLX

Wisconsin State Journal Bdcsg. Co. Memphis Commercial-Appeal WTAR Radio Corp. WTAR Radio Corp. Mexico Music Co.

20 74

Frank H. Jones National Broadcasting Co., Inc. General Electric Co.

Carter Publications, Inc. News & Journal Natalio Ulibarri Gobierno del Estado de Veracruz

Northwestern Broadcasting, Inc. Eastern Broadcasters, Inc.

Courier-Journal & Times

Sria. de Ind., Commercio y Trabajo

Leopoldo V. Figueros National Broadcasting Co., Inc. Matheson Radio Co., Inc. University of Florida

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Star Publishing & Ptg. Co. G. F. Tull & Ardern, Ltd. Cuban Telephone Co., Ltd. Cuban Telephone Co. Canadian National Railways Canadian National Railways Herbert A. Denny y Cia.

W-14. Hello World Broadcasting Corp.

United States Navy Loyola University

KMO, Inc. Atlantic Broadcasting Corp. Atlantic Broadcasting Corp. WHB Broadcasting Co. Juan G. Buttner

Secretaria de Educacion Publica

Great Lakes Broadcasting Co. Agricultural Broadcasting Co.

The Hamilton Spectator Maple Leaf Radio Co., Ltd.

Maple Lear Radio Co., Ltd.
E. Fontaine
N. Nathanson
Le "Soleil," Ltd.
G. A. Vandry
Wentworth Radio & Auto Sply. Co., Ltd
Canadian National Railways Midwestern Radio Corp. Tribune Publishing Co.

			_		_ = _ = _ = _ = _ = _ = _ = _ = _ = _ =
KPOF WCOC WGBI WQAN	*	500 500 250 250	2 + 1 1	Denver, Colo. Meridian, Miss. Scranton, Pa. Scranton, Pa.	Pillar of Fire, Inc. Mississippi Broadcasting Co., Inc. Scranton Broadcasters, Inc. Scranton Times
WSUI	*	500		Iowa City, Iowa	University of Iowa
890 1	kilo		es 3	36.9 meters	WH WHAQ KOLNEY
CFBO CKCO	* ‡	50 100		St. John, N. B. Ottawa, Ont.	C. A. Munro, Ltd. Dr. G. M. Geldert
KFNF	*	500	2+	Shenandoah, Iowa	Henry Field Co.
KGJF KUSD	*	250 500	$\bar{2}+$	Little Rock, Ark. Vermillion, S. D.	Church of the Nazarene University of South Dakota
WGST	*	250	1+C 2+	Atlanta, Ga.	University of South Dakota Georgia School of Technology
WILL WIAR	*	250 250	2+ +N	Urbana, Ill. Providence, R. I.	University of Illinois The Outlet Co.
WJAR WKAQ WMAZ	70	500		San Juan, P. R.	Radio Corp. of Porto Rico
WMMN	†	250 250	1+ +	Macon, Ga. Fairmount, W. Va.	Junior Chamber of Commerce Holt-Rowe Novelty Co. Difusora Portena XES
XES	Ť.	500		Tampico, Mexico	Difusora Portena XES
XET	1	500		Monterrey, Mex.	Mexico Music Co.
900 k	cilo	eyele	es 3	33.1 meters	2411
CMCF	† *	250 250	1	Havana, Cuba	Casa Karman
V CMX KGBU	†	500	1	Havana, Cuba Ketchikan, Alaska	Francisco Lavin Alaska Radio & Service Co.
KHJ	*	1000	C	Los Angeles, Cal. Pocatello, Idaho Buffalo, N. Y.	Don Lee, Inc.
KSÉI WBEN	*	250 1000	N	Buffalo, N. Y.	KSEI Broadcasting Association, Inc. Buffalo Evening News
WJAX WKY	*	1000	N	Jacksonville, Fla	City of Jacksonville
WLBL	*	1000 2000	N D	Oklahoma City Stevens Point, Wis.	WKY Radiophone Co. Wisconsin Dept. of Markets
010-1	-:1	22201	. 2		
910 k	CHO			29.6 meters	
CFQC CHNS	*	500 500	1 3	Saskatoon, Sask. Halifax, N. S.	The Electric Shop, Ltd. Halifax Herald, Ltd.
CJGC	*	1000	3	London, Ont. Halifax, N. S.	Free Press Printing Co., Ltd.
CJGC CNRH CNRL	*	500 500	3 2	Halifax, N. S. London, Ont.	Canadian National Railways Canadian National Railways
CNRS		500	ī	Saskatoon, Sask.	Canadian National Railways
920 k	cilo	cycle	es 3	25.9 meters	cut
CMHD HHK KFEL		250		Caibarien, Cuba	Manuel A. Alverez
KFEL	† *	1000 500	ī	Port au Prince, Haiti Denver, Colo	Republic of Haiti Eugene P. O'Fallon, Inc.
KFXF KOMO		500	1	Denver, Colo. Denver, Colo. Seattle, Wash.	Republic of Haiti Eugene P. O'Fallon, Inc. Colorado Radio Corp. Fisher's Blend Station, I.ac.
KPRC	† *	1000 1000	N +N	Seattle, Wash. Houston, Texas	Fisher's Blend Station, Itac.
WAAF		500	Ď	Houston, Texas Chicago, Ill.	Houston Printing Co. Drovers Journal Publishing Co. Babson Statistical Organization, Inc.
WBSO WWJ	Ť	500 1000	D N	Wellesley Hills, Mass. Detroit, Mich.	Babson Statistical Organization, Inc. The Detroit News
XFF	75	250	915	Chihuahua, Mex.	The Detroit, News Gobierno del Estado de Chihuahua
930 k	iloc	evele	s 3	22.4 meters	
CJCA CFRC	*	500	4	Edmonton, Alta.	The Edmonton Journal, Ltd.
CFRC CK1C		500 50	,	Kingston, Ont.	Queen's University
CKPR		50	3	Wolfville, N. S. Midland, Ont.	Acadia Academy Midland Broadcasting Corp.
KFWI KGBZ		500 500	1	San Francisco, Cal.	Radio Enfertainments, Inc.
KMA	*	500	$^{2+}_{2+}$	York, Nebr. Shenandoah, Iowa	Dr. George R. Miller May Seed & Nursery Co.
KROW WBRC		500 500	2+ 1+X	Oakland, Cal.	Educational broadcasting Corp.
WDBJ	*	250	+C +C D	Birmingham, Ala. Roanoke, Va.	Birmingham Broadcasting Co., Inc. Richardson-Wayland Elec. Corp.
WIBĞ	*	50	Ď	Elkins Park, Pa.	St. Pauls P. E. Church
940 k	iloc	ycle	s 3	19.0 meters	with
KGU	†	1000		Honolulu, Hawaii	Marion A. Mulrony
KOIN	*	1000 300	C	Portland, Ore.	KOIN, Inc.
WAAT WCSH		1000	Ŋ	Jersey City, N. J. Portland, Maine	Bremer Broadcasting Corp. Congress Square Hotel Co.
WDAY WFIW		1000 1000	CDNCCD	Fargo, N. D. Hopkinsville, Ky.	WDAY, Inc. WFIW, Inc.
WHA		750	Ď	Madison, Wis.	University of Wisconsin
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KCYS.

1040

MTRS.

DIAL

288.3

## 950 kilocycles 315.6 meters

CMCQ KFWB 1000 955 Havana Cuba Hollywood, Cal. 1000 Billings, Mont KGHK 1000 ċ WRC 1000 Kansas City, Mo Ñ Washington, D. C. 500

Andres Martinez
Warner Bros. Broadcasting Corp.
Northwestern Auto Supply Co., Inc.
Midland Broadcasting Co., Inc.
National Broadcasting Co., Inc.

### 960 kilocycles 312.3 meters

**CFCY** 250 Charlottetown, P. E. I. CFRB 4000 2C Toronto, Ont. Charlottetown, P. E. I. CHCK 30 13 CHWC 500 Pilot Butte, Sask. CJBR CKCK CNRR CNRX Regina, Sask. Regina, Sask. Regina, Sask. 500 3 † 500 3 500 ž Toronto, Ont. Reynosa, Mexico 4000 961 10000 XED

The Island Radio Co.
Rogers-Majestic Corp., Ltd.
W. E. Burke
R. H. Williams & Sons. Ltd.
Cooperative Wheat Producers, Ltd.
Leader Publishing Co., Ltd.
Canadian National Railways
Canadian National Railways
International Broadcasting Co., Inc.

## 970 kilocycles 309.1 meters

 KJR
 \*
 5000 NDn
 Seattle, Wash.

 WCFL XEG
 1500 NDn
 Chicago, III.

 Mexico City

Northwest Broadcasting System, Inc. Chicago Federation of Labor G. Gutierrez, Jr.

# 980 kilocycles 305.9 meters

Westinghouse Elec. & Mfg. Co.

## 990 kilocycles 302.8 meters

WBZ \* 15000 1NY Springfield, Mass. WBZA \* 500 1NY Boston, Mass. Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co.

## 1000 kilocycles 299.8 meters

KFVD 250 Dn Culver City, Cal.
WHO \* 5000 IN Des Moines, Iowa
WOC \* 5000 IN Davenport, Iowa
XEI 101 999 Morelia, Mexico
XEK 101 Mexico City

Los Angeles Broadcasting Co.

va Central Broadcasting Co. a Central Broadcasting Co. Carlos Gutierrez M. Arturo Martinez

## 1010 kilocycles 296.8 meters

Prescott, Ont. 50 50 3 CKCR CMBZ Waterloo, Ont. Havana, Cuba 150 KGGF KQW WHN WIS WNAD 2 500 S. Coffeyville, Okla. 500 San Jose, Cal. New York City \* 250 500 Ĉ± Columbia, S. C. Norman, Okla. New York City New York City New York City 500 2 250 WQAO WRNY 250 250

Radio Association
John Patterson
Manuel y G. Salas
Powell & Platz
Pacific Agricultural Foundation, Ltd.
Marcus Loew Booking Agency
South Carolina Broadcasting Co., Inc.
University of Oklahoma
Calvary Baptist Church
Calvary Baptist Church
Aviation Radio Station, Inc.

## 1020 kilocycles 293.9 meters

KFKX \* 10000 IN Chicago, Ill. KYW \* 10000 IN Chicago, Ill. WRAX † 250 D Philadelphia, Pa. Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co. WRAX Broadcasting Co.

## 1030 kilocycles 291.1 meters

CFCF - 500 - Montreal, Que. CNRV - 500 - Vancouver, B. C. Canadian Marconi Co. Canadian National Railways

## 1040 kilocycles 288.3 meters

KRLD \* 10000 1C KTHS \$ 10000 1N WKAR \* 1000 D WMAK \* 1000 CDn XEV \_ 101 1035 Dallas, Texas Hot Springs, Ark. East Lansing, Mich. Buffalo, N. Y. Puebla, Mex. KRLD Radio Corp. Chamber of Commerce Michigan State College Buffalo Broadcasting Corp.

+/IN

2				
1050	kilocyc	les	285.5 meters	cult
KFKB	* 5000 * 5000	Dn X	Milford, Kansas Hollywood, Cal.	KFKB Broadcasting Assn., Inc. Western Broadcast Co.
1060	kilocyc	1es	282.8 meters	CUTA
WBAL WJAG WTIC	* 10000 * 10000 † 50000	Dn 1N Dn 1N	Portland, Ore. Baltimore, Md. Norfolk, Nebr. Hartford, Conn.	KWJJ Broadcast Co., Inc. Consolidated Gas Elec. & Pwr. Co. Norfolk Daily News Travelers Broadcasting Service Corp.
1070	kilocyc	les	280.2 meters	W #
K JBS WCAZ WDZ WTAM XER	* 100 50 † 100 * 50000 101	D D D N 1071	San Francisco, Cal. Carthage, Ill. Tuscola, Ill. Cleveland, Ohio Mexico City	Julius Brunton & Sons Co. Superior Broadcasting Service James L. Bush National Broadcasting Co., Inc. F. Armida y Cia
1080	kilocyc	les	277.6 meters	wiff
WBT WCBD WMBI	* 5000 * 5000 5000	C 1 Dn 1 Dn	Charlotte, N. C. Zion, Ill. Chicago, Ill.	Station WBT, Inc. Wilbur Glenn Voliva Moody Bible Institute
1090	kilocycl	les	275.1 meters	WH
XEB XEL	* 50000 † 1000 10	1CX 1091	St. Louis, Mo. Mexico City Saltillo, Coah.	Voice of St. Louis, Inc. El Buen Tono, S. A. Antonio Garza Castro
1100	kilocyc	les	272.6 meters	WH
KGDM WLWL WPG XETA	* 250 * 5000 5000	DX 1 1C	Stockton, Cal. New York City Atlantic City, N. J. Mexico City	E. F. Peffer Missionary Society of St. Paul WPG Broadcasting Corp.
1110	kilocycl	les	270.1 meters	Cut H
1110 KSOO WRVA	kilocycl * 2000 * 5000	es Dn N	270.1 meters Sioux Falls, S. D. Richmond, Va.	Sioux Falls Broadcasting Assn., Inc. Larus & Bros. Co., Inc.
KSOO WRVA	* 2000 * 5000 kilocycl	Dn N	Sioux Falls, S. D. Richmond, Va.  267.7 meters	Sioux Falls Broadcasting Assn., Inc.
KSOO WRVA	* 2000 * 5000	Dn N	Sioux Falls, S. D. Richmond, Va.	Sioux Falls Broadcasting Assn., Inc. Larus & Bros. Co., Inc.
KSOO WRVA  1120  CFJC CHGS CJOC KFIO KFSG KMCS KMCS KMCS KMCS WDBO WDBO WJBO WJBO WJSN WTAW  1130	* 2000 * 5000 kilocycl - 15 - 100 - 500 * 500	Dn N les D 3 3 3 Y D 2C +C +X 1 1 1 C CPD	Sioux Falls, S. D. Richmond, Va.  267.7 meters  Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber. Killmer & Bailey
KSOO WRVA 1120 CFJC CHGS CJOC KFIO KFSG KMCS KRSC KTRH WDBO WDEL WISN WTAW	* 2000 * 5000 kilocycl - 15 - 100 * 500 * 500 * 500 * 500 * 500 * 500 * 500 * 500 * 500 - 250 * 500 - 100 * 500 - 100 - 100	Dn N les D 3 3 3 Y D 2C +C +X 1 1 1 C CPD	Sioux Falls, S. D. Richmond, Va.  267.7 meters  Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Willmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La. Haynesville, La.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford
KSOO WRVA  1120 CFJC CHGS CJOC KFIGO KFSG KRSC KTSCH WDBO WSSN WTAW  1130 CMBC CMQ KSL WJJD WOV XEC XEF XEH	* 2000 * 5000 kilocycl - 150 - 100 * 500 * 500 * 500 * 500 * 500 * 250 - 250 - 150 - 100 - 100 - 105 - 105 - 105	Dn N es 3 3 3 2 2 2 +C +X 1 1 1 2 CPD es N D 1 133 1131 1132	Sioux Falls, S. D. Richmond, Va.  267.7 meters  Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La. Haynesville, La.  265.3 meters  Havana, Cuba Salt Lake City Mooseheart, Ill. New York City Toluca, Mex. Oaxaca, Oax.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford  Domingo Fernandez Cruz Jose Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Jesus R. Benavides Frederico Zorrila
KSOO WRVA  1120 CFJC CHGS CJOC KFIGO KFSG KRSC KTSCH WDBO WSSN WTAW  1130 CMBC CMQ KSL WJJD WOV XEC XEF XEH	* 2000 * 5000 kilocycl * 100 * 500 * 500 * 500 * 500 * 500 * 500 * 500 * 500 * 500 * 150 - 150 - 150 * 5000 * 500 * 5	Dn N es 3 3 3 2 2 2 +C +X 1 1 1 2 CPD es N D 1 133 1131 1132	Sioux Falls, S. D. Richmond, Va.  267.7 meters  Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La. Haynesville, La.  265.3 meters  Havana, Cuba Havana, Cuba Salt Lake City Mooseheart, Ill. New York City Toluca, Mex. Oaxaca, Oax. Monterrey, Mex.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford  Domingo Fernandez Cruz Jose Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Jesus R. Benavides Frederico Zorrila Ing. Constantino de Tarnava

#### 1150 kilocycles 260.7 meters

200 5000 Cienfuegos, Cuba Rochester, N. Y. CMHA 1154 N WHAM

20 4 **Jose Ganduxe** 

1160 kilocycles

Stromberg-Carlson Tel. Mfg. Co.

WOWO WWVA

258.5 meters Ft. Wayne, Ind. Wheeling, W. Va.

Main Auto Supply Co. West Virginia Broadcasting Corp.

256.3 meters 1/170 kilocycles

KPNT 5000 Muscatine, Iowa Philadelphia, Pa. 10000

5000

Norman Baker

Universal Broadcasting Co

1180 kilocycles **254.1** meters

5000 Portland, Ore. State College, N. M. Minneapolis, Minn. Minneapolis, Minn. KOB 20000 WDGY 1000 1 Dn WHDI 500 1 Dn

Western Broadcasting Co. College of Agriculture & Mech. Arts Dr. George W. Young Wm. Hood Dunwoody Industrial Inst.

1190 kilocycles 252.0 meters

Bridgeport, Conn. 500 WOAI 50000 San Antonio, Texas Bridgeport Broadcasting Station, Inc. Southern Equipment Co.

1200 kilocycles 249.9 meters

KBTM KFJB KFWF 100 Paragould, Ark Marshalltown, Iowa 100 100 St. Louis, Mo. KGCU KGDE 100 Mandan, N. D. Fergus Falls, Minn. 100 + rergus Falls, Minn. Huron, S. D. Yuma, Colo. Fort Morgan, Colo. Los Angeles, Cal. Little Rock, Ark. Lacey, Wash. KGDY KGEK 100 50 KGEW KGFJ KGHI á 100 100 100 KGY KMLB 10 + Monroe, La. Santa Maria, Cal. Bellingham, Wash. 50 KSMR KVOS KWG WABI 100 100 ---Stockton, Cal.
Bangor, Maine
New Orleans, La.
Ponca City, Okla
Rapid City, S. D.
Burlington, Vt. 100 ---† 100 WABZ 100 1 WBBZ 100 WCAT WCAX WCLO WCOD 100 ž --Burlington, Vt. Janesville, Wis. 100 100 ++\* 100 3 Harrisburg, Pa. Emory, Va. Worcester, Mass. Knoxville, Tenn. Cincinnati, Ohio WEHC 100 + WEPS † 100 WFBC 50 WFBE 100 WHBC WHBY 45 Canton, Ohio Green Bay, Wis. Utica, N. Y. 10 Ť 100 + 5+ Utica, N. Y. St. Louis, Mo. La Salle, Ill. Decatur, Ill. WÎBX WIL 100 100 WJBC WJBL WJBW 100 † 100 6 New Orleans, La. 100 WKJC WLAP 100 3 Lancaster, Pa. 100 Louisville, Ky. Petersburg, Va. †

WLBG

WNBO WNBW WNBX

WORC

WRAF

WRBL

WWAE

XEA

10-BP

t

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+

100

100

10

10

100

100

100

101

50

CX

8

W. J. Beard's Temple of Music Marshall Electric Co., Inc. St. Louis Truth Center, Inc. Mandan Radio Association Jaren Drug Co. J. Albert Loesch and George W. Wright J. Albert Loesch and George V Beehler Elec, Equipment Co. City of Fort Morgan Ben S. McGlashan Berean Bible Class St. Martin's College G. C. Liner Santa Maria Radio KVOS, Inc. Portable Wireless Tel. Co., Inc. Pine Tree Broadcasting Corp. Coliseum Place Baptist Church C. L. Carrell State School of Mines University of Vermont WCLO Radio Corp. Keystone Broadcasting Corp. Emory & Henry College Alfred Frank Kleindienst First Baptist Church WFBE, Inc. St. John's Catholic Church St. Norbert's College WIBX, Inc. Missouri Broadcasting Corp. Kaskaskia Broadcasting Co. Commodore Broadcasting, Inc. Charles C. Carlson, Jr. Kirk, Johnson & Co. American Broadcasting Corp. of Ky. Robert Allen Gamble John Brownlee Spriggs Home Cut Glass & China Co. First Congregational Church Alfred Frank Kleindienst

Chas. Middleton

Alberto Palos Sauza

Radio & Electric Shop

Hammond-Calumet Broad. Corp.

David Parmer

f 43 1

Washington, Pa. Carbondale, Pa. Springfield, Vt. Worcester, Mass. La Porte, Ind.

Columbus, Ga. Hammond, Ind

Guadalajara, Jal.

Wingham, Ont.

KCYS.

1200

MTRS.

249.9

DIAL

1210 ki	locycles	247.8 meters	WA .	
1210 ki  CFCO CFNB CHWK † CJOR * CKMC CKPC † KDLR KFOR KFYS KFXM KGCR † KGMP § KGMO KMJ KPPC KWEA * WALR * WBAX * WBBL † WCOH * WCRW WDWF WEBQ WEBQ WGBB * WCOH WCRW WDWF WEBQ WGBB * WGCM WHBF WHBU WJBU WJBU WJBY WJW WJECI *	100	Chatham, Ont. Fredericton, N. B. Chilliwack, B. C. Sea Island, B. C. Sea Island, B. C. Cobalt, Ont. Preston, Ont. Casper, Wyo. Devils Lake, N. D. Lincoln, Nebr. Cape Girardeau, Mo. San Bernardino, Cal. Watertown, S. D. Elk City, Okla. Dodge City, Kans. Fresno, Cal. Pasadena, Cal. Shreveport, La. Zanesville, Ohio Wilkes-Barre, Pa. Richmond, Va. Springfield, Ill. Yonkers, N. Y. Chicago, Ill. Providence, R. I. Harrisburg, Ill. Chicago, Ill. Freeport, M. S. Rock Island, Ill. Anderson, Ind. Poynette, Wis. Red Bank, N. J. Lewisburg, Pa. Gadsden, Ala.	Western Ontario "Better F James S. Neill & Sons, Ltd Chilliwack Broadcasting Co. G. C. Chandler R. L. MacAdam Metal Shingle & Siding Co. Donald Lewis Hathaway KDLR, Inc. Howard A. Shuman Hirsch Battery & Radio Co. J. C. & E. W. Lee Cutler's Radio Brdcstg. Ser Bryant Radio & Electric Co. Dodge City Broadcasting Co. James McClatchy Co. Pasadena Presbyterian Chu. Hello World Broadcasting Co. Roy. W. Waller John H. Stenger, Jr. Grace Covenant Presbyteria H. L. Dewing & Chas. Mess Westchester Broadcasting C. Clinton R. White Dutee W. Flint First Trust & Savings Bank Emil Denemark, Inc. Harry H. Carman Great Southern Land Co., Beardsley Specialty Co. Citizens Bank Wm. C. Forrest Monmouth Broadcasting Co. Bucknell University Gadsden Broadcasting Co., Grace Good	an Church ster Corp.  Linc.  Linc.
WJBY * WJW * WLCI * WLSI * WMBG * WMRJ * WOCL * WOMT - WPAW * WODX * WGDX † WSBC † WSBC † WSEN † WSIX - WSIX - WTAX † XETF	ĒΛ	Gadsden, Ala Mansfield, Ohio Ithaca, N. Y. Providence, R. I. Richmond, Va. Jamaica, N. Y. Jamestown, N. Y. Manitowoc, Wis. Pawtucket, R. I. Thomasville, Ga. Greenville, Miss. Chicago, Ill. Columbus, Ohio Springfield, Tenn. Gastonia, N. C. Springfield, Ill. Veracruz, Mex.		o.
1220 kil		245.8 meters		
KFKU KWSC * WCAD * WCAE * WDAE * WREN *	500 1 1000 + 500 D 1000 N 1000 C 1000 1N	Lawrence, Kans. Pullman, Wash. Canton, N. Y. Pittsburgh, Pa. Tampa, Fla. Lawrence, Kans.	University of Kansas State College of Washingtor St. Lawrence University Gimbel Bros. Tampa Publishing Co. Jenny Wren Co.	n
1230 kil	ocycles	243.8 meters	ev 14	
KFOD KGGM WBIS * WFBM * WNAC * WPSC WSBT *	100 250 + 1000 2 1000 1C 1000 2C 500 D 500 1	Anchorage, Alaska Albuquerque, N. Mex. San Francisco, Cal. Boston, Mass. Indianapolis, Ind. Boston, Mass. State College, Pa. South Bend, Ind.	Anchorage Radio Club New Mexico Broadcasting Corp. Pacific Broadcasting Corp. Shepard Broadcasting Servi Indianapolis Power & Light Shepard Broadcasting Servi Pennsylvania State College South Bend Tribune	ice, Inc. : Co. ce, Inc.
1240 kil		241.8 meters	2014	
WACO † WXYZ †	1000 1 1000 1 1000 C	Ft. Worth, Texas Waco, Texas Detroit, Mich.	S. A. T. Broadcast Co. Central Texas Broadcasting Kunsky-Trendle Broadcasti	

CUT OUT ON DOTTED LINES

KCYS.

1310

MTRS.

DIAL

228.9

Chas. C. Robinson Jas. McClatchy Co. Boone Biblical College

C. S. Tunwall

Alaska Electric Light & Power Co.

228.9 meters

Sacramento, Cal.

Juneau, Alaska

Ft. Dodge, Iowa

Jerome, Ariz.

Boone, Iowa

1310 kilocycles

5

100

100

100

100

10

7

7--

KCRJ KFBK KFGQ KFIU

KFJY

KFPL KFPM KFUP KFXJ KFXR KGBX	‡ ====================================	100 15 100 50 100 100	8 8XY +	Dublin, Texas Greenville, Texas Denver, Colo. Edgewater, Colo. Oklahoma City St. Joseph, Mo.	C. C. Baxter The New Furniture Co. Fitzsimmons General Hospital Western Slope Broadcasting Co. Exchange Ave. Baptist Church KGBX Inc.
KGCX	Ť	100	ċ	Wolf Point, Mont.	First State Bank of Vida
KGEZ KGFW	Ι	100		Kalispell, Mont.	Chamber of Commerce
KIT	†	100 50		Ravenna, Neb.	O. F. Sothman and R. H. McConnell
KMED		50		Yakima, Wash. Medford, Ore.	Carl E. Haymond Mrs. W. J. Virgin
KRMD		50	9	Shreveport, La.	Robert M. Dean
KTLC	*	100	x	Houston, Tex.	Houston Broadcasting Co.
KTSL		100	Q	Shreveport, La.	G. A. Houseman
KTSM		100	2 7	El Paso, Texas	W. S. Bledsoe & W. T. Blackwell
KWCR	Ť	100	7	Cedar Rapids, Iowa	Harry F. Paar
KXRO	† *	75		Aberdeen, Wash.	KXRO, Inc.
WBOW	*	100		Terre Haute, Ind.	Banks of Wabash, Inc.
WBRE WCLS	*	100		Wilkes-Barre, Pa.	Louis G. Baltimore
WDAH		100 100	1 2	Joliet, Ill.	WCLS, Inc.
WEBR	† *	100	+	El Paso, Texas	Eagle Broadcasting Co.
WEXL	Ť	50		Buffalo, N. Y. Royal Oak, Mich.	Howell Broadcasting Co., Inc.
WFBG		100	3	Altoona, Pa.	Royal Oak Broadcasting Co. Wm. F. Gable Co.
WFDF	*	100		Flint, Mich.	Frank D. Fallain
WGAL	*	100	5	Lancaster, Pa.	WGAL, Inc.
WGH	*	100	C	Newport News, Va.	Hampton Roads Broadcasting Corp.
WHAT	†	100	4X	Philadelphia, Pa.	Independence Broadcasting Co.
WJAC		100	3	Johnstown, Pa.	Johnstown Automobile Co.
WJAK	*	50	6	Marion, Ind.	Marion Broadcasting Co.
WKAV	*	100	1	Laconia, N. H.	Laconia Radio Club
WKBB	*	100	1	Joliet, Ill.	Sanders Bros. Radio Station
WKBC	*	100		Birmingham, Ala.	R. B. Broyles Furniture Co.
WKBS WLBC	*	100		Galesburg, Ill.	Permil N. Nelson
WMBO	†	50 100	6	Muncie, Ind.	Donald A. Burton
WNBH	*	100		Auburn, N. Y.	Radio Service Laboratories
WOBT		100	+	New Bedford, Mass. Union City, Tenn.	New Bedford Broadcasting Co.
WOL	† *	100	i.	Washington, D. C.	Tittsworth's Radio & Music Shop American Broadcasting Co.
WRAW	*	50	5XZ	Reading, Pa.	Reading Broadcasting Co.
WRBI		20		Tifton, Ga.	Kent's Furniture & Music Store
WROL	†	100	222	Knoxville, Tenn.	Stewart Broadcasting Co.
WSAJ	*	100		Grove City, Pa.	Grove City College
WSIŠ		100	-	Winston-Salem, N. C.	Winston-Salem Journal Co.
WTEL	*	50	4X	Philadelphia, Pa.	Foulkrod Radio Engineering Co.

## 1320 kilocycles 227.1 meters

KGHF		250	X +	Pueblo, Colo
KGIQ	-	250	1+	Twin Falls, Idaho
KGMB	Ť	500		Honolulu, Hawaii
KID		250	1+	Idaho Falls, Idaho
WADC	†	1000	С	Akron, Ohio
WSMB	*	500	N	New Orleans, La.

## \$30 kilocycles 225.4 meters

- / /		•		
VKGB	*	250	X	San Diego, Cal.
KSCJ	*	1000	1+C	Sioux City, Iowa
√WDRC	*	500		Hartford, Conn.
WSAI	*	500	N	Cincinnati, Ohio
WTAQ	*	1000	1	Eau Claire, Wis.

## 1340 kilocycles 223.7 meters

KFPW KFPY WCOA WSPD	*	50 1000 500 500	D C C+	Fort Smith, Ark. Spokane, Wash. Pensacola, Fla. Toledo, Ohio
11 OI D		300	CT.	roiedo, Onio

## 1350 kilocycles 222.1 meters

N	KWK	*	1000	N	St. Louis, Mo.
	WAWZ	*	250	1	New York City
	WCDA		250	1	New York City
	WKBQ		250	1	New York City
	WMSĞ		250	1	New York City

C. P. Ritchie & I. E. Finch Radio Broadcasting Corp. Honolulu Broadcasting Co., Ltd. KID Broadcasting Co., Ltd. KID Broadcasting Co. Allen T. Simmons Saenger Theatre & Maison Blanche Co.

Pickwick Broadcasting Corp. Perkins Bros. Co. Doolittle Radio Corp. Crosley Radio Corp., Lessee Gillette Rubber Co.

John Brown Schools Symons Broadcasting Co. City of Pensacola Toledo Broadcasting Co.

Greater St. Louis Broadcasting Corp. Pillar of Fire

Filiar of Fire Italian Educ. Broadcasting Co., Inc. Standard Cahill Co., Inc. Madison Sq. Garden Brdcstg. Corp.

## 1360 kilocycles 220.4 meters

Santiago de Cuba Long Beach, Cal. Butte, Mont. CMKC KGER 150 1364 1000 KGIR 500 KPSN WeSC WFBL 4 1000 Pasadena, Cal. Charleston, S. C. Syracuse, N. Y. Chicago, Ill. Gary, Ind. Vicksburg, Miss. 500 1000 C+XWGES 500 WJKS 1000 WOBC 300 ĈPD

M. P. Martinez
C. Merwin Dobyns
KGIR, Inc.
Pasadena Star-News
Jordan & Burk
Onondaga Radio Broadcasting Corp.
Oak Leaves Broadcasting Station, Inc.
Johnson-Kennedy Radio Corp.

Delta Broadcasting Co., Inc.

## 1370 kilocycles 218.7 meters

KCRC KFBL 100 Enid, Okla. Everett, Wash. Astoria, Ore. Grand Forks, N. D. 50 KFJI KFJM KFJZ KFLX 100 Ť 100 x Ft. Worth, Texas Galveston, Texas 100 100 \* KGAR KGDA 100 + Tucson, Ariz. Mitchell, S. D † 100  $\bar{\mathbf{2}}$ KGFG Oklahoma City 100 Raton, N. M. KGFL 50 ---San Angelo, Texas 100 KGKL 5 5 San Angelo, Texas San Antonio, Tex. San Antonio, Texas Marshfield, Ore. Berkeley, Cal. Seattle, Wash. Kansas City, Mo. Hayward, Cal. Glens Falls, N. Y. Denville Va KMAC KONO 100 Ŧ 100 KOOS KRE KVL 100 ē-100 š 100 KWKC KZM WBGF 100 6 100 50 7--WBTM Ť 100 Danville, Va. . +z WCBM 100 Baltimore, Md Philadelphia, Pa. Rome, Ga. Fort Wayne, Ind. Mount Orab, Ohio WELK 100 ÷ 100  $\tilde{\mathbf{C}}$ WGL 100 WHBD 100 Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. WHBQ WHDF 100 t + 100 WIBM 100 W JBK WLEY 50 1 100 Lexington, Mass. WLVA WMBR WPOE Lynchburg, Va. Tampa, Fla. 100 100 Iampa, Fla.
Patchogue, N. Y.
St. Albans, Vt.
Williamsport, Pa.
Hattiesburg, Miss.
Wilmington, N. C.
Racine, Wis.
Buffalo, N. Y.
Augusta Me. 100 WQDM WRAK Ď 100 \* 50 WRBJ 10 ---WRBT 100 WRJN WSVS 100 50 100 CP Augusta, Me. WRDO

Champlin Refining Co. Leese Bros. KFJI Broadcasters, Inc. RFJI Broadcasters, inc. University of North Dakota Estate of H. C. Meachem George Roy Clough Tucson Motor Service Co. Mitchell Broadcasting Corp. Oklahoma Broadcasting Co., Inc. W. E. Whitmore KGKL, Inc., Opr. by Ragsdale Auto W. W. McAllister Mission Broadcasting Co. H. H. Hanseth, Inc. First Congregational Church KVL, Inc. Wilson Duncan Broadcasting Co. Leon P. Tenney W. N. Parker and H. H. Metcalfe Clarke Electric Co. Baltimore Broadcasting Corp. WELK Broadcasting Station, Inc.
Dolies Goings
Fred C. Zieg
F. P. Moler Broadcasting Station WHBQ, Inc. Upper Michigan Broadcasting Co. WIBM, Inc. James F. Hopkins, Inc. Lexington Air Stations Lynchburg Broadcasting Corp. F. J. Reynolds Nassau Broadcasting Corp. Nassau Broadcasting Corp.
A. J. St. Antoine
C. R. Cummins
Woodruff Furniture Co., Inc. Wilmington Radio Association Racine Broadcasting Corp. Seneca Vocational School Albert S. Woodson

## 1380 kilocycles 217.3 meters

KOH † 500 --- Reno, Nevada KOV † 500 2 Pittsburgh, Pa. KSO \* 500 1 Clarinda, Iowa WKBH \* 1000 1 La Crosse, Wis. WSMK -- 200 2 Dayton, Ohio Jay Peters Doubleday-Hill Electric Co. Berry Seed Co. WKBH, Inc. Stanley M. Krohn, Jr.

## 1390 kilocycles 215.7 meters

KLRA \* 1000 1C Little Rock, Ark.

KOY \* 500 --- Phoenix, Ariz.

KUOA --- 1000 1 Fayetteville, Ark.

WHK \* 1000 C Cleveland, Ohio

Arkansas Broadcasting Co. Nielson Radio & Sporting Goods Co. University of Arkansas Radio Air Service Corp. CUT OUT ON DOTTED LINES

ксүз. 1390

мткs. 215.7

DIAL

## 1400 kilocycles 214.2 meters

CMBY		200	1405	Havana, Cuba
KLO	*	500	X	Ogden, Utah
KØCW	*	250	+	Chickasha, Okla.
WBAA	†	500	1+	Lafayette, Ind.
WBBC	*	500	2	Brooklyn, N. Y.
WCGU	*	500	2	Brooklyn, N. Y.
WCMA		<b>5</b> 00	1	Culver, Ind.
WKBF	*	500	1	Indianapolis, Ind.
WLTH	*	500	2	Brooklyn, N. Y.
WSDA	L.	500	2	Brooklyn, N. Y.
WSGH		500	2	Brooklyn, N. Y.

#### Lino E. Cosculluala Peery Building Co. College for Women Purdue University Brooklyn Broadcasting Corp. U. S. Broadcasting Corp. General Broadcasting Corp. Indianapolis Broadcasting, Inc. The Voice of Brooklyn, Inc. Paramount Broadcasting Co. Paramount Broadcasting Co.

## 1410 kilocycles 212.6 meters

, III.
Texas
Mich.
Texas
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Rockford Broadcasters, Inc.
Gish Radio Service
James E. Davidson
National Radio & Broadcasting Corp.
Press Pub. Co.
Lexington Air Stations
Round Hills Radio Corp.
Mobile Broadcasting Corp.
Richmond Development Corp.
Montgomery Broadcasting Co., Inc.
Tremont Temple Baptist Church

1420	kil	ocyc]	les	211.1 meters
KBPS		100	4	Portland, Ore.
KFIZ	*	100	1	Fond du Lac, Wis.
KFOU	*	100	5X.	Holy City, Cal.
KFQU KFQW		100		Seattle, Wash.
KFXD		100	ΧY	Nampa, Idaho
KFXY		100		Seattle, Wash. Nampa, Idaho Flagstaff, Ariz.
KFYO	22	100	+	Abilene, Texas
KGFF		100		Alva, Okla.
KGGC		100	Y 5	San Francisco, Cal.
KGIW		100		Trinidad, Colo.
KGIX		100		Las Vegas, Nevada
KGKX		100		Sand Point, Idaho
KGVO		100	CPD	Missoula, Mont.
KICK	*	100		Red Oak, Iowa
KLPM	†	100		Minot, North Dakota
KORE		100		Eugene, Ore.
KTAP	8	100	- 6 6	San Antonio, Texas
KXL		100	4	Portland, Ore.
KXYZ		100	X X 2	Houston, Texas
WEDH	*	30	X	Erie, Pa.
WEHS	-	100	2	Evanston, Ill.
WELL		50	X	Battle Creek, Mich.
WFDW	*	100		Talladega, Ala.
WHDL	*	10	DX	Tupper Lake, N. Y.
WHFC		100	2	Cicero, Ill.
WHIS	†	100		Bluefield, W. Va.
WIAS	†	100		Ottumwa, Iowa
WIBR	*	50		Steubenville, Ohio
WILM	*	100		Wilmington, Del.
WJBO	ş	100	2	New Orleans, La.
WKBI	*	100	2	Chicago, Ill.
WLBF		100	223	Kansas City, Kas.
WMBC	*	100	$\mathbf{x}$ +	Detroit, Mich.
WMBH	7 -	100	+	Joplin, Mo.
WPAD	†	100		Paducah, Ky.
WSPA	*	100	+	Spartanburg, S. C.
WTBO	*	100		Cumberland, Md.

Benson Polytechnic Institute Benson Polytechnic Inst Reporter Printing Co. W. E. Riker KFQW, Inc. Service Radio Co. Mary M. Costigan T. E. Kirksey KGFF Broadcasting Co. Calden Care Broadcastin Golden Gate Broadcasting Co. Leonard E. Wilson Las Vegas, Nevada, Radio Corp. C. E. Twiss and F. H. McCann Mosby's Incorporate
Red Oak Radio Corp.
John B. Cooley
Eugene Broadcasting Station Alamo Broadcasting Co. KXL Broadcasters, Inc. Harris County Broadcast Co. Erie Dispatch-Herald WEHS, Inc. Enquirer-News Co. Raymond G. Hammett Tupper Lake Broadcasting Co., Inc. Triangle Broadcasters Daily Telegraph Poling Electric Co. George W. Robinson Delaware Broadcasting Co., Inc. Valdemar Jensen Fred L. Schoenwolf WLBF Broadcasting Co. Michigan Broadcasting Co., Inc. Edwin Dudley Aber Paducah Broadcasting Co. Voice of South Carolina Associated Broadcasting Corp.

## 1430 kilocycles 209.7 meters

KECA	<b>‡</b>	1000	Ν	Los Angeles, Cal.
KGNF	Ť	500	D	North Platte, Neb.
WBAK	†	500	1X +	Harrisburg, Pa.
WCAH	*	500	1C	Columbus, Ohio
WGBC	*	500	2	Memphis, Tenn.
WHP	*	500	1CX	Harrisburg, Pa.
WNBR	*	500	2	Memphis, Tenn.

Pacific Development Radio Co. Great Plains Broadcasting Co. Penna. State Police Commercial Radio Service Co. Memphis Broadcasting Co. Pennsylvania Broadcasting Co. Memphis Broadcasting Co.

INDEX	BI FREQUENCIES A	ND DIAL NUMBERS	
1440 kilocycles	208.2 meters	WH	
KLS * 250 D WBIG * 500 T WCBA - 250 1 WHEC * 500 2C WMBD * 500 3+ WOKO - 500 2Y WSAN - 250 1 WTAD † 500 3	Oakland, Cal. Greensboro, N. C. Allentown, Pa. Rochester, N. Y. Peoria Heights, III. Poughkeepsie, N. Y. Allentown, Pa. Quincy, III.	Warner Bros. North Carolina Broadcasting Co. B. B. Musselman Hickson Electric & Radio Corp. Peoria Heights Radio Laboratory Hudson Valley Broadcasting Co. Allentown Call Publishing Co., Inc. Ills. Stock Medicine Broadcasting Co.	
1450 kilocycles	206.8 meters		
KTBS * 1000 WBMS * 250 1 WGAR † 500 N WHOM * 250 1 WKBO * 250 1 WKBO * 250 1 WKJAR * 250 WTFI 500	Shreveport, La. Hackensack, N. J. Cleveland, Ohio Jersey City, N. J. Jersey City, N. J. Newark, N. J. Fall River, Mass. Toccoa, Ga.	Tri-State Broadcasting System, Inc. WBMS Broadcasting Corp. WGAR Broadcasting Co. New Jersey Broadcasting Corp. Camith Corp. Radio Investment Co. Doughty & Welch Electric Co., Inc. Toccoa Falls Institute	
1460 kilocycles	205.4 meters	1.11	
KSTP * 10000 NX WJSV * 10000	St. Paul, Minn. Alexandria, Va.	National Battery Broadcasting Co. Independent Publishing Co.	
1470 kilocycles	204.0 meters	EN A	
KGA † 5000 WLAC * 5000 1C WTNT - 5000 1	Spokane, Wash. Nashville, Tenn. Nashville, Tenn.	Northwest Broadcasting System, Inc. Life & Casualty Insurance Co. Tennessee Publishing Co.	
1480 kilocycles	202.6 meters	UH	
KFJF * 5000 C WKBW * 5000 C	Oklahoma City Buffalo, N. Y.	National Radio Mfg. Co. Buffalo Broadcasting Co., Lessees	
1490 kilocycles	201.2 meters	EUH-	
WCHI - 5000 1 WCKY * 5000 1N WJAZ - 5000 1	Chicago, III. Covington, Ky. Chicago, III.	People's Pulpit Association L. B. Wilson, Inc. Zenith Radio Corp.	
1500 kilocycles	199.9 meters	cold	
KDB * 100 KGFI - 100 + KGFK † 50 KGIZ - 50 KGKB - 100 KGKY * 100 KPQ † 50 KREG † 100 KUJ - 100 3Y KUT - 100 KXO 100 WCLB - 100 1 WDIX 100 WKBV - 100 + WKBZ † 50 WLBX * 100 1 WLDE * 100 2+ WMBA 100 WMBI † 100 WMBI † 100	Santa Barbara, Cal. Corpus Christi, Texas Moorhead, Minn. Grant City, Mo. Brownwood, Texas Scottsbluff, Nebr. Prescott, Ariz. Wenatchee, Wash. Santa Ana, Cal. Longview, Wash. Austin, Texas El Centro, Cal. Long Beach, N. Y. Tupelo, Miss. Connersville, Ind. Ludington, Mich. Long Island City, N. Y. Boston, Mass. Newport, R. I. Pittsburgh, Pa. Brooklyn, N. Y. Lapeer, Mich.	Dwight Faulding Eagle Broadcasting Co., Inc. Red River Broadcasting Co., Inc. Grant City Park Corp. Eagle Publishing Co. Hilliard Co., Inc. Miller & Klahn Wescoast Broadcasting Co. Pacific Western Broadcasting Columbia Broadcasting Co., Inc. Rice Hotel E. R. Irey and F. M. Bowles Arthur Faske Blair & Anderson Knox Battery & Electric Co. K. L. Ashbacker John N. Brahy Boston Broadcasting Co. LeRoy Joseph Beebe Rev. J. W. Sproul Paul J. Gollhofer First M. P. Church Howitt-Wood Radio Co., Inc.	
WMBO * 100 1 WMPC † 100 WMBF * 100 WOPI 100 WPEN * 100 + WRDW * 100 + WWRL 100 1 WSYB † 100 CP	Lapeer, Mich. Binghamton, N. Y. Bristol, Tenn. Phildelphia, Pa. Augusta, Ga. Woodside. N. Y. Rutland, Vt.	First M. P. Church Howitt-Wood Radio Co., Inc. Radiophone Brdestg. Station, Inc. Wm. Penn Broadcasting Co. Warren C. Davenport's Musicove, Inc. Long Island Broadcasting Corp. Seward & Weiss Music Co.	1500 MTRS. 199.9

DIAL

ALABAMA Birmingham O-21	Watts 5000 500	WAPI WBRC	Kcys. 1140 930	San Jose J-1 Santa Ana M-3 Santa Barbara M-2 Santa Maria L-2	500 100 100 100	KQW KREG KDB KSMR	1010 1500 1500 1200
Gadsden O-21 Mobile O-20 Montgomery P-21	100 50 500 500	WKBC WJBY WODX WSFA	1310 1210 1410 1410	Stockton J-2  CANAL ZONE	250 100	KGDM KWG	1100 1200
Talladega O-21	100	WFDW	1420	Balboa FF-26	750	NBA	850
ALASKA Anchorage Juneau Ketchikan	100 10 500	KFOD KFIU KGBU	1230 1310 900	COLORADO Colorado Springs K-1 Denver K-11	500 100	KFUM KFEL KFUP	1270 920 1310
ARIZONA	400				500 1000 12500	KFXF KLZ KOA	920 560
Flagstaff M-7 Jerome M-6 Phoenix N-6	100 100 500 500	KFXY KCRJ KOY KTAR	1420 1310 1390 620	Edgewater K-10 Fort Morgan J-11	500 500 50 100	KPOF KFXJ KGEW	830 880 1310 1200
Prescott M-6	100 100	KPJM KGAR	1500 1370	Greeley J-11 Pueblo L-11	500 250	KFKA KGHF	880 1320
Tucson O-7	500	KVOA	1260	Trinidad L-11 Yuma J-12	100 50	KGIW KGEK	1420 1200
ARKANSAS				CONNECTICUT			
Blytheville M-19 Fayetteville M-16	50 1000	KLCN KUOA	1290 1390	Bridgeport H-27 Hartford H-27	500 500	WICC WDRC	1190
Fort Smith N-16 Hot Springs N-17	50 10000	KFPW KTHS	1340 1040	Storrs H-28	50000 250	WTIC WCAC	1330 1060 600
Little Rock N-17	100 250	KGHI KGJF	1200 890		230	WCAC	600
	1000 500	KLRA	1390 1250	DELAWARE Wilmington J-26	250	WDEL	1120
Paragould M-18	100	KBTM	1200		100	WILM	1420
CALIFORNIA				DISTRICT OF			
Berkeley J-2 Burbank M-3	100 500	KRE KELW	1370 780	Washington J-26	250 500	WMAL WRC	630 950
Culver City M-3 El Centro N-4	250 100	KFVD KXO	1000 1500	FLORIDA	100	WOL	1310
Fresno K-2 Hayward J-1	100 100	KMJ KZM KFWB	1210 1370	Clearwater R-24 Gainesville O-24	1000 5000	WFLA WRUF	620 830
Hollywood M-3	1000 5000	KNX	950 1050	Jacksonville Q-24 Miami T-25	1000 1000	WJAX WQAM	900
Holy City K-1 Inglewood M-3	100 500	KFQU KMCS	1420 / 1120	Miami T-25	1000	WIOD	560 1300
Long Beach M-3	1000 1000	KFOX KGER	1250 1360	Orlando R-24 Pensacola Q-21	500 500	WDBO WCOA	1120 1340
Los Angeles M-3	1000 5000	KECA KFI	1430	St. Petersburg S-24 Tampa R-24	1000 1000	WSUN WDAE	620 1220
	500 1000	KFSG	640 1120 1300	CEORCIA	100	WMBR	1370
	100	KGEF KGFJ	1200	GEORGIA Atlanta O-22	250	WGST	890
	1000 500	KHJ KMPC	900 710	Augusta O-23	5000 100	WSB WRDW	740 1500
	500 500	KMTR KTM KTBI	570 780	Columbus O-22	50	WRBL	1200
Oakland J-1	1000 250	KTBI KLS	1300	Macon O-23 Rome N-22	250 100	WMAZ WFDV	890 1370
Oakiand J-1	500	KLX	1440 880	Savannah O-24 Thomasville Q-22	500 50	WTOC WODX	1260 1210
Pasadena M-3	500 50	KROW KPPC	930 1210	Tifton P-23 Toccoa N-23	20 500	WRBI WTFI	1310 1450
Sacramento J-2	1000 100	KPSN KFBK	1360 1310	HAWAII	000	,, 111	1400
San Bernardino M-3 San Diego N-3	500	KFXM KFSD	1210 600	HAWAII Honolulu	500	KGMB	1320
San Francisco J-1	250 1000	KGB KFRC	1330 610		1000	KGU	940
	500 100	KFWI KGGC	930 1420	IDAHO Boise G-5	1000	KIDO	1250
	7500 100	KGO KJBS	790 1070	Idaho Falls G-7 Nampa G-5	250	KID	1320
	5000	KPO	680	Pocatello H-7	50 250	KFXD KSEI	1420 900
	1000 1000	KTAB KYA	560 1230	Sand Point D-6 Twin Falls H-6	100 250	KGKX KGIQ	1420 1320

ILLINOIS	Watts		Kcys.	Ottumwa J-17	100	WIAS	1420
Carthage J-18	50	WCAZ	1070	Red Oak J-16 Shenandoah J-16	100 <b>50</b> 0	KICK KFNF	1420 890
Chicago I-20	10000 10000	KFKX KYW	1020 1020	Sioux City I-15	500 1000	KMA KSCJ	930 1330
	500	WAAF	920	Waterloo I-17	500	WMT	600
	25000 1500	WBBM WCFL	770 970				
	5000	WCFL WCHI WCRW	1490 1210	KANSAS			
	100 100	WEDC	1210	Dodge City L-13 Kansas City K-16	$\frac{100}{100}$	KGNO WLBF	1210 1420
	50000 500	WENR WGES	870 1360	Lawrence K-16	500	KFKU	1220
	25000	WGN	720	Manhattan K-15	1000 500	WREN KSAC	1220 580
	1000 5000	WIBO WJAZ	560 1490	Milford K-14	<b>50</b> 00	KFKB	1050
	25000	WJBT	770	Topeka K-16 Wichita L-15	$\frac{1000}{1000}$	WIBW KFH	580 1300
	100 5000	WKBI WLS	1420 870	^			
	5000 5000	WMAQ WMBI	670 1080	KENTUCKY			
	500	WPCC	560	Covington K-22	5000	WCKY	1490
Cicero I-20	100 100	WSBC WHFC	1210 1420	Hopkinsville M-20 Louisville L-21	$\frac{1000}{10000}$	WFIW WHAS	940 820
Decatur K-19	100	WJBL WEHS	1200		100	WLAP	1200
Evanston I-20 Galesburg J-18	100 100	WEHS WKBS	1420 1310	Paducah M-19	100	WPAD	1420
Harrisburg L-19	100	WEBQ WCLS	1210 1310	LOUISIANA			
Joliet I-19	100 100	WKBB	1310	Haynesville P-17	10		1120
La Salle J-19	100 20000	W JBC W J JD WMBD	1200 1130	Monroe P-18	50	KMLB	1200
Mooseheart I-19 Peoria Heights J-19	500	WMBD	1440	New Orleans R-19	$\frac{100}{1000}$	WABZ WDSU	1200 1250
Quincy K-18 Rockford I-19	500 500	WTAD KFLV	1440 1410		100 100	WJBO	1420 1200
Rock Island I-18	100	WHBF	1210		500	WJBW WSMB	1320
Springfield K-19	100 100	WCBS WTAX	1210 1210	Rayne Q-18	5000 150	WWL	850 1120
Tuscola K-20	100 250	WDZ WILL	1070 890	Shreveport P-17	50	KRMD	1310
Urbana J-20 Zion I-20	5000	WCBD	1080		1000 100	KTBS KTSL	1450 1310
					100	KWEA KWKH	1210
INDIANA				MAINE	10000	KWKII	850
Anderson J-21	100	WHBU	1210	Augusta F-28	100	WRDO	1370
Connersville K-21	100	WKBV	1500	Bangor F-29	100 500	WABI WLBZ	1200 620
Culver I-20 Evansville L-20	500 500	WCMA WGBF	1400 630	Portland F-28	1000	WCSH	940
Fort Wayne J-21	100 10000	WGL WOWO	1370 1160				
Gary I-20	1000	WIKS	1360	MARYLAND			
Hammond I-20 Indianapolis J-21	100 1000	WWAE WFBM	1200 1230	Baltimore J-26	10000	WBAL	1060 600
	500	WKBF	1400		250 100	WCAO WCBM	1370
Lafayette J-20 La Porte I-20	500 100	WBAA WRAF	1400 1200	Comphanism d I 25	500 100	WFBR WTBO	1270 1420
Marion J-21	50	WJAK WLBC	1310	Cumberland J-25	100	WIDO	1420
Muncie J-21 South Bend I-20	50 500	WSBT	1310 1230	MASSACHUSET	TC.		
Terre Haute K-20	100	WBOW	1310	Boston G-28	1000	WBIS	1230
				Boston G-26	500	WBZA	990
IOWA					1000 1000	WEEI WHDH	590 830
Ames I-17	5000	WOI	640		100	WLOE	1500
Boone I-17 Cedar Rapids I-18	100 100	KFGQ KWCR	1310 1310		1000 500	WNAC WSSH	1230 1410
Clarinda J-16	500 1000	KSO	1380 1260	Fall River H-28	250 500	WSAR WLEX	1450 1410
Council Bluffs J-16 Davenport I-18	5000	WOC	1000	Lexington G-28	100	WLEY	1370
Decorah H-18	50 100	KGCA KWLC	1270 1270	New Bedford H-28 S. Dartmouth H-28	100 500	WNBH WMAF	1310 1410
Des Moines I-17	5000	WHO	1000	Springfield H-27 Wellesley Hills G-28	15000	WBZ	990 920
Fort Dodge I-16 Iowa City I-18	100 500		1310 880	Wellesley Hills G-28 Worcester G-28	100	WEPS	1200
Marshalltown I-17	100	KFJB	1200 1170		100 250	WORC WTAG	1200 580
Muscatine J-18	5000	KINI	1170		200	WING	360

MICHIGAN	Watts		Kcys.	NEBRASKA	Watts		Kcys.
Battle Creek I-21	50	WELL	1420	Clay Center	1000	KMMJ	740
Bay City H-22 Berrien Springs I-20 Calumet E-19	500 1000	WBCM WKZO	1410 590	Lincoln J-15	5000 100	KFAB KFOR	770 1210
Calumet E-19 Detroit H-22	100 50	WHDF	1370 1370	Norfolk I-15	500 1000	WCAI	590 1060
	5000 100	WJBK WJR WMBC	750 1420	North Platte J-13 Omaha J-15	500 500	WJAG KGNF WAAW	1430
	1000 1000	WWJ WXYZ	920 1240		1000	wow	660 590
East Lansing H-21	1000	WKAR	1040	Ravenna J-14 Scottsbluff I-11	100 100	KGFW KGKY	1310 1500
Flint H-22	100 100	WFDF WPDF	1310 1200	York J-15	500	KGBZ	930
Grand Rapids H-21	500 500	WASH WOOD	1270 1270	NEVADA			
Jackson I-21 Lapeer H-22	100 100	WIBM WMPC	1370 1500	Las Vegas L-5	100	KGIX	1420
Ludington H-20 Royal Oak H-22	50 50	WKBZ WEXL	1500 1310	Reno I-3	500	KOH	1380
110,010 0 11 22	00	W LILL	1010	NEW HANDON	UDE		
MINNESOTA				NEW HAMPSH		*****	
Fergus Falls F-15	100	KGDE	1200	Laconia G-28	100	WKAV	1310
Minneapolis G-17	7500 1000	WCCO WDGY	810 1180				
	500 1000	WHDI WRHM	1180 1250	NEW JERSEY			
Moorhead F-15 Northfield G-17	50 1000	KGFK	1500	Asbury Park I-27 Atlantic City J-27	500 5000	WCAP WPG	1280 1100
	1000	KFMX WCAL	1250 1250	Camden I-26 Hackensack I-27	500 250	WCAM WBMS	1280 1450
St. Paul G-17	1000 1000	WGMS WLB	1250 1250	Jersey City I-27	300 250	WAAT WHOM	940 1450
	10000	KSTP	1460	Name of L 27	250 1000	WKBO	1450
MISSISSIPPI				Newark I-27	250	WAAM WGCP	1250 1250
Greenville O-19 Gulfport Q-19	100 100	WRBQ WGCM	1210 1210		250 5000	WNJ WOR	1450 710
Hattiesburg Q-19 Jackson P-19	10 1000	WRBJ WJDX	1370 1270	Paterson I-27 Red Bank I-27	1000 100	WODA WJBI WOAX	1250 1210
Meridian P-20	500	WCOC	880	Trenton I-26	500	WOAX	1280
Tupelo N-20 Vicksburg P-18	100 300	WDIX WQBC	1500 1360	NEW MEXICO			
				Albuguerque N-7	250	KGGM	1230
MISSOURI				Raton M-11	50	KGFL	1370
Cp. Girardeau L-19 Columbia K-17	100	KFVS	1210	State College P-9	20000	ков	1180
Grant City J-16 Jefferson City L-17	500 50	KFRU KGIZ	1500 1500	NEW YORK			
Joplin M-16	500 100	WOS WMBH	1420	NEW YORK	100	WARO	1210
Kansas City K-16	1000 100	KMBC KWKC	950 1370	Auburn H-25 Binghamton H-26	100 100	WMBO WNBF	1310 1500
	1000 500	WDAF WHB	610 860	Brooklyn I-27	500 1000	WBBC WBBR	1400 1300
St. Joseph K-16	1000 2500	WOQ KFEO	1300 680		500 500	WCGU WLTH	1400 1400
St. Louis L-18	100 500	KGBX KFUO	1310 550		100 500	WMBQ WSDA	1500 1400
St. Louis L-10	100 50000	KFWF	1200	Buffalo H-24	500 1000	WSGH WBEN	1400 900
	500	KMOX KSD	1090 550	Dunaio II-24	100 1000	WEBR WGR	1310 550
	1000 1000	KWK WEW	1350 760	ĺ	5000	WKBW	1480
	100	WIL	1200		1000 _50	WMAK WSVS	1040 1370
MONTANA				Canton F-26 Freeport I-27	500 100	WCAD WGBB	1220 1210
Billings F-9	1000	KGHL	950	Glens Falls G-27 Ithaca H-25	50 1000	WBGF WEAI	1370 1270
Butte F-7 Great Falls E-8	500 1000	KGIR KFBB	1360 1280	Jamaica H-27	50 100	WLCI WMRJ	1210 1210
Kalispell D-7 Missoula E-7	100 100	KGEZ KGVO	1310 1420	Jamestown H-24	25	WOCL	1210
Wolf Point E-11	100	KGCX	1310	Long Island City I-22 Long Beach I-27	7 100 100	WLBX WCLB	1500 1500
					E4311.35		

New York City I-27	5000	WABC	860	OKLAHOMA	Watts		Kcys.
zem eny z z	250	WAWZ	1350	1	100	KGFF	1420
	5000	WBOQ	860	Alva M-14 Chickasha N-14	250	KOCW	1400
	250	WCDA	1350	Elk City N-13	100	KGMP	1210
	50000 500	WEAF WEVD	660 1300	Enid M-15	100	KCRC	1370
	250	WGBS	600	Norman N-15	500	WNAD	1010
	1000	WHAP	1300	Oklahoma N-15	5000	KFJF KFXR	1480
	250	WHN	1010	ł	100	KGFG	1310 1370
	30000	WJZ	760		100 1000	WKY	900
	250	WKBQ	1350	Ponca City M-15	100	WBBZ	1200
	5000	WLWL	1100 570	S. Coffeyville M-16	500	KGGF	1010
	500 250	WMCA WMSG	1350	Tulsa M-16	5000	KVOO	1140
	500	WNYC	570				
	1000	wov	1130	OREGON			
	250	WPAP	1010	Astoria D-2	100	KFJI	1370
	500	WPCH	810	Corvallis E-2	1000	KOAC	550
	250	WQAO	1010	Eugene F-2	100	KORE	1420
Patahamia I 27	250	WŘNY WPOE	1010 1370	Marshfield F-1	100	KOOS	1370
Patchogue I-27 Poughkeepsie H-27	100 500	WOKO	1440	Medford G-2	50 5000	KMED KEX	1310 1180
Rochester G-25	5000	WHAM	1150	Portland E-3	100	KBPS	1420
	500	WHEC	1440	1	500	KFIR	1300
Saranac Lake F-26	50	WNBZ	1290		1000	KF JR KGW	620
Schenectady G-27	50000	WGY	790		1000	KOIN	940
Syracuse G-25	1000	WFBL	1360		500	KTBR	1300
	250 250	WMAC	570 570		500	KWJJ	1060
Γroy G-27	500	WSYR WHAZ	1300	!	100	KXL	1420
Tupper Lake F-26	10	WHOL	1420	PENNSYLVAN	IA		
Utica G-26	100	WIBX	1200	Allentown I-26	250	WCBA	1440
Woodside_I-27	100	WWRL	1500	Allentown 1-20	250	WSAN	1440
Yonkers I-27	100	WCOH	1210	Altoona I-25	100	WFBG	1310
				Carbondale H-26	10	WNBW	1200
NORTH CAROL	INA			Elkins Park I-26	50	WIBG	930
Asheville M-23	1000	WWNC	570	Erie H-24	30 100	WEDH	1420 1310
Charlotte M-24	5000	WBT	1080	Grove City I-26 Harrisburg I-25	500	WSAJ WBAK	1430
Gastonia M-24	100	WSOC	1210	Harrisburg 1-25	100	WCOD	1200
Greensboro M-24	500	WBIG	1440		500	WHP	1430
Raleigh M-25	1000	WPTF	680	Johnstown J-24	100	WJAC	1310
Wilmington N-26	100	WRBT	1370	Lancaster I-25	100	WJAC WGAL	1310
Winston-Salem M-24	100	wsjs	1310		100	WKJC	1200
				Lewisburg I-26 Oil City I-24	100	WKJC WJBU WLBW	1210
NORTH DAKO	ΓΑ			Philadelphia I-26	500 10000	WCAU	1260 1170
Bismarck F-13	1000	KFYR	550	Finaderpina 1-20	100	WELK	1370
Devils Lake E-14	100	KDLR	1210		500	WFAN	610
Fargo F-15	1000	WDAY	940	i.	500	WFI	560
Grand Forks E-15	100	KFJM	1370	-	100	WHAT	1310
Mandan F-13	100	KGCU	1200	13	500 500	WIP WLIT	610 560
Minot E-13	100	KLPM	1420		100	WPEN	1500
					250	WRAX	1020
OHIO					50	WTEL	1310
Akron I-23	1000	WADC	1320	Pittsburgh J-24	50000	KDKA	980
Canton I-23	10	WHBC	1200		500	KQV WCAE	1380
Cincinnati K-22	100	WFBE	1200		1000	WCAE	1220
	1000	WKRC	550		1000	W JAS WMBJ	1290 1500
	50000	WLW	700	Panding I-26	100 50	WRAW	1310
Cleveland I-23	500 500	WSAI WGAR	1330 1450	Reading I-26 Scranton H-26	250	WGBI	880
Cleveland 1-23	1000	WHK	1390		250	WOAN	880
	500	WIAY	610	State College I-25	500	WPSC	1230
	50000	WJAY WTAM	1070	Washington J-24	100	WNBO	1200
Columbus J-22	500	WAIU	640	Wilkes-Barre I-26	100	WBAX WBRE	1210 1310
	500	WCAH	1430	Williamsport I-25	100 50	WRAK	1370
	750	WEAO	570	Timanisport 1-23	30	HIM	10/0
	100	WSEN	1210 1380	DODTO DICO			
Douton I-22		AL CITATE		PORTO RICO	500	WIZAC	890
Dayton J-22 Mansfield I-22	200 100	WIW	1210				0411
Dayton J-22 Mansfield J-22 Mount Orab K-22	100 100	W JW WHBD	1210 1370	San Juan W-34	300	WKAQ	0,0
Mount Orab K-22 Steubenville J-23	100 100 50	WSMK WJW WHBD WIBR	1370 1420		_	WKAQ	0,0
Mount Orab K-22 Steubenville J-23 Toledo I-22	100 100 50 500	WIBR WSPD	1370 1420 1340	RHODE ISLAN	ID	_	
Dayton J-22 Mansfield J-22 Mount Orab K-22 Steubenville J-23 Toledo I-22 Youngstown I-23 Zanesville J-23	100 100 50	WIBR	1370 1420		_	WMBA WPAW	1500 1210

Providence H-28	100	WDWF	1210	VERMONT	Watts		I/ arra
	250	WEAN	780	II _		WOAY	Kcys.
	250 100	WJAR WLSI	890	Burlington F-27 Rutland G-27	100 100	WCAX WSYB	1200 1500
		WLSI	1210	St. Albans F-27	100	WQDM	1370
SOUTH CAROL		WCCC	1260	Springfield G-27	10	WNBX	1200
Charleston O-25 Columbia N-24	500 500	WCSC WIS	1360 1010	VIRGINIA			
Spartanburg N-23	100	WSPA	1420	Alexandria J-26	10000	WJSV	1460
SOUTH DAKOT	Γ Λ			Arlington J-25	1000	NAA	690
Brookings H-15	500	KFDY	550	Danville L-25	100	WBTM	1370
Huron H-14	100	KGDY	1200	Emory L-23 Lynchburg L-25	100 100	WEHC WLVA	1200 1370
Mitchell H-14	50	KGDA	1370	Lynchodig L-23	500	WLVA	590
Pierre G-13 Rapid City H-12	200 100	KGFX WCAT	580 1200	Newport News L-26	100	WGH	1310
Sioux rails 1-15	2000	WCAT KSOO	1110	Norfolk L-26	500 500	WPOR WTAR	780 780
Vermillion I-15	500	KUSD	890	Petersburg L-26	100	WLBG	1200
Watertown G-15 Yankton I-15	100 1000	KGCR WNAX	1210 570	Richmond K-26	100	WBBL	1210
	1000	WINAA	370		100	WMBG WRVA	1210
TENNESSEE Bristol L-23	100	WOPI	1500	Roanoke L-24	5000 250	WDBI	1110 930
Chattanooga N-21	1000	WDOD	1280		250	WRBX	1410
Knoxville M-22	50	WFBC	1200	WASHINGTON			
	1000 100	WNOX WROL	560 1310	Aberdeen D-2	75	KXRO	1310
Lawrenceburg N-20	500	WOAN	600	Bellingham C-3	100	KVOS	1200
Memphis M-19	500	WGBC	1430	Everett C-3 Lacey D-3	50 10	KFBL KGY	1370 1200
	100	WHBQ	1370	Longview D-3 Pullman E-5	100	KUI	1500
	500 500	WMC WNBR	780 1430	Pullman E-5	1000	KWSC	1220
	500	WREC	600	Seattle C-3	100 5000	KFQW KJR	1420 970
Nashville M-20	5000	WLAC	1470		1000	KŎL	1270
	5000 5000	WSM WTNT	650 1470		1000	KOMO	920
Springfield M-20	100	WTNT WSIX	1210		100 50	KPCB KRSC	650 1120
Union City M-19	100	WOBT	1310		1000	KTW	1270
TEXAS				ľ	100	KVL	1370
Abilene P-13	100	KFYO	1420	Spokane D-5	500 100	KXA KFIO	570 1120
Amarillo N-12	1000 250	KGRS WDAG	1410 1410	Spokane D-3	1000	KFPY	1340
Austin Q-14	100	KUT	1500		5000	KGA	1470
Beaumont R-17	500	KFDM KWWG	560	Tacoma D-3	1000 500	KHQ KMO	590 860
Brownsville U-15 Brownwood P-14	500 100	KGKB	1260 1500	Taconia D-3	1000	KVI	760
College Sta. Q-15	500	WTAW	1120	Wenatchee D-4	50 50	KPQ KIT	1500
Corpus Christi S-14	100	KGFI	1500	Yakima D-4	50	KIT	1310
Dallas P-15	10000 50000	KRLD WFAA	1040 800	WEST VIRGIN	[A		
	500	WRR	1280	Bluefield L-24	100	WHIS	1420
Dublin P-14	100	KFPL	1310	Charleston K-23	250	WOBU	580
El Paso P-9	100 100	KTSM WDAH	1310 1310	Fairmont J-24 Huntington K-23	250 250	WMMN WSAZ	890 580
Fort Worth P-15	100	KFJZ KTAT	1370	Wheeling J-24	5000	WWVA	1160
	1000	KTAT WBAP	1240	WISCONSIN			
Galveston R-16	10000	KFLX	800 1370		4000	11/27.4.0	
	500	KFUL	1290	Eau Claire G-18 Fond du Lac H-19	1000 100	WTAQ KFIZ	1330 1420
Greenville O-15 Harlingen T-14	15	KFPM	1310	Green Bay G-19	100	WHBY	1200
Harlingen 1-14 Houston R-16	500 1000	KRGV KPRC	1260 920	Green Bay G-19 Janesville I-19	100	WCLO	1200
110431011 11 10	100	KTLC	1310	La Crosse H-18 Madison H-19	1000 750	WKBH WHA	1380 940
	500	KTRH	1120	Windson 11-19	500	WIBA	1280
San Angelo O-13	100 100	KXYZ KGKL	1420   1370		250	WISI	780
San Antonio R-14	100	KMAC	1370	Manitowoc H-20	100 250	WOMT	1210
	100	KONO	1370 1370	Milwaukee H-20	250	WHAD WISN	1120 1120
	100	KTAP	1420		1000	WTMJ	620
	1000 50000	KTSA WOAI	1290 1190	Poynette H-19	100	WIBU	1210
Waco Q-15 Wichita Falls O-14	1000	WACO	1240	Racine I-20 Sheboygan H-20	100 <b>50</b> 0	WR JN WHBL	1370 1410
	250	KGKO	570	Stevens Pt. G-19	2000	WLBL	900
LITALI				I C	1000	TITE	1200
UTAH	5.		- 1	Superior F-17	1000	WEBC	1290
Ogden I-7	500	KLO	1400	_	1000	WEBC	1290
	500 1000 5000	KLO KDYL KSL	1400 1290 1130	WYOMING Casper H-10	1000	KDFN	1290

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CAN	ADA		QUEBEC	Watts		Kcys
ALBERTA	Watts	Kcys.	Montreal E-26	500	CFCF	1030
Calgary B-7	500 CFAC	690		5000	CHYC	730
Calgary B-7	500 CFCN	690		5000	CKAC CNRM	730 730
	500 CHCA	690	Overboo D 27	5000 100	CHRC	880
	500 CJCJ	690	Quebec D-27	22	CKCI	880
n	500 CNRC	690 580		50	CKCV	880
Edmonton A-8	250 CHMA 500 CJCA	930		50	CNRQ	880
	250 CHMA 500 CJCA 500 CKUA	580	SASKATCHEWA	N		
	500 CNRE	580	Fleming C-13	500	CJRW	600
Lethbridge C-8	50 CJOC	1120	Fleming C-13 Moose Jaw C-11	500	CJRM	600
Red Deer A-8	1000 CHCT 1000 CKLC	840 840	Pilot Butte	500	CHWC	960 960
	1000 CNRD	840	Regina C-12	500 500	CJBR CKCK	960
	_			500	CNRR	960
BRITISH COLU			Saskatoon B-11	500	CFQC CNRS	910
Chilliwack B-3	5 CHWK	1210 1120		500		910
Kamloops B-5	15 CFJC 50 CJOR 50 CHLS	1210	Yorkton C-13	500	CJGX	630
Sea Island Vancouver B-3	50 CHLS	730	HAITI			
vancouver 2 0	50 CKCD	730	Port au Prince X-30	1000	HHK	920
	50 CKFC	730				
	50 CKMO	730 730	MEXICO	0 250	VEE	915
	100 CKWX 500 CNRV	1030	Chihuahua, Chih. R-	9 250 1000	XFF XEQ	750
Victoria C-3	500 CFCT	630	Ciudad Juarez P-9		XEA	1200
	000 0101		Guadalajara, Jal. X-10 Jalapa, Ver. Y-14	350	XFC	805
MANITOBA	500 CKX	540	Juarez, Chih.	101	XEJ	857
Brandon D-14 Winnipeg D-15	5000 CKY	780	Merida, Yuc. X-19	105	XEY	547
Willingeg D-10	5000 CNRW	780	Mexico City Y-13	1000 2000	XEB XEG	1091 970
NEW BRUNSW				101	XEK	1000
Fredericton D-29	50 CFNB	1210	ľ	1000	XEN	719
Moncton D-30	500 CNRA	630	1	101	XEO	674
St. John D-30	50 CFBO	890		101 500	XER	1071 1100
NEWFOUNDLA	.ND			5000	XETA XEW	780
St. Johns A-35	500 8WMC	730		500	XEX	1300
NOVA SCOTIA			11	500	XEZ	588
Glace Bay C-32	10000 VAS	690	16	2000	XFG	638
Halifax E-31	500 CHNS	910		1000 500	XFI XFX	818 860
	500 CNRH	910	Monterrey, N. L. U-1		XEH	1132
Sydney C-32	50 CJCB	880	Monterrey, N. B. o 1	500	XET	890
Wolfville D-31	50 CKIC	930	Morelia, Mich. Y-12	101	XEI	1000
ONTARIO			Oaxaca, Oax. AA-14	105	XEF	1132 1035
Chatham H-22	100 CFCO	1210	Puebla Z-13	101 10000	XEV XED	960
Cobalt E-23	15 CKMC 10 CHCS	1210 880	Reynosa, Tams. T-14 Saltillo, Coah. U-12	10000	XEL	1091
Hamilton H-24	50 CHML	880	Tampico, Tams. W-1		XEM	841
	50 CKOC	880	11	500	XES	890
Iroquois Falls F-26	250 CFCH	600	Toluco, Mex. Y-12	50	XEC	1133 1210
Kingston G-25	500 CFRC	930	Veracruz, Ver. Y-14	101	XETF XEU	800
London H-23	1000 CJGC 500 CNRL	910 910	Villahermosa, Tab.	250	XFE	632
Midland G-23	50 CKPR	930	19:	0		
Ottawa F-25	100 CKCO	890	CUBA	250	ON CLASS	0.30
D E 25	500 CNRO	600	Caibarien W-25	250 200	CMHD	920 1150
Prescott F-25	50 CFLC 50 CKPC	1010 1210	Cienfuegos W-25 Colon W-24	300	CMHA CMGA	830
Preston G-23 Toronto G-24	500 CFCA	840	Havana W-23	150	CMBC	1130
10101110 0-21	500 CFCL	580	11	200	CMBY	1405
	4000 CFRB	960		150	CMBZ	1010
	5000 CJSC	690	11	500	CMCF	840 1280
	500 CKCL 5000 CKGW	580 690	11	100 250	CMCE CMCF CMCQ	900
	500 CKNC	580	1	1000	CMCO	950
	500 CNRT	840	ll.	500	CMI	770
	4000 CNRX	960	li .	2000	CMK	730
W-+I C 33	5000 CPRY	690	II .	150 1000	CMQ CMW	1130 588
Waterloo G-23	50 CKCR 25 10-BP	1010 1200	li .	250	CMX	900
Wingham G-23		1200	Santiago X-28	150	CMKC	1360
PRINCE EDW		060	Tuinucu	500		790
Charlottetown C-31	250 CFCY 30 CHCK	960 960	COSTA RICA			
Summerside C-31	100 CHGS	1120	San Jose FF-23	50	TIX	750

			TG TO
CFAC 690 Calgary, Alta.	Massa Jam Saala	CMA 730	KFBL 1370
CFBO 890	Moose Jaw, Sask CJRW 600	Havana, Cuba CMKC 1360	Everett, Wash. KFDM 560
St. John, N. B.	Fleming, Sask	Santiago, Cuba	Beaumont, Tex.
CFCA 840	CJSC 690	CMQ 1130	KFDY 550
Toronto, Ont. CFCF 1030	Toronto, Ont.	Havana, Cuba CMW 590	Brookings, S.D.
Montreal, Que.	Montreal, Que.	Havana, Cuba	KFEL 920 Denver, Colo.
CFCH 600	CKCD 730	CMX 900	KFEQ 680
Iroq's Falls, Ont.	Vancouver, B.C. CKCI 880	Havana, Cuba CNRA 630	St. Joseph, Mo.
Toronto, Ont.	Quebec, Que.	CNRA 630 Moncton, N.B.	KFGQ 1310 Boone, Iowa
CFCN 690	I CKCK 960	CNRC 690	KFH 1300
Calgary, Alta. CFCO 1210	Regina, Sask.	Calgary, Alta.	Wichita, Kansas
Chatham, Ont.	CKCL 580 Toronto, Ont.	CNRD 840 Red Deer, Alta.	KFI 640
CFCT 630	CKCO 890	CNRE 580	Los Angeles, Cal. KF10 1120
Victoria, B. C. CFCY 960	Ottawa, Ont.	Edmonton, Alta.	Spokane, Wash.
Ch'lottet'n, P.E.I.	CKCR 1010 Waterloo, Ont.	CNRH 910 Halifax, N. S.	KFIU 1310
CFJC 1120	CKCV 880	CNRL 910	Juneau, Alaska KFIZ 1420
Kamloops, B. C.	Quebec, Que.	London, Ont.	Fond du Lac, Wis
CFLC 1010 Prescott, Ont.	CKFC 730	CNRM 730	KFJB 1200
CFNB 1210	Vancouver, B.C. CKGW 690	Montreal, Que. CNRO 600	Marshalltown, Ia. KFJF 1480
Fredericton, N.B.	Toronto, Ont.	Ottawa, Ont.	Oklahoma City
CFQC 910	CKIC 930	CNRQ 880	KFJI 1370
Saskatoon, Sask CFRB 960	Wolfville, N.S. CKLC 840	Quebec, Que. CNRR 960	Astoria, Ore.
Toronto, Ont.	Red Deer, Alta.	Regina, Sask.	KFJM 1370 Grd. Forks, N.D.
CFRC 930	CKMC 1210	CNRS 910	KFJR 1300
Kingston, Ont. CHCA 690	Cobalt, Ont.	Saskatoon, Sask.	Portland, Ore.
Calgary, Alta.	Vancouver, B.C.	CNRT 840 Toronto, Ont.	KFJY 1310
CHCK 960	CKNC 580	CNRV 1030	Fort Dodge, Ia. KFJZ 1370
Ch'lottet'n,P.E.I. CHCS 880	Toronto, Ont.	Vancouver, B.C.	_ Ft. Worth, Tex.
Hamilton, Ont.	CKOC 880 Hamilton, Ont.	CNRW 780 Winnipeg, Man.	KFKA 880
CHCT 840	CKPC 1210	CNRX 960	Greeley, Colo. KFKB 1050
Red Deer, Alta.	Preston, Ont.	Toronto, Ont.	Milford, Kansas
CHGS 1120 Sum'rside, P.E.I.	CKPR 930 Midland, Ont.	CPRY 690 Toronto, Ont.	KFKU 1220
CHLS 730	CKUA 580	HHK 920	Lawrence, Kans. KFKX 1020
Vancouver, B.C.	Edmonton, Alta.	Port au Prince, H.	Chicago, Ill.
CHMA 580 Edmonton, Alta.	CKWX 730 Vancouver, B.C.	KBPS 1420 Portland, Ore.	KFLV 1410
CHML 880	CKX 540	KBTM 1200	Rockford, Ill. KFLX 1370
Hamilton, Ont.	Brandon, Man.	Paragould, Ark.	Galveston, Tex.
CHNS 910 Halifax, N.S.	CKY 780 Winnipeg, Man.	KCRC 1370 Enid, Okla.	KFM X   1250
CHRC 880	CMBC 1130	KCRJ 1310	N'thfield, Minn. KFNF 890
Quebec, Que.	Havana, Cuba	Jerome, Ariz.	_ Shenandoah, Ia.
CHWC 960 Pilot Butte, Sask.	CMBY 1400 Havana, Cuba	KDB 1500	KFOR 1210
CHWK 1210	CMBZ 1010	S. Barbara, Cal. KDFN 1210	Lincoln, Nebr. KFOX 1250
Chilliwack, B.C.	Havana, Cuba	Casper, Wyo.	Long Beach, Cal.
CHYC 730	CMC 840	KDKA 980	KFPL 1310
Montreal, Que.	Havana, Cuba	Pittsburgh, Pa. KDLR 1210	_ Dublin, Texas
Regina, Sask.	Havana, Cuba	Devils Lake.N.D.	KFPM 1310 Greenville, Tex.
CJCA 930	CMCF 900	KDYL 1290	KFPW 1340
Edmonton, Alta.	Havana, Cuba CMCQ 950	Salt Lake City	Ft. Smith, Ark.
Syndey, N.S.	Havana, Cuba	KECA 1430 Los Angeles, Cal.	KFPY 1340 Spokane, Wash.
CJCJ 690	II CMGA 830	11 KELW 780	KFQD 1230
Calgary, Alta.	Colon, Cuba CMHA 1150	Burbank, Cal.	Anchorage, Alas.
ondon, Ont.	Cienfuegos, Cuba	KEX 1180 Portland, Ore.	KFQU 1420
CJGX 630	CMHC 790	KFAB 770	Holy City, Cal. KFQW 1420
orkton, Sask.	Tuinucu, Cuba	Lincoln, Nebr.	Seattle, Wash.
CJOC 1120 Lethbridge, Alta.	CMHD 920 Caibarien, Cuba	KFBB 1280 Great Fls., Mont.	KFRC 610
JOR 1210	CMI 770	KFBK 1310	San F'ncisco, Cal. KFRU 630
ea Island, B.C.	Havana, Cuba	Sacramento, Cal.	Columbia, Mo.
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FSD 600	KGFG 1370	KIDO   1250	KPJM 1500
an Diego, Cal.	Oklahoma City	Boise, Idaho	Prescott, Ariz.
FSG 1120	KGFI 1500	KIT 1310	KPO 680 San F'ncisco, Cal.
os Angeles Call	Corpus Ch'sti, Tex	Yakima, Wash.	KPOF 880
FUL 1290	KGFJ 1200	KJBS 1070 San F'neisco, Cal.	Denver, Colo.
alveston, Tex. FUM 1270	Los Angeles, Cal.	KJR 970	KPPC 1210
FUM 1270	KGFK 1500	Seattle, Wash.	Pasadena, Cal.
ol. Spgs., Colo.	Moorhead, Minn.	KLCN 1290	KPO 1500
FUO 550	KGFL 1370 Raton, N. M. KGFW 1310	Blytheville, Ark.	Wenatchee, Wash KPRC 920
t. Louis, Mo.	KCFW 1310	KLO 1400	KPRC 920
FUP 1310	Ravenna, Nebr.	Orden, Utah	Houston, Texas
Denver, Colo.	KGFX 580	Ogden, Utah KLPM 1420 Minot, N. Dak.	KPSN 1360
FVD 1000 ulver City, Cal.	Pierre, S. D.	Minot, N. Dak.	Pasadena, Cal.
FVS 1210	KGGC 1420	KLRA 1390	KQV 1380
ana Gir'rd'u Mo	San F'ncisco, Cal.	Little Rock, Ark.	Pittsburgh, Pa.
FWB 950	San F'ncisco, Cal. KGGF 1010	KLS 1440	KQW 1010
FWB 950 follywood, Cal. FWF 1200	Coffeyville, Kans.	Oakland, Cal.	II San Jose, Cal.
FWF 1200	KGGM 1230	KLX 880	KRE 1370 Berkeley, Cal.
t. Louis, Mo.	Alb'g'rque, N.M.	Oakland, Cal.	Berkeley, Cal.
FW1 930		KLZ 560	KREG 1500
an F'ncisco, Cal.	Pueblo, Colo.	Denver, Colo.	Santa Ana, Cal.
FXD 1420	11 K G H 1 1200 1	II K VI A 930	KRGV 1260 Harlingen, Texas
ampa, Idaho	Little Rock, Ark.	Shenandoah, Ia.	KIND 1040
EVE 990	KGHL 950	KMAC 1370 San Antonio, Tex.	KRLD 1040 Dallas, Texas
enver, Colo.	Billings, Mont.	KMBC 950	KRMD 1310
FA3 1010	KGIQ 1320 Twin Falls, Ida.	Kan. City, Mo.	Shreveport, La.
dgewater, Colo.	WCID 1200	KMCS 1120	Shreveport, La. KROW 930
FXM 1210	KGIR 1360	Inglewood, Cal.	Oakland, Cal.
an Ber'd'no,Cal.	Butte, Mont. KGIW 1420	KMED 1310	
FXR 1310	Trinidad, Colo.	Medford, Ore.	Seattle, Wash. KSAC 580 Manh'tt'n, Kans.
klahoma City	KGIX 1420		KSAC 580
FXY 1420 lagstaff, Ariz.	KGIX 1420 Las Vegas, Nev.	Fresno, Cal.	Manh'tt'n, Kans.
FYO 1420	KGIZ 1500		
hilana Tayas	KGIZ 1500 Grant City, Mo. KGJF 890	Monroe, La.  KMMJ 740 Clay Ctr., Nebr.  KMO 860 Tacoma, Wash.	Sioux City, Ia.
FYR 550 lismarck, N.D.	KGJF 890	KMMJ 740	KSD 330
ismarck, N.D.	Little Rock, Ark.	Clay Ctr., Nebr.	St. Louis, Mo. KSEI 900
GA 1470	KGKB 1500	KMO 860	Pocatello, Idaho
GA 1470 pokane, Wash.	Brownwood, Tex	Tacoma, Wash.	VOI 1130
(GAR 1370	Brownwood, Tex.  KGKL 1370  San Angelo, Tex.  KGKO 570	KMOX 1090 St. Louis, Mo.	KSL 1130 Salt Lake City
ucson, Ariz.	San Angelo, Tex.	KMPC 710	II KSMR 1200
GB 1330	Wishits File Toy	Los Angeles, Cal.	Santa Maria, Cal.
an Diego, Cal.	Wichita Flls., Tex KGKX 1420	KMTR 570	II KSO 1380
KGBU 900 Ketchikan, Al'ka.	Sand Point, Ida.	Los Angeles, Cal.	II Clarinda, Iowa
GBX 1310	KGKY 1500	KNX 1050	KSOO 1110
t Iogoph Mo	Scottsbluff, Nebr.	Los Angeles, Cal.	KSOO 1110 Sioux Falls, S.D.
GGZ 930  Ork, Nebr.  GGCA 1270  Decorah, Iowa	KGMB 1320	II KOA 830	II ROLL 1400
ork, Nebr.	KGMB 1320 Honolulu, T. H.	Denver, Colo.	St. Paul, Minn.
GCA 1270	II KGMP 1210	H KOAC 550	KTAB 560
Decorah, Iowa	Elk City, Okla.	Corvallis, Ore.	San F'ncisco, Cal. KTAP 1420
	KGNF 1400	KOB 1180 State Coll., N.M.	San Antonio, Tex.
Vatertown, S.D	No. Platte, Neb.	KOCW 1400	KTAR 620
GCU 1200	KGNO 1210	Chielesche Olde	Phoenix, Ariz.
Iandan, N.D.	Dodge City, Kans.	Chickasha, Okla. KOH 1380	H KTAT 1240 1
GCX 1310 Volf P't, Mont. GDA 1370 Aitchell, S. D.	KGO 790 San F'ncisco, Cal. KGRS 1410	Reno, Nevada	Ft. Worth, Tex. KTBI 1300
CDA 1270	KCRS 1410	KOIL 1260	KTBI 1300
ditaball S D	Amarillo, Texas	Council Bluffs, Ia.	Los Angeles, Cal.
GDE 1200	KGU 940	KOIN 940	Los Angeles, Cal. KTBR 1300
erg's F'lls, Minn	Honolulu, Hawaii	Portland, Ore.	Portland, Ore.
GDM 1100	KGVO 1420	II KOL 1270	KTBS 1450
tockton Cal	Missoula, Mont.	Seattle, Wash.	Shreveport, La.
GDY 1200 furon, S. D. GEF 1300	KGW 620	KOMO 920	Shreveport, La. KTHS 1040 Hot Spgs., Ark.
Iuron, S. D.	Portland, Ore.	Seattle, Wash.	Hot Spgs., Ark.
GEF 1300	T/CV 1900	KONO 1370	KTLC 1310 Houston, Texas KTM 780 Los Angeles, Cal.
os Angeles, Cal. I	Lacey, Wash.	San Antonio, Tex	KTM 780
GEK 1200	II ILII JOO	KOOS 1370	Los Angeles Cal
GEK 1200 'uma, Colo.	Los Angeles, Cal.	Marshfield, Ore. KORE 1420	KTNT 1170
CGER 1360 1	KHQ 590	KORE 1420	Muscatine, Iowa
ong Beach, Cal	Spokane, Wash.	Eugene, Ore. KOY 1390	KTRH 1120
GEW 1200	KICK 1420	Phoenix, Ariz.	Houston, Texas
Ft. Morgan, Colo. KGEZ 1310 Kalispell, Mont.	Red Oak, Iowa.  KID 1320	KPCB 650	KTSA 1290
AGEA 1310	Idaho Falls, Ida.	KPCB 650 Seattle, Wash.	San Antonio, Tex.
KGFF 1420			
Alva, Okla.			4
, O			II.

			WFD
KTSL 1310 Shreveport, La.	WABC 860 New York City	WCAH 1430	WDEL 1120
KTSM 1310	WABI 1200	Columbus, Ohio WCAJ 590	Wilmington, Del.
El Paso, Texas	Bangor, Maine	Lincoln, Nebr.	WDGY 1180 Minneap., Minn.
KTW 1270 Seattle, Wash.	WABZ 1200	H WCAL 1250	WDIX 1500
KUJ 1500	New Orleans, La. WACO 1240	Northfield, Minn.	Tupelo, Miss.
Longview, Wash.	Waco, Texas	WCAM 1280 Camden, N. J.	H WDOD 1280
KUOA 1390	Waco, Texas WADC 1320	WCAO 600	Chattan'ga, Tenn WDRC 1330
Fayetteville, Ark. KUSD 890	Akron, Ohio	Baltimore, Md.	Hartford, Conn.
Vermillion, S. D.	WAIU 640 Columbus, Ohio	WCAP 1280	WDSU 1250
KUT 1500	WALR 1210	Asbury Pk., N. J. WCAT 1200	New Orleans, La.
Austin, Texas	Zanesville, Ohio	Rapid City, S. D.	Providence, R. I.
KVI 760 Tacoma, Wash.	WAP1   1140	II WCAU 1170	WDZ 1070
KVL 1370	Birmingham, Ala. WASH 1270	Philadelphia, Pa.	Tuscola, Ill.
Seattle, Wash.	Gr. Rapids, Mich.	WCAX 1200 Burlington, Vt.	WEAF 660
KVOA 1260	WAWZ 1350	WCAZ 1070	New York City
Tucson, Arizona KVOO 1140	New York City	Carthage, Ill.	WEAI 1270 Ithaca, N. Y.
KVOO 1140 Tulsa, Okla	WBAA 1400	WCBA 1440	WEAN 780
KVOS 1200	Lafayette, Ind. WBAK 1430	Allentown, Pa. WCBD 1080	Providence, R. I.
Bellingh'm, Wash.	Harrisburg, Pa.	Zion, Ill.	WEAO 570 Columbus, Ohio
KWCR 1310	WBAL 1060	WCBM 1370	WEBC 1290
Cedar Rapids, Ia.  KWEA 1210	Baltimore, Md. WBAP 800	Baltimore, Md.	Superior, Wis.
Shreveport, La.	WBAP 800 Fort Worth, Tex.	WCBS 1210 Springfield, Ill.	WEBQ 1210   ==
KWG 1200	WBAX 1210	WCCO 810	Harrisburg, Ill. WEBR 1310
Stockton, Cal.	Wilkes-Barre, Pa.	Minneap., Minn.	Buffalo, N. Y.
KWJJ 1060 Portland, Ore.	WBBC 1400	WCDA 1350	WEDC 1210
KWK 1350	Brooklyn, N. Y. WBBL 1210	New York City WCFL 970	Chicago, Ill.
St. Louis, Mo.	Richmond, Va.	WCFL 970 Chicago, Ill.	WEDH 1420 Erie, Pa.
KWKC 1370	WBBM 770	WCGU 1400	WEEL 590
Kansas City, Mo KWKH 850	Chicago, Ill.	Brooklyn, N. Y.	Boston, Mass.
Shreveport, La.	WBBR 1300 Brooklyn, N. Y.	WCHI 1490	WEHC 1200
KWLC 1270	WRR7 1200	Chicago, Ill. WCKY 1490	Emory, Va.
Decorah, Iowa	Ponca City, Okla.	Covington, Ky.	WEHS 1420 Evanston, Ill.
KWSC 1220	WBCN1 1410	WCLB 1500	WELK 1370
Pullman, Wash. KWWG 1260	Bay City, Mich. WBEN 900	Long Beach, N.Y.	Philadelphia, Pa.
Browns ville, Tex.	Buffalo, N. Y.	Janesville, Wis.	WELL 1420
KXA 570	H WBGF 1370	WCLS   1310	BattleCreek, Mich WENR 870
Seattie, Wash. KXL 1420	Glens Falls, N. Y.	Joliet, Ill.	Chicago, Ill.
Portland, Ore.	WBIG 1440 Greensboro, N.C.	WCMA 1400	WEPS 1200
XO 1500	WBIS 1230	Culver, Ind. WCOA 1340	Worcester, Mass. WEVD 1300
El Centro, Cal.	Boston, Mass.	Pensacola, Fla.	WEVD 1300 New York City
XRO 1310 Aberdeen, Wash		WCOC 880	WEW 760
XYZ 1420	Hackensack, N.J. WBOQ 860	Meridian, Miss. WCOD 1200	St. Louis, Mo.
Iouston, Texas	New York City	Harrisburg, Pa.	WEXL 1310
YA 1230	WBOW 1310	WCOH 1210	Royal Oak, Mich. WFAA 800
an F'neisco, Cal	Terre Haute, Ind.	Yonkers, N. Y.	Dallas, Texas
YW 1020 Chicago, Ill.	WBRC 930 Birmingham, Ala.	WCRW 1210	WFAN 610
ZM 1370	WBRE 1310	Chicago, Ill. WCSC 1360	Philadelphia, Pa. WFBC 1200
layward, Cal.	_ Wilkes-Barre, Pa.	Charleston, S. C.	Knoxville, Tenn.
AA 690	WBSO 920	WCSH 940	WFBE 1200
rlington, Va. BA 850	Well'l'yH'ls,Mass WBT 1080	Portland, Maine	Cincinnati, Ohio
alboa, C. Z.	Charlotte, N. C.	WDAE 1220 Tampa, Fla.	WFBG 1310
IX 750	WBTM   1370	I WDAF 610 I	Altoona, Pa. WFBL 1360
an Jose, C. R.	Danville, Va.	Kansas City, Mo.	Syracuse, N. Y.
AS 690 lace Bay, N. S.	WBZ 990 Springfield, Mass.	WDAG   1410	WFBM 1230
/AAF 920	WBZA 990	Amarillo, Texas WDAH 1310	Indianapolis, Ind.
hicago, Ill.	Boston, Mass.	El Paso, Texas	WFBR 1270 Baltimore, Md.
AAM 1250	II WCAC 600	I WIDAY 946 I	WFDF 1310
ewark, N. J.	Storrs, Conn. WCAD 1220	Fargo, N. D. WDBJ 930	Flint, Mich.
ersey City, N. J.	Canton, N. Y.	WDBJ 930 Roanoke, Va.	WFDV 1370
7.7k/1-77 000	WCAE 1220	WDBO 1120	Rome, Ga.
maha, Nebr.	Pittsburgh, Pa.	Orlando, Fla.	

WFDW	А	COMI DE L	11 (DD2)			4414	100
WFDW 1420	- 11	WHD1 1180	1	WJBK 1370	H	WLBG 1200	
Talladega, Ala.		Minneap., Minn.		Detroit, Mich.		Ettrick, Va. WLBL 900	
WFI 560		WHDL 1420 TupperLake, N.Y.		WJBL 1200 Decatur, Ill.	- 1	Stevens Pt., Wis.	
Philadelphia, Pa WFIW 940		WHEC 1440		WJBO 1420		Stevens Pt., Wis. WLBW 1260	
Hankingvilla Kv		Rochester, N. Y.		New Orleans, La		Oil City, Pa.	
WFLA 620		WHFC 1420		WJBT 770 Chicago, Ill.		WLBX 1500 L.I.City, N.Y.	
WFLA 620 Clearwater, Fla. WGAL 1310	II	Cicero, III. WHIS 1420		WJBU 1210		WLBZ 620 Bangor, Me.	
Lancaster, Pa.	li li	Bluefield, W. Va.		Lewisburg, Pa.		Bangor, Me.	
WGAR 1450		WHK 1390		WJBW 1200		WLCI 1210 Ithaca, N. Y.	
Cleveland, Ohio		Cleveland, Ohio WHN 1010		New Orleans, La WJBY 1210		WLEX 1410	
WGBB 1210 Freeport, N. Y.		New York City		Gadsden, Ala.		Lexington, Mass.	
WGBC 1430		WHO 1000		WJDX 1270	1	WLEY 1370	
Memphis, Tenn.		Des Moines, Ia.		Jackson, Miss. WJJD 1130	II	Lexington, Mass. WLIT 560	
WGBF 630	l l	WHOM 1450	- 1	Mooseheart, Ill.		Philadelphia, Pa.	
Evansville, Ind. WGBI 880		Jersey City, N. J. WHP 1430 Harrisburg, Pa.		W IKS 1360		WLOE 1500 Boston, Mass.	
Scranton, Pa.		Harrisburg, Pa.		Gary, Ind. WJR 750		Boston, Mass. WLS 870	
WGBS 600 New York City		WIAS 1420 Ottumwa, Iowa WIRA 1280		WJR 750 Detroit, Mich.	- 1	Chicago, Ill.	
New York City		WIBA 1280		WJSV 1460		WLSI 1210	
WGCM 1210 Gulfport, Miss.		Madison, Wis.		Alexandria, Va.		Providence, R. I.	
WGCP 1250 Newark, N. J.		WIBG 930		WJW 1210 Mansfield, Ohio		WLTH 1400 Brooklyn, N. Y.	
Newark, N. J.		Eikins Park, Pa. WIBM 1370		WJZ 760		WLVA 1370	
WGES 1360 Chicago, Ill.		Jackson, Mich.		New York City		Lynchburg, Va.	
WGH 1310	= =	WIBO 560		WKAQ 890 San Juan, P. R.		Lynchburg, Va. WLW 700 Cincinnati, Ohio	
Newp't News, Va.		Chicago, Ill. WIBR 1420		WKAR 1040		WLWL 1100	
WGL 1370 Ft. Wayne, Ind.		Staubanville O		E. Lansing, Mich.		New York City	
WGMS 1250		W1BU 1210 Poynette, Wis.		WKAV 1310		WMAC 570 Syracuse, N. Y.	
St. Paul, Minn.		Poynette, Wis. WIBW 580		Laconia, N. H. WKBB 1310		WMAF 1410	
WGN 720 Chicago, Ill.		Topeka Kansas		Joliet, Ill.		S. D'rtm'th, Mass.	
TOTAL FEA		WIBX 1200		I WKBC 1310		WMAK 1040	
Buffalo, N. Y.		WIBX 1200 Utica, N. Y. WICC 1190		Birmingham, Ala. WKBF 1400		Buffalo, N. Y. WMAL 630	
WGST 890 Atlanta, Ga.		Bridgeport, Conn.		Indianapolis, Ind.		Washington, D.C.	
1UCV 700		WII. 1200 I		WKBH 1380	- 1	WMAQ 670	
Schenec'd'y, N.Y. WHA 940		St. Louis, Mo. WILL 890		La Crosse, Wis. WKBI 1420		Chicago, Ill. WMAZ 890	
Madison, Wis.		Urbana, Ill.		Chicago, Ill.		Macon, Ga.	
WHAD 1120		WILM   1420		1 WKBN 570		WMBA 1500	
Milwaukee, Wis.		Wilmington, Del.		Youngstown, O. WKBO 1450		Newport, R. I. WMBC 1420	
WHAM 1150 Rochester, N.Y.		WIOD 1300 Miami, Fla.		Jersey City, N. J. WKBQ 1350		Detroit, Mich.	
WHAP 1300		WIP   610		WKBQ 1350		WMBD 1440	
New York City		Philadelphia, Pa. WIS 1010		New York City WKBS 1310		Peoria Hghts.,Ill.	
WHAS 820 Louisville, Ky.		Columbia, S. C.		Galesburg, Ill.		WMBG 1210 Richmond, Va.	
WHAT 1310		WISJ 780		1 WKBV 1500		WMBH 1420	
Philadelphia Pa.		Madison, Wis.		Connersville, Ind. WKBW 1480		Joplin, Mo. WMBI 1080	
WHAZ 1300 Troy, N. Y. WHB 860		WISN 1120 Milwaukee, Wis.		Buffalo, N. Y.	- 1	Chicago, Ill.	
WHB 860		W JAC   1310		WKBZ 1500		WMBJ 1500	
Kansas City, Mo.		Johnstown, Pa.		Ludington, Mich.		Pittsburgh, Pa. WMBO 1310	
WHBC 1200		WJAG 1060 Norfolk, Nebr.		WKJC 1200 Lancaster, Pa.		Auburn N Y.	
Canton, Ohio WHBD 1370		WJAK 1310		WKRC 550		WMBQ 1500 Brooklyn, N. Y. WMBR 1370	
Mt. Orab. O.		Marion, Ind.		Cincinnati, O.		Brooklyn, N. Y.	
WHBF 1210		WJAR 890		Oklahoma City		Tampa, Fla.	
Rock Island, Ill. WHBL 1410		Providence, R. I. WJAS 1290		II WKZO 590 I			
Sheboygan, Wis.		Pittsburgh, Pa.		Da'n Cago Mich		Memphis, Tenn.	
Sheboygan, Wis. WHBQ 1370 Memphis, Tenn.		II W JAX 900		WLAC 1470		WMCA 570 New York City	
Memphis, Tenn. WHBU 1210		Jacksonville, Fla. WJAY 610		WLAC 1470 Nashville, Tenn. WLAP 1200		I WMMN 890	
Anderson, Ind.		Cleveland, Ohio		Louisville, Ky.		Fairmont, W.Va. WMPC 1500	
WHBY 1200		WJAZ 1490		H WLB 1250		WMPC 1500 Lapeer, Mich.	
Green Bay, Wis.		Chicago, Ill. WJBC 1200		St. Paul, Minn. WLBC 1310		WMRJ 1210	
WHDF 1370 Calumet, Mich.		La Salle, Ill.		Muncie, Ind.		Jamaica, N. Y.	
WHDH 830 Boston, Mass.		H WJBI 1210		WLBF   1420		WMSG 1350 New York City	
Boston, Mass.		Red Bank, N. J.		Kansas City, Ks.		New 1 ork City	

			1001
WMT 600	WPCC 560	WSAR 1450	WWL 850
Waterloo, Iowa WNAC 1230	Chicago, Ill. WPCH 810	Fall River, Mass.	New Orleans, La.
Boston, Mass.	New York City	WSAZ 580 Hunt'gton, W. Va.	WWNC 570 Asheville, N. C.
WNAD 1010	WPEN 1500	WSB 740	H WWRL 1500
Norman, Okla.	Philadelphia, Pa.	Atlanta, Ga.	Woodside, N. Y.
WNAX 570 Yankton, S. D.	WPG 1100 Atl'ntic City, N.J.	WSBC 1210	H W W V A 1160
WINBE 1500	WPOE 1370	Chicago, Ill. WSBT 1230	Wheeling, W. Va. WXYZ 1240
Bingh'mt'n, N.Y.	Patchogue, N. Y.	South Bend, Ind.	Detroit, Mich.
WNBH 1310 New B'df'd, Mass.	WPOR 780 Norfolk, Va.	WSDA 1400	XEA 1200
WNBO 1200	WPSC 1230	Brooklyn, N. Y. WSEN 1210	Guadalajara, Jal. XEB 1091
Washington, Pa.	WPSC 1230 State College, Pa.	Columbus, Ohio	Mexico City
WNBR 1430 Memphis, Tenn. WNBW 1200	11 17 1 1 1 000 1	WSFA 1410	XEC 1133
WNBW 1200	Raleigh, N. C. WQAM 560	Montgomery, Ala. WSGH 1400	Toluca, Mex. XED 961
Carpondale, Pa.	Miami, Fla.	Brooklyn, N. Y.	Reynosa, Tams.
WNBX 1200	WQAN 880	II WSIX 1210	XEF 1132
Springfield, Vt. WNBZ 1290	Scranton, Pa. WQAO 1010	Springfield, Tenn.	Oaxaca, Oax.
SaranacL'ke, N.Y.	New York City	WSJS 1310 WinstSal., N. C.	XEG 970 Mexico City
WNJ 1450	WQBC 1360		XEH 1132
Newark, N. J. WNOX 560	Vicksburg, Miss.	Nashville, Tenn.	Monterrey, N. L.
Knoxville, Tenn.	WQDM 1370 St Albans Vt	WSMB 1320	XEI 1000
WNYC 570	St. Albans, Vt. WQDX 1210	New Orleans, La. WSMK 1380	Morelia, Mich. XEJ 857
New York City	Thomasville, Ga.	Dayton, Ohio	Juarez, Chih.
WOAI 1190	WRAF 1200 La Porte, Ind.	WSOC 1210	XEK 1000
San Antonio, Tex. WOAN 600	WRAK 1370	Gastonia, N. C. WSPA 1420	Mexico City XEL 1091
Law'nceb'g, Tenn.	Williamsport, Pa.	Spartanburg, S.C. WSPD 1340	Saltillo, Coah.
WOAX 1280 Trenton, N. J.	WRAW 1310	WSPD 1340	XEM 841
	Reading, Pa. WRAX 1020	Toledo, Ohio WSSH 1410	Tampico, Tams. XEN 720
Union City.Tenn.	Philadelphia, Pa.	Boston, Mass.	Mexico City
WOBU 580 Charlest'n, W.Va.	WRBI 1310	II WOUL 880 I	
WOC 1000	Tifton, Ga. WRBJ 1370	Iowa City, Ia. WSUN 620	Mexico City XEQ 750
Davenport, Iowa WOCL 1210	Hattiesburg, Miss	St. Petersb'g, Fla.	Ciudad Juarez
WOCL 1210	WRBL 1200	WSVS 1370	XER 1071
Jamestown, N. Y. WODA 1250	Columbus, Ga. WRBQ 1210	Buffalo, N. Y. WSYB 1500	Mexico City
Paterson, N. J.	Greenville, Miss.	Rutland, Vt.	XES 890 Tampico, Tamp.
WODX 1410	H WEBT 1370	WSYR 570	1 XET 890
Mobile, Ala. WOI 640	Wilmington, N.C. WRBX 1410	Syracuse, N. Y. WTAD 1440	Monterrey, N. L. XETA 1100
Ames, Iowa	Roanoke, Va.	Quincy, Ill.	Mexico City
WOKO 1440	WRC 950	WTAG 580	XETF 1210
P'ghkeepsie, N.Y. WOL 1310	Washington, D.C. WRDO 1370	Worcester, Mass. WTAM 1070	Veracruz XEU 800
Washington, D.C.	Augusta, Me.	Cleveland, Ohio	Veracruz, Ver.
WOMT 1210	WRDW 1500	II WTAO 1330	XEV 1035
Manitowoc, Wis. WOOD 1270	Augusta, Ga.	Eau Claire, Wis. WTAR 780	Puebla
Gr. Rapids, Mich.	WREC 600 Memphis, Tenn	Norfolk Va.	XEW 780 Mexico City
WOPT 1500	WREN 1220	WTAW 1120	XEX 1300
Bristol, Tenn. WOQ 1300	Lawrence, Kans. WRHM 1250	College Sta., Tex. WTAX 1210	Mexico City
Kansas City, Mo.	II Minnean Minn	Springfield, Ill.	XEY 547
WOK 710	WRJN 1370 Racine, Wis. WRNY 1010	WTBO 1420	Merida, Yuc. XEZ 588
Newark, N. J. WORC 1200	Racine, Wis.	Cumberland, Md.	Mexico City
Worcester, Mass.	New York City	WTEL 1310 Philadelphia,Pa.	XFC 805
WOS 630	WROL 1310	NUMBER 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Jalapa, Ver.
eff's'n City, Mo.	Knoxville, Tenn.	Toccoa, Ga.	Villahermosa.Tab
WOV 1130 New York City	II WICK 1280	WTIC 1060 Hartford, Conn.	XFF 915
WOW 590	Dallas, Texas WRUF 830	H W TMJ 620 [ ]	Chihuahua, Chih.
Omaha, Nebr. WOWO 1160	Gainesville, Fla.	Milwaukee, Wis. WTNT 1470	Mexico City
WOWO 1160 Ft. Wayne, Ind.	WRVA 1110 Richmond, Va.	WTNT 1470 Nashville, Tenn.	XFI 818
VPAD 1420	WSAI 1330	WTOC 1260	Mexico City XFX 860
Paducah, Kv.	Cincinnati, Ohio	Savannah, Ga. WWAE 1200	XFX 860 Mexico City 8WMC 720
VPAP 1010	WSAJ 1310 Grove City, Pa.	WWAE 1200	8WMC 720
New York City VPAW 1210	WSAN 1440	Hammond, Ind. WWJ 920	St. Johns, N. F. 10BP 1200
'awtucket, R. I.	Allentown, Pa.	Detroit, Mich.	Wingham, Ont.
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	Maria Land		

# The World Stations by Countries

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Country and City	Call	Kcys.	Watts	Country and City	Call	Kcys.	Watts
OCEANIA				FRENCH INDO CH	IINA		
AUSTRALIA	11112			Haiphong		3446	2500
Adelaide	5CL	730	2500	HONG KONG	. = .		
	5DN	960	100	Victoria Peak	$z_{\mathrm{BW}}$	8 <b>57</b>	1500
	5KA	1200	200	INDIA	X/X 11D	0.40	2000
Bathurst	2MK	1155	50 2500	Bombay	VUB	840 810	3000 3000
Brisbane Hobart	4QG 7ZL	760 580	600	Calcutta	VUC	010	3000
Melbourne	3AR	620	1000	JAPAN Hirasio	JHBB	7995	
Melodamo	3DB	1180	100	Hiroshima	IOFK	849	10000
	3LO	9369	1000	Kumamoto	JOGK	789	10000
	2210	800	2000	Nagoya	JOCK JOBK	810	10000
Newcastle Perth	2NC 6ML	1245 1010	300	Osaka	JOIK	750 831	$\frac{10000}{10000}$
rertn	6WF	690	1000	Sapporo Sendai	TOHK	769	10000
Rockhampton	4RK	930	2000	Taihoku	JFAK	353	1000
Sydney	2BL	9225	1000	Taipeh	JFAB	7590	
	450	855	1000	Tokyo	JOAK	869	10000
	2FC	10520 665	1000	KWANGTUNG	****	==0	5000
	2GB	950	600	Dairen NETHERLAND EA _ INDIES	JUAK	759	5000
	2KY	1070	750	INDIES	131		
	2ME	10520		Bandoeng	IBR	5170	1000
	2UE	1025	50	Batavia	PK1AA	3998	500
NEW ZEALAND	2UW	1125	100	Djokjakarta	PK2AF	5996	500
Auckland	1YA	900	500	Makassar	PK6 <b>KZ</b> PLF	7313 17640	500
Auckland	1ZO	1188		Malabar Palembang	PK4PA	59964	240
Christchurch	3YÀ 3ZC	980	500	Semarang	PK2AG	07701	
	3ZC	5996 1199	250	Surabaya	PH3CH	6662	250
Dunedin	4YA	648	500	COLUM	IPPAL ETID	2142 ODE	500
Gisborne	2ZM 2ZF	1147	160	ALBANIA	IERN EUR	OPE	
Palmerston		1049	150	Tirana			300
Wellington	2YA	718	5000	AUSTRIA		051	7000
ALGERIA	8DB	825.3	100	Graz		851	7000 500
Algiers	9DB	014	2400	Innsbruck Klagenfurt		1058 662	500
CANARY ISLANDS				Linz		1220	500
Las Palmas	EAR	1071	500	Vienna		581	15000
EGYPT		869		FRANCE	F2BD	963.1	480
Cairo		- 000		Agen	FZDD	9761	400
KENYA				Angers		1091	250
Nairobi	7LO	9640	1000	Beziers		1364.3	1500
MODOGGO		750		Biarritz		1313 1260.4	250 5000
MOROCCO Casablanca	AIN	5879		Bordeaux		986	1500
Rabat		6877	2500	Caen		1080	200
		724		Grenoble_		914.1	1500
TUNISIA	TNU	162		Juan les Pins		1219 1130	250 500
Carthage Constantine	8KR	7005		Lille Limoges		1022	500
Tunis	TUA	240	500	Lyon	YN	644	3000
UNION OF SOUTH				-	YR	1029.9	500
AFRICA		000	1000	Marsan		7462.7 750	250
Cape Town Durban	ZTC ZTD	800 789	1000	Marseilles		950	500
Johannesburg	žŤJ	9369	15000	Montpellier		1049	200
J		666		Nancy Nice (see Juan le	D'	19355	
DD10010113441414	ASIA			Nice (see Juan 16 Nimes	es Pins)	1256	500
BRITISH MALAYA Singapore	VS1A	B 7260		Nogent-sur-Sein	e F8AV	3750	
Johore	VS3A			Paris	FL	9375	15000
CEYLON			4550		FPTT	207.5 671	1000
Colombo		375	1750		F8GC	825	1500
CHINA Canton	CAB	689	1000			4262.3 905.2	
Hangchow	XGY		250			905.2	500
Harbin	COH	B 674	1000			174 967.8	13500 2000
Mukden	COM	IK 714	2000 500			7317.1	2000
Nanking Peking	COM XGZ COP	606 K 937	1000	Rennes		1103	1500
Shanghai	KRC	. 887	250	Rheims		777.2	500
Tientsin	CRC	1071	500	St. Etienne		1363.6 1200	250 500
CHOSEN (LODE 1)	COT	N 625	500	Toulon Toulouse	MRD	1175	1500
CHOSEN (KOREA) Heijo (Seoul)	JODI	K 714	1000	100.000		779	8000

Country and City	Call	Kcys.	Watts	Country and City	Call	Keys.	Watts
HUNGAR Y		, 10,50.	***************************************				
Budapest		545	20000	Nauen	AGC	17430	
		343	20000	NI	AGJ	5290	
ITALY				Norddeich		167	1000
Bolzano	IBZ	662	200	Nuremburg Schaerbeck		1254	1000
Genoa	IGE	788	1200	Stettin		1304	
Milan	IMI	599	7000			1059	750
Naples	INA	905.2	1500	Stuttgart		833	4000
Rome	IRO	680	3000	IRISH FREE STAT	Е		
<b>.</b>	IRAX	6666. <i>7</i>		Cork	6CK	1337	1000
Turin	ITO	1031	7000	Dublin	2RN	940	1500
PORTUGAL				LUXEMBURG			
Lisbon	CT1AA	942	1000	Luxemburg	LOAA	1344	10000
2100011	PIAA	983.6	500	NETHERLANDS			
RUMANIA	1 1/1/1	700.0	300	Hilversum	PFBI	1004	7000
Bucharest		545	12000	Huizen	PHI	17778	40000
	100	0.10	12000			160	10000
SPAIN				Scheveningen	PCF	279	1500
Almeria	EAJ18	1193	200	UNITED KINGDON	4		
Barcelona	EAJ1	860	7500	Aberdeen	2BD	995	1000
Madrid	EAJ13	1121	10000	Belfast	2BE	1238	1000
Madrid	EAJ2	<i>7</i> 50	750	Bournemouth	6BM	1040	1000
	EAJ7	707.6 9772	1500	Cardiff	5WA	968	1000
Salamanca	EAM	9//2		Daventry	5XX	193	25000
San Sebastian	EAJ22	662	1000		5GB	626	25000
Seville	EAJ8	633 815	1000	Dundee	2DE	1040	130
		019		Edinburgh	2EH	1040	350
SWITZERLAND				Glasgow	5SC	752	1000
Basel		941	250	Hull	6KH	1040	130
Berne		743	1000	Leeds & Bradford	2LS	1500	130
_		9375				1040	
Geneva		395	250	Liverpoo1	6LV	1040	130
Lausanne	1000000	442	600	London	2LO	842	30000
Zurich	H9XD	3529.4		3.6		1150	
		9375		Manchester	2ZY	797	1000
VIICOSI AVIIA		653	630	Newcastle	5NO	1148	1000
YUGOSLAVIA		605	2500	Plymouth Sheffield	5PY	1040	130
Belgrade		695	2500	Stoke on Trent	6FL	1040	130
Lljubljana		522	3000	Stoke on Trent	6ST	1040	130
Zugrah		072			ECV	1040	
Zagreb		973	700	Swansea	5SX	1040	130
				Swansea	5SX		
WESTE				Swansea NORTHI	5SX ERN EURO		
WESTE BELGIUM	ERN EURO	PE	700	Swansea NORTHI CZECHOSŁOVAKIA	5SX ERN EUR	OPE	130
WESTE	ERN EURO	PE 887	700	Swansea  NORTHI  CZECHOSLOVAKIA  Bratislava	5SX ERN EURO OKR	OPE 1075	130 1250
WESTE BELGIUM Brussels	ERN EURO ON4GT ON4RB	PE 887 590	700 100 3600	Swansea  NORTHI CZECHOSLOVAKIA Bratislava Brunn	5SX ERN EURO OKR OKB	OPE 1075 877	130 1250 2500
WESTE BELGIUM Brussels Chatelineau	CRN EURO ON4GT ON4RB ON4CE	887 590 1388	100 3600 200	Swansea  NORTHI  CZECHOSLOVAKIA  Bratislava  Brunn  Kosice	5SX ERN EURO OKR OKB OKK	OPE 1075 877 1023	130 1250 2500 2500
WESTE BELGIUM Brussels Chatelineau Ghent	ON4GT ON4GT ON4RB ON4CE ON4RG	887 590 1388 1219	100 3600 200 400	Swansea  NORTHI CZECHOSLOVAKIA Bratislava Brunn	5SX ERN EURO OKR OKB OKK OKP	1075 877 1023 616	1250 2500 2500 5000
WESTE BELGIUM Brussels Chatelineau	CRN EURO ON4GT ON4RB ON4CE	887 590 1388	100 3600 200	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague	5SX ERN EURO OKR OKB OKK	OPE 1075 877 1023	130 1250 2500 2500
WESTE BELGIUM Brussels Chatelineau Ghent Liege	ON4GT ON4GT ON4RB ON4CE ON4RG	887 590 1388 1219	100 3600 200 400	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169	1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG	ON4GT ON4GB ON4CE ON4RG ON4RW	887 590 1388 1219 1219	100 3600 200 400 200	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169	130 1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig	ON4GT ON4GT ON4RB ON4CE ON4RG	887 590 1388 1219	100 3600 200 400	Swansea  NOR THI CZECHOSLOVAKIA Bretislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260	1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219	100 3600 200 400 200	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300	130 1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662	100 3600 200 400 200 500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260	1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535	100 3600 200 400 200 500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488	1250 2500 2500 5000 5000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717	100 3600 200 400 200 500 700 4000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057	1250 2500 2500 5000 5000 1000 7500 500
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552	100 3600 200 400 200 500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	130 1250 2500 2500 5000 5000 1000 7500 500
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231	100 3600 200 400 200 500 700 4000	Swansea  NORTHI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	130 1250 2500 2500 5000 5000 1000 500 2000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635	100 3600 200 400 200 500 700 700 700 700 10000	Swansea  NORTHI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	130 1250 2500 2500 5000 5000 1000 500 2000 10000 100
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059	100 3600 200 400 200 500 700 4000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	130 1250 2500 2500 5000 5000 1000 500 2000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059	700 100 3600 200 400 200 500 700 4000 10000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	130 1250 2500 2500 5000 5000 1000 500 2000 10000 100
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950	700 100 3600 200 400 200 500 700 700 4000 2000 2000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	1250 2500 2500 5000 5000 5000 1000 7500 500 2000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950	700 3600 200 400 200 500 700 4000 10000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori)	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	130 1250 2500 2500 5000 5000 1000 2000 1000 100 2200
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 11059 119 950 923	700 100 3600 200 400 200 500 700 700 700 10000 20	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 2600 15300 9488 6057 3088 1013 250 735	130 1250 2500 2500 5000 5000 1000 7500 500 2000 1000 1000 2200
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 119 950 923 1319 4434	700 3600 200 400 200 500 700 4000 10000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	130 1250 2500 2500 2500 5000 1000 7500 2000 10000 1200 2200 1500 1500 750
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz Flensburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963	700 100 3600 200 400 200 500 700 700 4000 10000 2000 700 4000 4000 4000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 6116 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219	130 1250 2500 2500 5000 5000 5000 1000 7500 1000 1000 1000 1000 1000 1000 2200 1500 1500 2000
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Breslau Cologne Doberitz Flensburg Frankfort on Main	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 131 1313 1313	700  100 3600 200 400 200 700 700 4000 10000  2000 700 4000 4000 4000 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	1250 2500 2500 5000 5000 7500 7500 2000 10000 1000 10000 750 2000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz Flensburg Frankfort on Main Freiburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963	700  100 3600 200 400 200  500  700 4000 10000  2000  700 4000 1500 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 6116 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219	130 1250 2500 2500 5000 5000 5000 1000 7500 1000 1000 1000 1000 1000 1000 2200 1500 1500 2000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege  DANZIG Danzig  GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 119 950 923 1319 4434 7963 1373 769 527 7157	700  100 3600 200 400 400 200  500  700 4000 10000  2000  1500 1500 1500 3000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 166	130 1250 2500 2500 5000 5000 1000 7500 2000 1000 1000 1500 1500 1000 2200 200 4000 700 700
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 5335 717 5552 231 1635 1059 119 950 923 1319 4434 7963 1373 769 527 1157 806	700  100 3600 200 400 200 500  700 700 4000 10000  2000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1357 1219 1366 1030	130 1250 2500 2500 5000 5000 1000 7500 2000 1000 1000 1500 1500 1000 2200 200 4000 700 700
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hannover	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 119 950 923 1319 950 923 1313 769 123 1373 769 157 806 535	700  100 3600 200 400 400 700 4000 10000  2000  700 4000 1500 1500 1500 1500 4000 4000 750	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1219 1219 166	130 1250 2500 2500 5000 5000 5000 1000 7500 10000 1000 1500 10000 750 200 40000 750
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bresslau Cologne Doberitz Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963 1373 769 527 1157 806 535	700  100 3600 200 400 200  500  700 700 700 10000  2000  1500 1500 1500 1500 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn  Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1357 1219 1366 1030	130 1250 2500 2500 5000 5000 1000 7500 2000 1000 1000 1500 1500 1000 2200 200 4000 700 700
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hamover Kaiserslautern Kassel	ON4GT ON4GB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 131 1373 769 1373 1373 769 1157 806 535 11157 806 535 11157	700 3600 200 400 200 500 700 4000 10000 2000 -700 4000 1500 1500 3000 4000 1500 4000 1500 750 4000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga	5SX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1219 1009 166 1030	130 1250 2500 2500 2500 5000 1000 7500 2000 1000 100 2200 1500 1000 750 200 4000 4000 750 500
WESTE BELGIUM Brussels Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 950 119 950 1319 4434 1373 769 527 1157 806 535 536 531 1110 1219	700  100 3600 200 400 400 200  700 700 4000 10000  2000  1500 1500 1500 1500 150	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA	SSX ERN EURO OKR OKB OKK OKP OKIMPI  G2SH YLZ	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030 1560 8995	130 1250 2500 2500 2500 5000 1000 7500 2000 10000 10000 10000 750 200 750 200 750 200 1000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege  DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Brenien Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 1635 1635 1059 199 950 923 1319 4434 7963 1373 769 950 1373 1373 769 119 1219 1219 1219	700 3600 200 4000 200 500 700 700 4000 10000 2000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn  Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno	SSX ERN EURO OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1219 1009 166 1030	130 1250 2500 2500 2500 5000 1000 7500 2000 1000 100 2200 1500 1000 750 200 4000 4000 750 500
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5555 231 1635 119 950 923 1319 1373 769 517 806 535 1110 1219	100 3600 200 400 200 500 700 4000 10000 2000 2000 2000 2000 1500 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno NORWAY	SSX ERN EURO OKR OKB OKK OKP OKIMPI  G2SH YLZ RYK	1075 877 1023 616 5169 1067 260 15300 15300 735 1013 250 735 1219 11357 1219 1109 1109 1109 1109 1109 1109 1109	1250 2500 2500 25000 5000 7500 7500 2000 10000 10000 2200 10000 750 200 40000 750 200 10000 750 2000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege  DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig	ON4GT ON4GT ON4GE ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 950 923 1319 4434 7963 1373 769 527 1157 1159 1199 1291 1292 1191 1292 1191 1292 1194 1294 12	700 3600 200 400 200 500 700 700 700 4000 10000  2000 1500 3000 750 4000 4000 750 4000 4000 8000 8000 8000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno NORWAY Aalesund	GZSH	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 166 1030 1560 8995 571	130 1250 2500 2500 5000 5000 1000 7500 10000 1000 1000 750 200 40000 750 10000 750 10000 750 350
WESTE BELGIUM Brussels  Chatelineau Ghent Liege  DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hamover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963 1373 769 527 1157 806 635 1110 1219 1219	100 3600 200 400 200 500 700 4000 10000 2000 2000 2000 2000 1500 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno NORWAY Aalesund Bergen	FSX  ERN EURO OKR OKB OKK OKP OKIMPI  GSSH YLZ RYK LKA LKA	1075 877 1023 616 5169 1067 260 15300 19488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030 1560 8995 571 155	1250 2500 2500 25000 5000 7500 7500 2000 10000 10000 2200 10000 750 200 40000 750 200 10000 750 2000
WESTE BELGIUM Brussels  Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bresslau Cologne Doberitz Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven Magdeburg	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963 1373 7963 1373 7963 1110 1219 1219 1219 1219 1219	700  100 3600 200 400 200  500  700 4000 10000  2000  2000  700 4000 1500 1500 700 4000 700 4000 700 4000 1500	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn  Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno NORWAY Aalesund Bergen	5SX ERN EURO OKR OKB OKK OKP OKIMPI  G2SH YLZ RYK LKA LKA LKB LGN	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1357 1219 1357 1219 1366 1030 1560 8995 571 155 671 824	130 1250 2500 2500 2500 5000 5000 1000 2000 10000 10000 750 200 4000 750 200 4000 750 750 700 750 700 750 700 750 700 750 75
WESTE BELGIUM Brussels  Chatelineau Ghent Liege  DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin  Bremen Breslau Cologne Doberitz  Flensburg Frankfort on Main Freiburg Gleiwitz Hamburg Hamover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven	ON4GT ON4GT ON4RB ON4CE ON4RG ON4RW  PTB  AFT	887 590 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 950 923 1319 4434 7963 1373 769 527 1157 806 635 1110 1219 1219	700 3600 200 400 200 500 700 700 700 4000 10000  2000 1500 3000 750 4000 4000 750 4000 4000 8000 8000 8000	Swansea  NOR THI CZECHOSLOVAKIA Bratislava Brunn Kosice Prague  DENMARK Copenhagen Kalundborg Lyngby  Soro ESTONIA Tallinn  Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND Akureyri Reykjavik LATVIA Riga LITHUANIA Kovno NORWAY Aalesund Bergen Fredrikstad	FSX  ERN EURO OKR OKB OKK OKP OKIMPI  GSSH YLZ RYK LKA LKA	1075 877 1023 616 5169 1067 260 15300 19488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030 1560 8995 571 155	130 1250 2500 2500 5000 5000 1000 7500 10000 1000 1000 750 200 40000 750 10000 750 10000 750 350

Country and City	Call	Kcys.	Watts	Country and City	Call	Kcys.	Watts
Oslo	LKO	608	60000	Rio de Janeiro	PRAA	750	1000
Porsbrund	LKP	662	700		PRAB PRAC	93 <i>7</i> 1153	500 500
Rjukan	LKR	671 1229	1000		PRAD	857	500
Trondhjem		1227	1000	Sao Paulo	PRAE	833	1000
POLAND		734	10000		PRAO	1330	1000
Katowice Krakow		959	1500	S	PRAR	1071 706	500
Poznan		896	1500	Sorocaba		700	
Warsaw		202.5	12000	CHILE Santiago	CMAB	625	1000
Wilna		779	500	Garrerago	CMAC	804	1000
SWEDEN					CMAO	1016	250
Boden	SBE	250	600	37.1	CMAQ CMAJ	1224 1034	100 100
Boras Eskilstuna	SCA SCB	1309 1220	150 200	Valparaiso	CNIAJ	1034	100
Falun	SCC	1004	500	COLOMBIA Bogota	HJN	706	550
Gavle	SCD	1470	200	HONDURAS	123.1	,	
Goteborg	SBB SCE	931 1390	10000 200	Tegucigalpa	HRB	6005	2300
Halmstad Horby	SBH	1167	10000	PERU			
Hudiksvall	SCF	1110	150	Lima	OAX	789	1500
Jonkoping	SCH	1484	250	SALVADOR			
Kalmar	SCI	1211	200	Salvador	RUS	6 <b>64</b>	500
Karlsborg Karlskrona	SAS SCI	11760 1530	250	URUGUAY	OWO 4	<b>500</b>	1000
Karlstad	SCJ SCK	1375	250	Montevideo	CWOA CWON	700 1169	1000 200
Kiruna	SCL	1219	200		CWOR	857	500
Kristinehamn	SCM	1481 689	250 250		CWOS	789	500
Malmberget Motala	SCN SBG	222	30000		CWOW	600	
Norrkoping	SCO	1110	250				
Orebro	SCV SCW	1265	200	RUSSIA A	AND TUR	RKEY	
Ormskoeldsvik	SCW SBF	1373 389	200 600	Country and City	Call	Meters	Watts
Ostersund Saffle	SCP	1220	400	RUSSIA			
Stockholm	SBA	688	1000	Armavir	RA47	720 700	200
Sundsvall	SBD	553	600	Artemovsk Astrakhan	RA56 RA26	790 700	1200 1000
Trollhattan Umea	SCQ SCS	1129 1301	250 200	Baku	RA45	<i>7</i> 50	4000
Uppsala	SCT	662	150	Bogorodski	RA8	750	700
Varberg	SCU	1059	300	Dneipropetrovske	RA30	525 1050	1000 1200
				Erivan Gomel	RA49 RA39	925	1200
CENTRAL AN	D SOUTH	AMERIC	CA	Irkutsk	RA57	1100	500
ARGENTINA				lvanovo-		000	100
Azul	E4_	882	350	Vosnesensk	RA7	800 477	$\frac{180}{4000}$
Bahia Blanca	D5 LR1	1050 789	500	Kharkov	RA43	1700	4000
Buenos Aires	LR2	870	3000	Kiev	RA5	<i>7</i> 55	1200
	LR3	949	1000	Kourak	RA34	575	1000
	LR4	990	2000	Krasnodar	RA38 RA42	513 1000	1000 10000
	LR5 LR6	828 909	2000 1000	Leningrad	RA51	150	350
	LR7	750	1250	Minsk	RA18	860	1200
	LR8	1149	1500	Moscow	RA1	1450	40000 500
	LR9	1030 706	2000 5000		RA2 RA4	450 450	300
	LS1 LS2	1190	1000	Malchik	RA67	1075	1200
	LS3 LS4	1270	1000	Nizhni-Novgorod	RA13	840	1800
		1112	1000	Novorossisk	RA33 RA40	1117 975	4000 1200
	LS5	1076 1428	1000 1000	Odessa Orenburg	RA25	640	1000
	LS6 LS7	1351	1000	Petrozovodsk	RA46	765	2000
Concordia	T2	1330	400	Rostov-on-Don	RA14	820	4000
LaPlata	LT2	685	1000	Samara	RA22 RA32	900 420	1200 200
Mar del Plata Mendoza	D4 LT4	1410 760	100 500	Saratov Sevastopol	RA9	800	250
Rafaela	G4	1287	560	Smolensk	RA72	150	800
Rosario	LT3	1090	1500	Stalino	RA77	730	1200 1200
Tucuman	K4 G5	956 840	250 250	Stavropol Sverdlovak	RA20 RA15	550 1050	500
Venado Tuerto	Go	040	230	Tashkent	RA27	715	2000
BOLĮVIA	ODY	1000	1000	Tiflis	RA11	870	3000
LaPaz	OPX	1000	1000	Tomsk	RA21 RA44	300 690	150 1200
BRAZIL	COBE	12400		Tver Vel Ustjuk	RA16	650	1200
Bahia Juiz de Fora	SQBE PRAJ	12490 789	$\bar{2}\bar{0}\bar{0}$	Vladivostok	RA17	480	1500
Juiz de Fora Manaos	INAJ	2998	1500	Vologda	RA41	875	1200
Para		8818		Voronezh	RA12	950	1200
Pelotas	PRAD	967	300	TURKEY Angora		1600	5000
Pernambuco Porto Alegre	PRAP PRAG	1199	500	Osmanie		1200	6000
I OI to Alegie	11110	-177	000				

# FAVORITE PROGRAMS

ime Station Dials Feature	Time Station Dials Feature
DAILY	WEDNESDAY
SUNDAY	THURSDAY
MONDAY	
MONDAY	FRIDAY
TUESDAY	SATURDAY
	GATORDAT

## HOW TO TUNE A SET CORRECTLY

## Read This Page Carefully and You Can Set Your Dials Accurately for Any Station in America

Iroquois Fails, Ont.
Laramie, Wyo.
San Hiego, Calif.
Baltimure Md.
Heloit, Wie.
Lawrenceburg, Tenn.
Memphis, Tenn.
Hartford, Conn.

630 kilocycles 475.9 meters

640 kilocycles 468.5 meters

650 kilocycles 461.3 meters

660 kilocycles 454.3 meters

670 kilocycles 447.5 meters

680 kilocycles 440.9 meters

5000 San Francisco, Cal.

5000 Chicago, III.

WAAW 500 Omaha, Nebr. WEAP 50000 New York City

WMAO

5000 Nashville, Teon.

5000 Los Angeles, Calil. 5000 Columbus, Oblo

LL stations in America are listed in RADEX A LL stations in A

1st by Frequencies. 2nd by Call Letters

3rd by States and Cities
The Index by Frequencies is the one to be used. the other two are merely

WEEL WOW WEMC

supplementary.

Let us assume you have just bought your first RADEX, Proceed as follows:

Tune in some stationany station that comes in. Tune it sharply, turning down your rheostats (Volume control) until we find the marks on your dials at which it comes in most clearly and with greatest volume.

Let us assume that the station we are hearing is WEAF in New York. First we must ascertain the frequency for this station. Look it up under WEAF in the Index by Call Letters or under New York in the Index by States and Cities. In either of these indexes we find that the frequency of WEAF is 660. Now we turn to 660 kilocycles in the Index by Frequencies and Dial Numbers. Herc we find that WEAF is one of the two stations which have been assigned the 660 keys. frequency by the Federal Radio Commission. We also find that it has a power of 50,000 watts, that it is located in New York City and is owned by the National Broadcasting Co., Inc.

In the blanks for dial numbers opposite 660 kilocycles (which is the wave length of 454.3 meters) enter the dial readings of your set. It is immaterial whether your set has one, two or three dials. Use as many of three spaces provided as you need. The set used in the illustration had two dials. In this case we entered the dial readings for 660 kilocycles

Let us now tune in some other station. We repeat the same procedure in tuning and find that we are hearing, let us say, WOS at Jefferson City. Proceed as before in ascertaining the frequency of WOS. This we find to be 630 kcys. We turn to 630 in the Inex by Frequencies and enter our dial readings for this band which on the set we are using was 72-70.

We now have found that the dial numbers for 630 keys, are 72-70 and the dial numbers for 660 kcys. are 69-67. If we now will set our dials for 70-68 it is obvious we will have our set tuned for 650 keys. We listen carefully and if they are on the air and within range of our set we will tune in WSM of Nashville at this point. We then enter the dial readings for WSM opposite 650 kcys. Now it is

clear that if we reset our dials at 71-69 our set will be tuned to 640 keys, and at that point KFI of Los Angeles will be heard, always assuming, of course, that it is on the air and within range of our particular set. Now we tune in some other station, proceeding as before until after an

evening or two, we have blanks filled on every page. We are now able to

set our dials for any frequency we desire and con-

sequently any station we

may want whether we

have ever received it be-

of great value to us in identifying programs. Let

us say that we hear music

at 67-65 on our dials. We

refer to our Index by Frequencies and Dial

Numbers and we find

that we are in tune to 680 that we are in tune to 680 kilocycles. On this wave there are two stations: KPO at San Francisco and WPTF at Raleigh, N. C. Both of these

stations have 5000 watts

in power. But knowing

which is the closer to our

set, we can tell almost

invariably which station we are hearing. The Radio Commission has

had to give the same fre-

quency in most cases to

several stations but they

have distributed them

geographically so they

interfere.

not

Our index now becomes

fore or not

76 174 a Waamer, Inc. raska Wisleyan University on Elec, Illuminating Co. almen of the World hannel Missionary Collega Abiribs Power & Paper Co.
Hishop N. S. Thomas
Aldran Radio Carp.
Honumental Radio Co., Inc. i College han beloof of Music C. Inc. lers Insurance Co. 172 Lee Inc.
see City Star Co.
see City Star Co.
see Broadcasting Co., Inc.

> Electrical Equipment Co. Oregonian Publishing Co. Tampa Publishing Co. Tampa Publishing Co. Rollins College, Inc. Thompson L. Guerneey Milwaukee Journal 72 170

70 68 69 167 Omaha Grain Erchange National Broadcarting Co., Inc. 68 166

When two stations in the same locality have the same frequency, they are required to divide the time. In this case, of course, it is not possible to tell which one of the two stations is broadcasting at the particular moment we hear it, but we do

know it is one or the other of them. The second column in the Index by Frequencies, as we have seen, gives the power of the station as measured in watts. This power also aids us in identifying stations as we will not ordinarily hear those stations with 500 watts or less unless they are close to our home city.

should

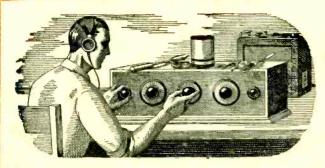
The Index by Call Letters also has spaces providing for logging dial numbers, but these are provided merely for the convenience of those who want to be able to turn instantly to some favorite station. They may or may not be used as you desire. Remember that it is the Index by Frequencies that we must use to get the most value and pleasure out of our radios.

The Index by Frequencies is now printed with marginal tabs. If you will fill in under the word "dial" your reading for this particular frequency, you can then turn instantly to any frequency desired. Take a pair of shears and cut along the dotted line, as shown.

INDEX BY FREQUENCIES AND DIAL NUMBERS 590 kilocycles 508.2 meters 600 kilocycles 499.7 meters 610 kilocycles 491.5 meters one Broads Inc.
Iftne Inc.
School of Christianity 620 kilocycles 483.6 meters 73 | 7/

> oria Bruadcaving Ass'n.
> nipeg Grain Eschange
> adian National Raffwaya
> tolo Liamas
> them College
> niville on the Air, Inc. Event ille on the Ale, in M. A. Leeve (a, Binte Marketing Bureau

67 65 Hale Bros. A The Chronicle Burham Life Insurance Co.



If all the Radio sets I've "fooled" with in my time were piled on top of each other, then'd reach about half way to Mars. The trouble with me mas that I thought I knew so much about Radio that I really didn't know the first thing. I thought Radio was a plaything - that was all I could see in it for me

# IThought Radio Wasa Plaything

## But Now My Eyes are Opened, and I'm Making Over \$100 a Week!

\$50 a week! Man alive, just one year ago a salary

Twelve months ago I was skimping along on starvation wages, just barely making both ends meet. It was the same old story - a little job, a salary just as small as

If you'd told me a year ago that in twelve months' time If you d told me a year ago that in tweive months time I would be making \$100 and more every week in the Radio business—whew! I know I'd have thought you were crazy. But that's the sort of money I'm pulling down right now—and in the future I expect even more. why, only today -

But I am getting ahead of my story. I was hard up a

because I had to be.

When broadcasting first became the rage, I first began dabbling with Radio. There's a fascination—something that grabs hold of a fellow—about twirling a little knob and auddenly listening to a voice speaking a thousand miles away!

Up to a year ago, I was just a dabbler - I thought Radio was a plaything. I never realized what an enormous, fastgrowing industry Radio had come to be employing thousands and thousands of trained men. I usually stayed home in the evenings after work, because I didn't make enough money to go out very much.

And as for the idea that a splendid Radio job might

be mine, if I made a little effort to prepare for it — such an idea never entered my mind. When a friend suggested it to me one year ago I laughed at him.
"You're kidding me," I said.
"I'm not," he replied. "Take a look at this ad."

He pointed to a page ad in a magazine I'd seen many times but just passed up. This time I read the ad carefully. It told of many big opportunities for trained men to succeed in the great new Radio field. With the advertisement was a coupon. I sent the coupon in, and in a few days received a handsome 64-page book, telling about the opportunities in the Radio field and how a man can prepare quickly and easily at home to take advantage of these opportunities. Well, it was a revelation to me. I read the book carefully, and when I finished it I made

my decision.

What's happened in the twelve months since that day, seems almost like a dream to me now. For ten of those twelve months, I've had a Radio business of my own. At first, of course, I started it as a little proposition on the side, under the guidance of the National Radio Insti-It wasn't long before I was getting so much to do that I quit my measly little clerical job, and devoted my full time to my Radio business.

Since that time I've gone right on up. They would have given me just as much help, too, if I had wanted to follow some other line of Radio besides building my

own retail business - such as broadcasting, manufacturing, experimenting, sea operating, or any one of the score of lines they prepare for you. And to think that until that day I sent for their eye-opening book I'd been wailing "I never had a chance."

Now I'm making, as I told you before, over \$100 a week. And I know the future holds even more, for Radio is one of the most progressive, fastest-growing businesses in the world today. And it's work that I like - work a

man can get interested in.

You may not be as bad off as I was. But think it over are you satisfied? Are you making enough money, at work that you like? Would you sign a contract to stay where you are now for the next ten years — making the same money? If not, you'd better be doing something

This new Radio game is a live-wire field of golden rewards. The work is fascinating, absorbing, well paid.
The National Radio Institute — oldest and largest Radio home-study school in the world — will train you inexpen-

home-study school in the world — will train you inexpensively in your own home to know Radio from A to Z.

Take another tip — No matter what your plans are, no matter how much or how little you know about Radio — clip the coupon below and look their free book over. It is filled with interesting fasts. is filled with interesting facts, figures, and photos, and the information it will give you is worth a few minutes of anybody's time. You will place yourself under no obligation—the book is free, and is gladly sent to anyone who wants to know about Radio. Just address J. E. Smith, President, National Radio Institute, Dept. 1AO, Washington, D. C.

J. E. SMITH, President, National Radio Institute, Dept. 1AO, Washington, D. C.

Dear Mr. Smith: - Please send me your 64-page free book, giving all information about the opportunities in Radio and how I can learn quickly and easily at home to take advantage of them. I understand this request places me under no obligation, and that no salesman will call on me.

Name	 
Address	 <u> </u>
Town	 
State	 