THE OCTOBER 1930

RADEX INDEX

The Magazine that Doubles the Pleasure of Radio



World Stations Indexed by Countries
Television is Making Progress
Electrical Devices that Cause Interference
The 1930 Football Schedule

HOW TO TUNE A SET CORRECTLY

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

INDEX BY FREQUENCIES AND DIAL NUMBERS

590 kilocycles 508.2 meters Spokune, Wash, Lincoln, Nebr, Huston, Mass. Omaha, Nebr, Berrico Springs, Mich

600 kilocycles 499.7 meters

610 kilocycles 491.5 meters

620 kilocycles 483.6 meters

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 WMAQ 5000 Chicago, Ill.

680 kilocycles 440.9 meters

WPTP 5000 San Francisco, Cal.

WAAW 500 Omalia, Nebr.

5000 Nauliville Tenn.

WALL

WSM

5000 Columbus, Ohio

Jon Troquois Falis, Ont. Laramir, Wyn. San Diegn, Catif. Jon Hairlmore, Md. Holoit, Wts. Jon Lawrenceburg, Tenn. Mempits, Tenns. Jon Lawretord, Conn.

Sen Prancisco, Calif. Kansas Giry, Mo. Philadelphig, Pn. Philadelphia, Pn. Kansas City, Mo.

Phoenia, Arta, Portfand, Ore, Tarore, Fin. Oriendo, Fin. Doser-Foscoolt, Me. Milwaukee, Wis.

A LL stations in America are listed in RADEX in three tables:

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

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 (Volcontrol) 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. Here we find that WEAF is one of the two stations which have been assigned the 660 kcys. 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

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. case we entered the dial readings for 660 kilocycles ая 69-67.

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 keys. We turn to 630 in the Index 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 keys, are 69-67. If we now will set our dials for 70-68 it is ohvious we will have our set tuned for 650 keys. We listen carefully and if they are on the 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

76 174 uls Wasmer. Inc.
rbraska Wesleyan University
Itani Elec. Illuminating Co.
loodness of the World
memoruel Misstonary College immanuel Missionary Coney
Libitibl Power & Paper Co.
Bishop N. S. Thomas
Mirlan Radio Guep
Monumental Radio Co., Iac.
Herbit College
Kushan School of Wusle
Kushan School of Wusle
Laveler's Insurance Co. on Lee, the, and the control of the 73 | 7/ Electrical Equipment Co. Oregonian Publishing Co. Tampa Publishing Co. Rollins College, Inc. Thompson L. Guernsey Milwaukre Journal Earle C. Aerhany, Inc. American Insurance Union 70 168 1 National Life & Accident Inc. Co. 69 167 1 Omehn Grain Fachange National Broadensting Co., Inc. 68 66

Chicago Dally News, Inc.

67 1 65

evening or two, we have blanks filled on every page. We are now able to set our dials for any frequency we desire and consequently any station we may want whether we haveever received it before or not

Our index now becomes of great value to us in 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 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 frequency in most cases to several stations but they have distributed them geographically so they should not interfere. When two stations in the same locality have the

same foculty in a temperature of the through 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 sey are close to our home city.

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 Inder by Frequencies is now printed with marginal tals. 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.

THE OCTOBER 1930



RADEX REG. U. S. PATENT OFFICE



FRED CLAYTON BUTLER

Editor and Publisher

Ŀ	EVENTH YEAR Contents NUMB	ER 42
	Frontispiece Jeannette MacDonald, Film Star and Soprano Her Voice was Heard Recently in California Melodies, CBS	
	For Radio Fans and Puzzle Fiends Another Cross-Call Sticker	3
	Prescriptions for Trouble, by J. B. Smith Technical Editor Discusses Defects	6
	"This is What I Think" Letters to the Editor	10
	For the DX TouristsComments by Aerial Explorers	15
	High Frequency Interference, by G. R. Walters Nearby Devices Cause Much Trouble	24
	Clipping the Air, by "The Pretzelite" Interesting Items Picked Out of the Press	2 6
	Key to Chain Stations Ready Reference Table for Dial Numbers	27
	What's On the Air Tonight? Hour-by-Hour Index to Chain Programs	28
	A Complete Index by Frequencies Cross-Indexed by Dial Numbers and Wave Lengths	36
	A Complete Index by States and Cities With Key to Location of Station on Broadcasting Map	50
	A Complete Index by Call Letters A Log for 750 Stations	56
	Broadcasting Stations of the World Listed by Countries and Cities	61

Published Monthly Excepting July and August See Subscription Blank on page 65

THE RADEX PRESS

1367 East 6th Street

Cleveland, Ohio

Copyright 1930 by F. C. Butler. Printed in U. S. A.

TELEVISION is MAKING PROGRESS

Six-Foot Screen Can Now be Used

NTIL recently, progress in television was practically at a standstill, at least as far as the public was concerned. After television's first splurge, when very indistinct definition of picture was hailed quite successfully, and only the "peephole" method of picture reception was possible, permitting only one person to see it at one time, this promising plaything was taken back into the laboratory for improvement. So, while the public forgot it for awhile, many important advances have been made, and now television comes out again, growing older and bigger. From the peephole stage it has now graduated to a 6-ft. screen, visible to a large audience. This remarkable improvement is due mostly to the invention of the highfrequency light valve which was of German origin, but was successfully applied to television by Dr. E. F. W. Alexanderson of the General Electric Co. at Schenectady, N. Y.

The light valve is a substitute for the neon tube, formerly used for television reception for the purpose of converting the varying electrical impulses to light waves of corresponding intensity. The glow of the neon lamp can be varied many times per second so that a different value of light is emitted each time one of the pin holes in the scanning disk passes in front of it. When the neon tube is observed from the opposite side of the scanning disk, each hole of the latter describes a horizontal line across the vision hole into which the observer is looking, producing the illusion of a picture consisting of many shaded lines. The variations of shading of each line, of course, determine exactly what you see, and the variations of shading are caused by varying luminosity of the neon lamp. To project the illumination produced by a neon tube on a large screen was found impossible. The strong light of an arc lamp, which is generally used for projection purposes, was then resorted to and this beam of light had to be controlled in the same way as the glow of a neon lamp, which has been accomplished by means of the light valve.

Obstacles Overcome

There were two obstacles encountered with the use of the arc lamp for this nurnose, both of which were successfully overcome. The first obstacle was that when a shutter with a pin hole was used in front of the beam of light, the ray striking the screen did not have a clearly defined edge, and was not confined to a desired portion of the screen. In other words, transverse rays of light, which were at a slight angle to those in a perfectly straight line, had to be eliminated. The second obstacle was that the intensity of the arc light, in its original form could not be varied instantaneously many times per second, whereas this is of prime importance in television, just as in the case of a neon lamp. By converting the original arc-light rays to parallel, polarized rays, both of the above objections were overcome. Transverse rays were eliminated and polarized light rays can be accurately controlled in respect to their intensity by passing them through a magnetic of electrostatic field. The production of such a polarized beam of light was accomplished by passing the rays through a lens system, through a Nicol prism and finally through a nitrobenzol solution, forming the dielectric of a condenser. The signal impressed on the condenser plates bends the light rays a trifle, causing shades of luminosity to appear on the screen after the ray passes through the pin holes of the disk. The light valve just described is thus analogous to the grid of an ordinary radio vacuum tube. Perfect synchronism of voice and television signal is obtained by the fact that both are transmitted simultaneously over different wavelengths, and both are converted to pictures and sound and at the receiving end without any need of using mechanical methods as is necessary in synchronizing sound and pictures in the talkies.

	1	2	3	4	T			5	6	7	8	
9	-	10		+	11	+	12			13	+	14
15	16	1	17	+	+-	18	+	-	19		20	21
22	23	24		25	26	27	28	29		30	31	32
33	1	34	35	+	36		37	1	38	39	†	40
	41	42	-	43	-			44		45	46	+
_	47	48		49				50		51	52	t
53		54	55		56	+	57	+	58	59		60
61	62	63		64	65	66	67	68		69	70	71
72	73		74			75	-		76	-	77	78
79	1	80			81		82	1		83	+-	84
	85	86	87	88	-			89	90	81	92	+

For RADIO FANS and PUZZLE FIENDS

UR offer of one of those new RADEX Radio Maps of North America for the correct solution to the September puzzle, just about swamped us with replies. We know that those who succeeded in winning one of the new maps will find the prize well worth the effort. The deadline date for this offer is September 28th and here's hoping you sent in your answer to reach us before that date. This is the correct solution of Mr. Roberts' well-worked-out puzzle:

WWNC WEW KWKC CMC F C CMK KTLC KOA WFJC Y KFXD CNRL R **CFHWFAA** WOKOXKFQAKICK L G CMBCW E E WBAKFELKGKXEX WJDXONW X KSCJ WELK W WKJC OGK CFNB KOB A A WBZ CBSW KPQ WPAA

Raymond M. Bell, 55 Wilson Street, Carlisle, Pa., sends in three lists of world stations, each of which contains the full alphabet without duplication. Mr. Bell

uses eight calls in each list and points out that "at present a seven-station list is impossible. There are now no five-letter broadcast calls. Sweden's four-letter calls have been changed to three-letter calls. Thus in your list in June LOV is now LR5 and SMZP is now SCR. In the September list, PHOBI is now PHI and SMZO is now SCH."

In submitting his solution, Howard B. Hubbard, 358 Windsor Avenue, Stratford, Conn., writes: "Horizontal 24-26 is marked 'recently taken over by the N.B.C.' KOA is not a 'recent' acquisition of the NBC. I looked up all the possible K-A combinations and KOA is the only NBC station that fits." When we used the phrase "recently taken over by the NBC" we meant it had been purchased by that corporation and not merely added as an outlet. Until the May RADEX, KOA was shown as the property of The General Electric Co. Beginning with May it appeared as the property of the National Broadcasting Co.

Mr. Hubbard also says: "Vertical 6-25 calls for a 'long-deleted Lansing station.' I have RADEX back as far as midsummer, 1929, and find no Lansing

station listed." Once in a while, it seems to be absolutely necessary to use a deleted station in order to make up a puzzle at all. We try to limit deleted calls severely but once in a while our puzzlers just must use one. WREO is the station referred to in 6-25. This was for years the station of the Reo Motor Car Co., of Lansing, but has, in fact, been "long-deleted" having appeared last in RADEX in October, 1926.

Hadley Simmonds, 23 Clyde Street, Hamilton, Ont., asks that we publish a short article on the various slogans of the various states in the Union. His point is that readers in Canada do not know that Kentucky is the "Blue Grass State" or that Iowa is "Where the Tall Corn Grows." His criticism is very well taken and we occasionally forget that RADEX is an international publication. We will try to remember this in future and not use descriptions which, after all, are localisms. We fear it would not be possible for us to compile the voluminous list which would be necessary.

The cross-call this month was worked out by Edward C. Houlgate, 388 Waterloo Street, London, Ont. It contains two deleted calls but both have died just recently, having appeared as late as the May RADEX. For correct solutions of Mr. Houlgate's puzzle, we offer an extra copy of the November RADEX.

Horizontal

1- 4 A new railroad station 5- 8 Radio Corp. on an island.

10-11 Shares time with two other 500-watters in same state.

12-13 In a state having only three stations. 15-16 Last two letters of a Canadian printing company

17-18 A daily newspaper. 18-19 Frank D. Fallain (reversed). 20-21 First two letters of station in I-25.

22-24 5000-watt daytime state college station (reversed).

25-28 1000-watt college station sharing time with another college in same city.

26-29 An insurance company (reversed). 30-32 Shares time with Kingshighway Presby-terian Church.

terian Church.

34-35 Last two letters of 500-watt daytime station in New England.

36-37 First and last letters of sister station of WTAM, just deleted.

38-39 Two middle letters of Italian Educational Broadcasting Co.

41-43 Shares time with two stations having same

owner.

44-46 Columbia outlet in the Keystone state. 47-49 1000-watts in the "Smoky City." 50-52 Pacific Western Broadcasting. 54-55 Two middle letters of a labor station (reversed)

56-57 Last two letters of grain exchange station. 58-59 First two letters of Montivideo stations.

61-63 NBC outlet in "The State Where the Tall Corn Grows."

64-67 A broadcasting company in Florida. 65-68 Formerly Daily News station (reversed).

69-71 250-watts in far west with permit to increase power. 72-73 Second and last letters of a battery broad-

casting company. 74-75 On 1420.

75-76 An agricultural college in the East (reverse). 77-78 First two letters of an insurance company.

80-81 C. R. Cummins.

82-83 100-watts incorporated (reversed). 85-88 One of four 5000-watters sharing wave and time.

89-92 A college in the "Show-me" state (reversed). Vertical

2-10 First two letters of station now CMC. 3-17 Former key station (reversed).

4-25 1000-watt Inc. on Columbia chain (reversed).
5-29 In Talladega (reversed).
6-19 Ten kilowatts.

7-13 Last letters of 82-83. 9-33 One of thirty-one 100-watters on this wave.

11-36 100-watt university (reversed). 12-37 In a "Lake."

14-40 Last three letters stand for the state.

16-23 Last two letters of a Chatham station. 18-27 Two middle letters of "News and Journal."

20-31 First and last letters of Southern Equipment

24-48 On a wave with several Canadian and U.S. stations.

30-51 A publishing company on C.B.S. 35-55 A French newspaper.

38-58 A Canadian university

41-47 First two letters of six stations.

42-63 100-watts in Ontario (reversed). 43-49 Last letters of Boston station.

44-50 First and last letters of pioneer Ohio station. 45-69 100-watts Broadcasting Corporation

South (reversed). 46-52 Last letters of Chicago Tribune (reversed).

53-79 College station on Pacific Coast.

56-81 Sunday station deleted this month (reversed).

57-82 Last three letters are owner's initials. 60-84 Last three letters are the first three of the

city 62-73 Last two letters of a station in Jeanette. 64-88 Marquette University.

Abbreviation for a kind of current. 66-75

68-89 Ten k.w. sharing wave with a five. 70-77 Last letters of a Canadian member of N.B.C. 74-87 500-watt city-owned station.

76-90 At the end of the dial. 80-86 First two letters of 10-11.

83-91 First and third letters of station operating short wave station W9XAA.

Signals from any broadcasting station more than 50 miles distant are subject to fading. Fading is composed not only of a change in volume but also in many cases in a change in the quality of the signals.

Reinald Werrenrath, celebrated baritone, from now on will be a fixture of the Camel Pleasure Hour, broadcast every Wednesday evening at 9:30 o'clock, Eastern daylight-saving time, over WJZ and associated stations. He has signed a long-term contract to broadcast exclusively for the Camel Pleasure Hour.

Upen this FREE BOOK SUCCESS

and you open the door to

 $Y^{
m OU}$, too, can be trained for a worth-while radio job...Clip this coupon now and send for this FREE BOOK...Read it page by page ... see for yourself why thousands of fellows just like you are now on the road to success in Radio ... why hundreds of men are now cashing in on RCA Institutes' practical training. This free book gives you 40 fascinating pages of pictures and text, all about RCA Institutes, the only school that is endorsed by the Radio

Corporation of America... The school that ac-



tually is a part of the great world-wide radio industry.

Easy to Learn Radio at Home in Your Spare Time

Let the RCA Institutes' Home Laboratory Training Course give you the real inside facts of radio...quickly and easily. Use your spare time to train for success with the remarkable outlay of screen-grid apparatus given to every student of this course. You learn how to solve every radio problem such as installing, repairing and servicing fine sets. You also learn ship, shore and broadcast station operation. This is the training that will help you to make money in radio!

RCA Graduates in Big Demand

For more than 20 years, there has been a wellpaid position in Radio waiting for practically every graduate of RCA Institutes-mechanics, operators, service men, etc. Only the vast resources of RCA could give you this practical training ...

Send for this Free RCA Book "Radio ... the Field of Unlimited Opportunity"

Start today on the road to Success in Radio ... Send for this FREE BOOK. Every page is packed with pictures and text telling you all you want to know about RCA Institutes, the oldest and foremost Radio training organization in the world. Radio can easily be YOUR ROAD TO SUC-CESS... That's why you should

Clip this Coupon NOW!

RCA INSTITUTES INC.

The World's Finest Radio Instruction
By America's Oldest And

A Division of Radio Corporation of America

RCA INSTITUTES, Inc.
Dept. RX-10, 75 Varick Street, New York
Gentlemen: Please send me your FREE 40-
page book which illustrates the opportuni-
ties in Radio and describes your home
laboratory method of instruction.
Name

Occupation.....

Please mention RADEX

PRESCRIPTIONS for TROUBLE

By J. B. SMITH Technical Editor

At present I have two 171A tubes in push-pull at the output end of my receiver. I would like to change to 245 tubes, which are said to be superior. Would you advise such a change and what must be done to make it?

Yes, you will find that better reception and more volume is possible with 245 tubes as they have a greater amplification factor than the 171 tubes, which you are using at present. In order to use 245 tubes in your amplifier it is necessary to reduce the filament voltage to 2.5 volts, increase the plate and grid voltage to 300 volts and insert an 800-ohm resistor in the grid line.

I have a tuned radio-frequency receiver with a detector and two stages of audio, and it is supposed to be used with an outside aerial. We are now located in a flat where it is practically impossible to have an outside aerial. When we use an inside aerial the set picks up the local stations faintly, and it is entirely impossible to get any distant stations at all where we could get them

formerly. What do you suggest?

If it is impossible to have an outside antenna, which would be the simplest solution to your problem, get a lightsocket antenna, which plugs into any convenient receptacle such as a wall outlet and utilizes the entire network of wires in your house-lighting circuit as an aerial. If this does not give the desired results take the set to a radio shop and have one or more screen-grid tubes installed, depending on how many stages of r.f. you have in your set. Most likely new coils having larger primaries will be needed in conjunction with the screengrid tubes. If you can do the work yourself, well and good, but remember that there are circuit changes to make. I am answering another inquiry which gives instructions how to proceed in making the change to screen-grid tubes which will also be of help to you.

I have a Case all-electric receiver with a Farrand electro-dynamic loudspeaker

which is suspended from rubber bands in order to reduce microphonics. There is a periodic growl in the set which increases in volume as the volume control of the receiver is turned up. Removing the speaker from the set does not remedy the trouble and we are at a loss to locate it, so request your help.

The plate voltage on your tubes may be too high, causing them to oscillate at times, particularly the r.f. tubes, and also the detector. Try to reduce the voltage on the r.f. plates by cutting a Clarostat in the line, which will enable you to control the voltage accurately. Too much plate voltage on the detector often causes it to be microphonic, or at least increases this tendency, and the reduction of detector plate voltage in the same way as suggested above, may be found an effective remedy. Also try a "howl arrestor" on the detector tube, for it seems to me that your trouble is a microphonic. Another possibility for temporary overloads of plate voltage on your tubes exists in the house-lighting circuit. If it is subject to surges of higher



Will Rogers who "Squibbs" at 10 p.m. EST Sundays, with his orchestra leader, Freddie Rich, and announcer, David Ross

voltage, as the case often is, the plate voltage of the tubes is increased proportionally, which may start a howl. Borrow an automatic line-voltage regulator of the better type and connect it between the wall outlet and the receiver cord according to the instructions which accompany it, and note whether or not the trouble continues. If not, it is the solution to your problem. The possibility also exists that the noise is due to external interference such as a motor in the neighborhood. Sometimes the characteristic crackling of motor interference is of such a frequency that it resembles a low growl.

Our radio receiver works satisfactorily, but when I connect a magnetic pickup unit to it to reproduce phonograph records, the reproduction is muffled. There is a volume control connected across the two leads of the unit and I thought that the trouble might lie here. Another disadvantage of the pickup unit is that it wears out the records in a comparatively short time. Perhaps you can tell me what causes my trouble and how I can remedy it?

Your trouble is undoubtedly in the pickup unit itself which is perhaps defective or of poor design. The muffled reproduction is not caused by the volume control. If the pickup unit is of the cheaper variety, it may not be correctly designed and may lack proper counterbalance. If it is rather heavy and the whole weight rests on the phonograph record, it is no wonder that the latter is quickly worn out. I suggest that you purchase another unit of the better kind, one that is light in weight and properly balanced. It is also a good idea to have the new one tested before purchasing it. You might have your old one tested at the same time to compare it with the new one which will satisfy you that the trouble really exists in the unit.

Will you tell me why loop-operated receiver will not tune to the higher wavelengths although the lower wavelengths come in fine?

If the loop was purchased separately, that is, was not provided with the set by the manufacturer, and therefore not properly matched to the set, the trouble will probably be found right here. Too

Dorothy Hall, dazzling blond principal of the Broadway Musical Comedy, "Flying High," bakes biscuits in the model kitchen of the Radio Home Makers' Club, a C.B.S. feature



little inductance of the loop or of the secondary windings of the r.f. coils is to blame for your trouble. Try another loop having more wire on it and consequently greater inductance, and if this does not help, remove the r.f. coils and provide a secondary winding that has at least 10 more turns than the present one. Just how many turns are needed in your particular case depends on how high wavelengths you can get. If a station that should come in near the mid-point of your dials, cannot be brought in at all, quite a number of extra turns will be necessary.

I have two stages of r.f. in my receiver and would like to install screen-grid tubes. Will you kindly send instructions for doing this correctly, and inform me whether or not such a change would improve reception?

Screen-grid tubes have more amplification value than ordinary 201A tubes and for this reason are highly suitable for r.f. amplification, for which they are primarily designed. Ordinary r.f. coils usually have too small a primary winding for use with screen-grid tubes. About three times as much wire should be used as at present for the primaries, or if desired, coils especially made for use with screen-grid tubes, may be purchased. Obtain a filament ballast for each screengrid tube and connect one in each negative line that runs to the tube socket. The grid lead is removed from the socket and an additional length of insulated, stranded wire is soldered on, the end being soldered to a clip for attachment to the top terminal of the tube. The G-post of the socket is then connected to the B-positive 45-volt line. A fixed condenser of .5-mfd. capacity, is connected across the B-45 volt and filament negative lines. Undoubtedly the rewiring of the set with new coils having larger primaries and the use of screen-grid tubes will cause it to tune broad, which is, of course, an objection if you are fairly close to any broadcasting station.

On my dry-cell set I am using 4-volt storage battery, which has been satisfactory, but so much corrosion forms on the battery terminals that I began to suspect that the voltage of the charger, which is made for use on 6-volt batteries, might be the cause. It is a trickle charger and its maximum capacity is one-half ampere. Do you think that this charger is injurious to the bat-

teru?

Your 6-volt charger will not injure the 4-volt storage battery. It is excessive current that ruins a battery by charging it too fast, and there certainly is no risk in your case as your charger only passes one-half ampere. Corrosion always forms on storage-battery terminals, especially the positive one. Clean them off thoroughly with a solution of baking soda and water and wipe off dry. Then, after the connections have been properly tightened, apply some soft grease or vaseline to each terminal, using a small brush to apply it and being sure to get the entire surface of the metal covered. This will prevent the air from getting in direct contact with the metal, and thus oxidation, which is largely responsible for the corrosion, is retarded.

In trying to modernize my old receiver I installed a 210 tube in the last audio stage, using a 7½-volt transformer supplied with raw a.c. to provide filament current, and supplying 350 volts plate potential with a suitable power pack. As an output choke I am using the secondary winding of an old audio transformer, and a 2-mfd. fixed condenser is connected in series between the output choke and the loudspeaker which is of the dynamic type. Low notes do not reproduce and I often notice a certain amount of overloading. Where should I look for the trouble?

Lack of reproduction of the low notes is caused by the output choke you are using because its effective inductance is too low, and the heavy plate current running through the choke causes a saturation of the core. The remedy is to get a choke especially designed for the purpose and then the condenser can be eliminated as it will not be needed.

Recently electric buses have been put in operation here. They have a double trolley which is suspended over the street. Since these buses have been put in service, and they run right past our house, there has been so much radio interference that it is impossible to enjoy a program. All the people living within a distance of two blocks on either side of the street as far as the buses travel, are troubled in this way. Many radio service men have been employed but to no avail. Will any change in the sets eliminate the trouble or have you better suggestions how to get away from the interference?

Interfering signals of the kind you have been picking up on the antenna of your receiver, are like static, practically beyond the control of set owners, and there is really no effective method of preventing this interference from getting into the set by any means employed at the receiving end. The only effective cure for this condition must be made at its source, and therefore it would be advisable to send a neighborhood committee to the bus company to make a complaint. By installing choking and absorption devices much of the trouble can be eliminated and it is up to the bus company to correct the trouble as its

(Continued on page 18)

Byrd's Antarctic Radio Equipment

The advanced types of receivers, transmitters, and navigation aids that triumphed on this epochal flight now fully described in this book.

Television

Mr. C. F. Jenkins, father of television and radio movies, gives you in his own words complete directions for building practical television equipment.

Interference Elimination

Tracking down troublesome interference and eliminating it, systematically outlined by W. F. Fleming, radio engineer.

Radio Auto-Alarm

New automatic device on ships to keep the SOS watch while operator is off duty—fully described in this book.

Latest Broadcasting Equipment

Temperature-controlled Piezo crystal oscillator, 100% modulation panel, and other new apparatus, completely described, with instructions for operation.

Short-Wave Apparatus

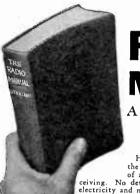
Latest types of commercial and amateur short-wave apparatus; directions for securing operator's and station license.

Marine and Aerial Radio Equipment

Radio beacons; are radio transmitter for ships; Reed course indicator; latest developments in high frequency transmitters.

New Developments!

Complete Instructions and Data on All Recent Radio Inventions Now Yours For Ready Reference in This One Big Guide Book of Radio



RADIO MANUAL

A Handbook for Students, Amateurs, Operators and Inspectors

Here's the answer to every question about the principles, operation and maintenance of apparatus for radio transmitting and receiving. No detail has been omitted, from elementary electricity and magnetism for the beginner to television and radio movies. Important new chapters have been

added to bring it right up-to-the-minute, and an immense volume of facts never before available is now presented in the
book. Included are detailed descriptions of standard equipment, fully
illustrated with photographs and diagrams. It is now more than ever the
one complete handbook covering the entire radio field.

A Complete Course in Radio Operation in One Volume Enables You to Qualify for Government License 20 Big Chapters Cover:

Elementary Electricity and Magnetism; Motors and Generators; Storage Batteries and Charging Circuits; The Vacuum Tube; Circuits Employed in Vacuum Tube Transmitters; Modulating Systems and 100% Modulation; Wave-meters; Piezo-Electric Oscillators; Wave Traps; Marine Vacuum Tube Transmitters; Radio Broadcasting Equipment; Arc Transmitters; Spark Transmitters; Commercial Radio Receivers; Marconi Auto-Alarm; Radio Bescons and Direction Finders; Aircraft Radio Equipment; Practical Television and Radio-Movies; Eliminating Radio Interference; Radio Laws and Regulations; Handling and Abstracting Traffic.

Prepared by Official Examining Officer

The author, G. E. Sterling, is Radio Inspector and Examining Officer, Radio Division, U. S. Dept. of Commerce. The book has been edited in detail by Robert S. Kruse, for five years Technical Editor of Q. S. T., the Magazine of the American Radio Relay League, now Radio Consultant. Many other experts assisted them.

Examine it FREE!

The latest edition of "The Radio Manual" has just been published. Nearly 600 pages, 369 illustrations. Bound in Flexible Fabrikoid. The coupon brings the volume for free examination. If you do not agree that it is the best Radio book you have ever seen, return it and owe nothing. If you keep it, send the price of \$6.00 within ten days.

MAIL THIS COUPON TODAY

_	
	D. Van Nostrand Co., Inc., 250 Fourth Ave., New York. Send me the Revised edition of THE RADIO MANUAL for examination. Within ten days after receipt I will either return the volume or send you \$6.00, the price in full. (Radex 10-30)
	Name
	Street and Number
	City and State
	Business Connection.

Please mention RADEX

"THIS is WHAT I THINK"

Comments Pertinent and Pertinacious

THE appearance of the September issue of this magazine, after a two-- months vacation, brings us a number of heart-warming comments. RA-DEX is welcomed back like a friend that has been on a long trip. Thus Paris C. Brown, 4130 Prytania Street, New Orleans, writes: "I just today received my September copy of RADEX, and you cannot imagine how glad I was to do so and to be able to start to read up on what is going on in this radio world of ours." Mr. Brown also hails the appearance of the new Radio Map of North America, saving: "If you will recall, I have been after you for such a map for the longest kind of a time and I am mighty glad to know that at last you have succeeded in producing it."

Joseph Stokes, 7313 Woodlawn Avenue, Swissvale, Pa., is one of many who write that they miss their RADEX during July and August and hopes we can arrange to print every month next year. We wish we could too but there is no use denying the fact that other interests and hobbies crowd out radio during the summer months. Baseball, golf, touring and other out-of-door sports must have their inning but interest in radio comes back with renewed vigor in the early fall. Radio is, of course, an indoor sport and hence reaches its heights in the winter. By the way, isn't it fortunate that Nature cooperated to give us the very best conditions in the winter-time? Wouldn't it have been just too bad if that had been the static season?

The great majority of our readers secure their RADEX from the newsstands. If they were all yearly subscribers, we would be most glad to publish monthly but as we must reach them through the stands and radio stores and, as we have demonstrated to ourselves at great expense, their interest in the vacation season turns to other things, we find it not only best but absolutely necessary to take a vacation

ourselves during July and August or publish at a loss which, you may not know, is a most unpleasant proceeding.

Station Queries

"Are KPWF and WCOA off the air? I do not find them listed in the current RADEX?" This from Wilfred Siddle, 3417 7th Court South, Birmingham, Ala. KPWF has had a construction permit for years but we understand the station has never passed the blue-print stage. The government records still shows them as having a permit but we have deleted them until they start something so our readers will not waste their time trying to tune in a station that doesn't exist. WCOA was deleted during the summer.

"There is one thing that RADEX could do for some of us," writes Howard B. Hubbard, 358 Windsor Avenue, Stratford, Conn., "and that is find out whether such stations as WLIB and WBOQ are ever on the air. If they are not, why not delete them? They are just tantalizing." There are a number of stations which, having absorbed others, retain two calls. The government records still show both calls but perhaps one of the calls is never used. Who knows?

Hadley Simmonds, 23 Clyde Street. Hamilton, Ont., submits the facts regarding CPRY. He explains "CHRY was the assigned call of the Hotel Royal York when they first commenced operating under this phantom call. They were given this call temporarily by the Canadian government until reply was received from the Bolivian government which was assigned the prefix letters CP by the International Radio Conference. When permission was received from the above mentioned government to use the letters CP, our government issued the call CPRY to CHRY whose studios are located in the Royal York Hotel (recently built and the largest hotel in the British Empire) as this hotel is operated by the Canadian Pacific Railways of Canada. You may safely list the station as CPRY as I have an Ekko stamp sent by them in verification."

Raymond M. Bell, 55 Wilson Street.

Carlisle, Pa., contributes the information that, a year ago at least, the Santo Domingo station was HIX using 1000 watts on 670 kcys. Karl Halpern, 1435 Coney Island Avenue, Brooklyn, N. Y., sends us a clipping stating that all radio communication with Santo Domingo ceased at 4:30 p.m., September 3rd, and that there was an unconfirmed report that the radio station in that city had been demolished by the terrible hurricane then raging. As we now learn that all

rising against the advertising tirades now encumbering the ether?

Ekko Stamps

We have received a number of inquiries regarding station stamps and how to secure them. The above-named stamp was devised by The Ekko Company in October, 1924. They produced an engraved stamp which they could print with the call letters of the station to whom they sold a supply. Listeners could send their statement of reception to the

Musicians and entertainers at WLW, WSAI, in their new costumes of bright blue linen smocks and berets, trimmed with bands of bright red. Left to right, Tom Richley, xylophonist and drummer; Eugene Perazzo, pianist; Don Becker, ukulele player; Louis Chaliff, clarionetist; Ralph Haburton, program manager; and Ray Moore, bass valuer



but about 100 buildings in that city of 40,000 were destroyed, it is probable that HIX is in ruins.

"Detroit radio stations will have a newcomer in their midst when station WJBK gives its inaugural program Sunday," says a clipping sent us by Alvin Jex, 110 Cotterberry Street, Sarnia, Ont. "The station will be located on the 21st floor of the Fort Shelby Hotel and will broadcast on a frequency of 1370 kcys." The last paragraph is interesting. "The station will not carry any special advertising announcements that are not connected with a musical program by the same company. This is the first time this has been tried out in a Detroit station." Is this a straw indicating that the wind of public opinion is station with ten cents and, if the report was correct, the station would verify the reception by sending one of these stamps. The company also supplies "Proof of Reception Cards" to make it easier for the listener and an album in which to paste the stamps received. Many listeners have compiled most interesting collections of these stamps but unfortunately they have gotten into the hands of speculators. John Malone, Box 195, Lacon, Ill., sends us a page from another radio magazine which contains an advertisement offering to send three station stamps, no two alike, for ten cents. This, of course, destroys the original purpose of the stamps and throws them into an undeserved disrepute as evidence of reception.



Harry Green, who plays the title role in the screen production of "Kibitzer," recently heard in the humorous monologue in Hollywood in the Paramount Publix Hour, CBS

A number of stations, in replying to our recent questionnaire, state that they have brought out stamps of their own in an effort to prevent deception.

Some Inquiries

"I am captain of a steamboat using d.c. current and would like to put in an electric radio on board but have been told that a.c. sets cannot be used on d.c. current and I don't like a battery set. Is there a d.c. set on the market?" This letter from Mason E. Webster, 602 S. Division Street, Salisbury, Md., caused us to compile a list of manufacturers who make d.c. all electric sets and we are publishing this list in another column for the benefit of others, who like Captain Webster, have recourse only to direct current.

From Robert H. Silverman, 135 South 17th Street, Philadelphia: "Is there any attachment for a.c. radios that will successfully or partially remove static generated by elevators, electric refrigerators, washing machines and the like?" If these devices are your own you can apply filterettes to each of them which will

eliminate or greatly minimize interference. Write to The Tobe Deutschmann Corp., Filterette Division, Canton, Mass., for a copy of their book "Radio Noises and Their Cure," price 25 cents.

Sergeant O. B. Hutcheson, Ward 12, Water Reed Hospital, Washington, D.C., writes for information regarding a converter that would take 32 volts d.c. and turn out 115 volts a.c. so that a person with a Delco or similar lighting plant could use an ordinary a.c. radio receiver. Such a device was described in the April RAPEX. We repeat that it is known as the Kato Konverter and is manufactured by the Kato Engineering Co., of Mankato, Minn.

"Can you give me the name and address of some manufacturer or wholesaler who puts out short wave sets or short wave kits?" asks J. G. Van Dyke, Bigelow, Minn. There are many manufacturers both of sets and kits for short waves and any good radio dealer should be able to secure either for his customers. If they cannot, readers may write to us and we will give them the names of houses which can supply them.

Miss Brinkerhoff Replies

"In reply to letters sent to you concerning my failure to receive verifications from stations and especially KSL, won't you please print this letter in your next issue in justice to me?" writes Miss Carrie Alice Brinkerhoff, 317 Clinton Avenue, Oak Park, Ill. "It is indeed strange as I wrote to KSL five times, having heard them first November 11, 1929. Once I wrote after a special broadcast of canary birds singing in their studio, once after a religious service, once at Christmas, once after Christmas, 1929, and again when they had their special celebration, but I never received a reply although my name and address was plainly given each time.

"Many times just a postal card to a station has brought to me wonderful replies accompanied by illustrated pamphlets describing their city and station, so KSL still remains a mystery for me but I certainly enjoy listening to them always."

(Continued on page 14)



BROADCASTING Stations demand bettertrained men.





TALKIES Studio and theatre apparatus requires trained men.





AVIATION Trained radio men needed more and more.



TELEVISION Great new branch of radio soon to call for many trained men.

R. T. I. HOME TRAINING includes all these and the other branches of Radio. You learn under F. H. Schnell, "The Ace of Radio," and the R. T. I. Advisory Board of prominent radio men.

R. T. I. TRAINS YOU AT HOME for the Better Paid Radio Jobs

Do you want to get into some branch of Radio where trained men can easily make \$40 to \$50 weekly—where some earn \$75 to \$100 per week—find out how R. T. I. trains you at home for this well-paid work—earn an extra \$10 to \$20 per week in spare hours while learning-Then step into radio and go steadily on up to Big Money.

TELEVISION and Talking Pictures, Too

Be prepared for Television! Learn Talking Picture Apparatus installation, adjustment, etc. Both of these great branches of Radio are included in the R. T. I. practical training. Why does the radio industry want men trained the R. T. I. way? Because you learn under experts—leading men in different branches of Radio—well-known specialists of high standing

RADIO & TELEVISION INSTITUTE Dept. 857, 4806 St. Anthony Court, Chicago, Ill.

OPPORTUNITY BOOK FREE R.T.I. starts you right—and helps you on to success—The big R. T. I. Radio Opportunity book explains every-Send for it Continue Reportant thing. coupon or

e Hold of John Heart House the Langue of St. Selection of John Selections

write.

Please mention RADEX

"What I Think"

(Continued from page 12)

Wants Time on the Air

"Your magazine is complete in every detail for the dx-ers' benefit except that you do not give the time that a station is on the air." Thus thinks Harry E. Varrelman, 53 Jefferson Avenue, Brooklyn, N.Y. "I suggest that you write to the stations asking for their schedule and then publish it, either in the next issue of RADEX or separately in the manner of your radio map. For example WHAZ is only on Monday night 8 to 12 and Tuesdays 7 to 12. If I hadn't seen this time schedule in a magazine which does not appear any more, I would probably never have heard this station." We have explained before that the full time-on-the-air data regarding each station would be altogether too bulky to warrant our giving it space in RADEX. Mr. Varrelman's idea about publishing it in a separate book which could be retained as permanent reference is a new thought and it might be done. We wonder if our readers would want such a book enough to pay say ten cents for a copy?

Ships at Sea

"This is a complaint about the interference problem which does not bother listeners of the inland cities." comments F. C. Wilks, Ossining, N. Y. "Many of the ships which come into New York harbor, carry spark sets with notes positively heartrending to listen to. These spark sets cover one end of the dial to the other, something unavoidable fifteen years ago but not today. Why does the Radio Commission allow spark sets anyway?" All we can say is that spark sets are being replaced as fast as possible, on inland waters, at least, but many of the ships entering New York harbor are of course outside the jurisdiction of the Federal Radio Commission as they are ships of other nations. We fear there is no immediate relief from this most annoying and deplorable situation.

Some Deletions

We are this month deleting the following stations: WBBS, Boston, Mass.; WRK, Hamilton, Ohio; WCHI, Chicago, Ill. Regarding these stations, the Federal Radio Commission writes: "Station WBBS has not been licensed since July 31st. Their application for c.p. to move transmitter, install new equipment, change frequency and increase power and time of operation, was designated for hearing but no date has been set. WRK has not been licensed since July 31st: no application for renewal of license has been received from this station. WCHI has not been licensed since April 30th. Their application for renewal of license and request to move studio was scheduled to be heard today (September 2nd) but applicants defaulted.

SETS for DIRECT CURRENT

The following manufacturers are listed as having a model designed for the use of direct current:

All-American Mohawk Corp., North Tonawanda, N. Y.

American Bosch Magneto Corp., Springfield, Mass. F. A. D. Andrea, Inc., Jackson, Orchard and Queens, Long Island City, N. Y. Nathaniel Baldwin, Inc., 1601 S. Michigan Ave.,

Chicago, Ill. Carteret Radio Lab., 254 W. 18th St., New York,

Colonial Radio Corp., 25 Wilbur Ave., Long Island City, N. Y. Crosley Radio Corp., Arlington Ave., Cincinnati,

Ohio. Colin B. Kennedy Corp., 212 W. Ewing Ave., South

Bend, Ind.
Philadelphia Storage Battery Co., Ontario and C Sts., Philadelphia, Pa.
Pierce-Airo, Inc., 113 Fourth Ave., New York,

N. Y

Pioneer Radio Corp., Plano, Ill. Stewart-Warner Corp., 1826 Diversey Parkway, Chicago, Ill. Stromberg-Carlson Telephone Mfg. Co., 100 Carl-

son Road, Rochester, N. Y. Westinghouse Electric & Mfg. Co., 150 Broadway, New York, N. Y.

A Fine Rugby Cowhide Football RREE

Official size, two-piece handmade bladder with rawhide lace and needle complete. Any boy may secure this fine football by sending us two annual subscriptions to RADEX, or selling 14 single copies.

THE RADEX PRESS

1367 East Sixth Street Cleveland, Ohio

FOR the DX TOURISTS

THOSE of us who cannot travel around the United States experimenting with radio will be interested in the results of such a trip just completed by Karl Halpern, 1435 Coney Island Avenue, Brooklyn, N. Y. His letter follows:

"Hello, Mr. Editor: Hope you had a good vacation. I have just come back from an auto trip through Canada, Mexico and the United States. There were two of us on the trip. We had a radio installed in the car and we also had a "Traveler" portable along. Some of the reception was really great. The car was a Dodge. We had the aerial strung around the top of the car—about 120 feet of wire.

"When we arrived at Montreal we could hear the 'Big Four' of New York like some of the locals up there. We pulled in a string of new stations. We totaled 477 stations received for the trip. Boy, some record. The trip took thirty-five days. When we arrived in Texas,



Bill and Bertha, of Perkinsville, try to figure out how two can live as cheaply as one and yet eat more. Bill and Bertha are the financiers of Perkinsville, who reach you through WLW on Sundays and Thursdays

Readers' Reports of Their Air Travels

the reception was terrible. The Cuban and Mexican stations heterodyne on the U. S. waves. How they can listen to a radio down there is more than I can see.

"While passing through California, heard of some dandy record. A Mr. Wm. MacDonald, of Chula Vista, has received 1222 radio stations. Here is a little dope on three foreign stations: 4YA, Dunedin, New Zealand, on 462* meters, 649 kcys., can be picked up great at about five o'clock EST. 5CL, Adelaide, Australia, on 733 kcys., can also be picked up at about the same time. JQAK, Dairen, Kwantung, on 395 ms. 759 kcys., send me their program. Time of Meridian 120 E. 7:00-7:05 p.m. News, 7:06-7:29 Russian language; 7:33-7:38 Japanese music; 7:41 to 8:46 same.

"With the new stations received on the trip, I now total 756. My best catch is KFIU, Juneau, Alaska, on ten watts, verified. Tell C. M. Falconer, of Baltimore, that I too have a verification from KGU, Honolulu, dated January 9, 1930."

The World List

The list of foreign stations was compiled by us by checking authentic French and English sources against each other and we felt that it was as nearly correct as was humanly possible to make it. Frank A. Johnson, 317 West Englewood Avenue, Chicago, however, has checked this list against his own record of reception and verification and advises us that he finds many cases of disagreement. Inasmuch as Mr. Johnson has 30 Trans-Pacific stations all verified and over 70 European stations verified, we expect to correct our list as rapidly as possible, benefiting from his experience.

We want this list of world stations to be as authentic as our North American list, although we can probably never hope to have it so. Our readers will readily realize the difficulty of keeping up with changes in world stations, as there is no one source of information but we must try to keep abreast by watching a dozen different reports. We hope our readers will bear with us in this undertaking for a month or two.

The Buffalo Mix-Up

Last month we showed Station WMAK as having two frequencies which was the only way we could interpret the report of the Radio Commission. J. W. Brauner, 17 East Spring Street, Williamsville, N. Y., sends us the following explanation and we are correcting our records accordingly:

"About the Buffalo situation, WMAK was sold to the Buffalo Evening News, holders of the WBEN construction permit. This transmitter has been completely rebuilt and is scheduled to return to the air under the new call WBEN on September 8th. They will use 1000 watts on 900 kcys. So WMAK should not be listed on 900 any more."

Mr. Brauner comments on our short-wave list as follows: "I have read nearly every radio magazine ever published and I am ready to claim that RADEX is positively the best on the market today. There is absolutely nothing to compete with it. Your only weak spot is the short-wave log which is hopelessly out of date. I don't mind this for I belong to the International Short-Wave Club which has a magazine devoted to short-wave radio and its log is corrected monthly just as your B. C. station log is."

We have found it very difficult to secure a list of short-wave broadcasting stations that were broadcasting regularly and not merely experimenting now and then. There are, of course, thousands of short-wave stations, but only very few are regularly broadcasting programs. We hope to re-arrange this list in the very near future.

DX Honesty

Mr. Brauner thinks that we ought to make sure in some way that the records we publish are the truth, although he admits that "it is impossible to distinguish between real DXers and just plain liars." We have stated before that for us to attempt to verify statements made to us is utterly out of the question. We can see no possible advantage to

anyone in stretching the truth in reporting DX reception. Mr. Brauner thinks that because some of these records are made in large cities that many other DXers in those cities ought to be able to secure similar results. We do not believe that this follows at all. DXing is a fine art and requires a combination of a great many factors in addition to the highest skill and patience. Because one man succeeds in a certain locality is no indication at all that someone else in that same locality should have similar success. Very probably an identical set a block away would not secure identically the same results.

We find that our reports of DX reception are of great interest to our readers and we will have to continue taking these reports with the belief that they are offered us in the utmost good faith.

The Short-Wave Club

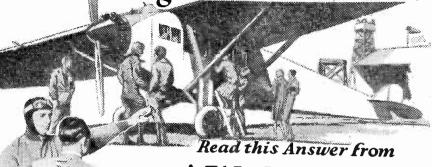
Regarding the International Short-Wave Club referred to by the above correspondence we quote the following from a letter from Arthur J. Green, President, Klondyke, Ohio:

"The International Short-Wave Club is an organization of short-wave broadcast enthusiasts, striving through the interchange of information and ideas to make reception of short-wave broadcasting more interesting. Our membership on the first day of August covered 22 countries and possessions. The fees are one dollar a year, which are expended in printing and mailing a monthly magazine sent to members. This magazine contains all the latest information gathered by our members on short-wave stations, schedules and development in short-wave broadcasting and reception.

"We are pleased to state that on October 4 we are presenting a special program over W9XAA, Chicago, on 49.34 meters. A number of rewards have been donated by dealers in shortwave equipment to be given for excelence in reports on this program. The program will be in English, French, German, Spanish and other languages."

Another Society

John Malone, Lacon, Illinois, writes us that he is organizing an American (Continued on page 21) "How can I get into Aviation?"



AWorld Famous Trans-Atlantic Pilot

O succeed in Aviation—to make BIG MONEY—it is not necessary to be a pilot. There will have to be thousands of pilots, of course. But for every plane that flies, there's an immediate need for forty trained men to fill important jobs right on the ground. There have to be construction, motor and instrument experts—managers, service foremen, salesmen—and skilled craftsmen of almost every kind. All of these jobs pay big money—all of them are stepping stones to still bigger money. Aviation offers more opportunity for good starting salaries and rapid advancement than any other field. It's the world's fastest-growing industry. And NOW, while there are plenty of places on the "ground floor"—is the time to get into it.

Get Your "Ground-work" NOW at Home, Hinton Will Train You

Walter Hinton, the world-famous Trans-Atlantic pilot, will train you QUICKLY—right at home—for a big-pay place in Aviation. In a course of instruction which experts pronounce the most resmarkable ever produced, he will give you the facts about plane construction, motors, theory of flight, navigation, instruments, and a whole lot more. He gives you the practical knowledge you need to fill ANY job in ANY branch of Commercial Aviation. Furthermore, he helps you get that job—helps you turn his training into actual cash. All over the country, men who are now actively engaged in Aviation owe their start and their success to Hinton. Get the facts QUICK. Find out how he can train and start YOU. Mail the coupon now.

Aviation Institute of U.S.A., Inc.

Walter Hinton, President
1115 Connecticut Ave., Washington, D. C.

Get His FREE BOOK

Walter Hinton

NC-4, first plane to fly the Atlantic. He also piloted the first plane from North to South America—and was

first aerial explorer of the jungle regions of the Upper

Amazon. During the War he was one of the crack flying instructors of the U.S.

Navy. He is ready to train you-right at home-as he

is training hundreds of others—for big pay and a big future in Aviation.

This FREE Book, "Wings of Opportunity," is your first step to Success. You can take that step—by clipping the coupon and sending for your FREE copy—right now.

	_	
Devole baul-	a Watabara at	and Oreinh !
Rush back	to Washingto	on quick

WALTER HINTON, President, 377-P Aviation Institute of U. S. A., Inc., 1115 Connecticut Ave., Washington, D. C. Send at once my FREE copy of your book, "Wings of Opportunity."

Name_____ Age_____ Age____

Please mention RADEX

Wing or

Trouble Prescriptions

(Continued from page 8)

apparatus is at fault. Where the pleasure of so many citizens is at stake, it would seem only fair that the bus company should take steps to correct the trouble and thus avoid being a public nuisance. If such a complaint does not prove effective in getting results, take the matter up to the city council. At the receiving end, the pickup of such interference can be minimized, it is claimed, by the use of a buried antenna, which can be obtained for a few dollars at almost any radio store or mail-order concern. Such an antenna is entirely shielded and has a lead-covered wire leading to the receiver. Freedom from atmospheric disturbances including static, are the advantages claimed for this product. As mentioned before, the trouble can not be corrected at the receiving end, but it is possible to minimize it.

In order to improve the tone quality of my set I made up a push-pull audio amplifier using 171A tubes and I provided a B-eliminator that produces sufficient voltage for these tubes. Now there is a high-pitched squeal in the speaker which I cannot cure. Do you think that it is caused by incorrect wiring or by the eliminator?

Very likely the cause of the squeal cannot be traced to the eliminator. Recheck the wiring with the diagram, and also see that the grid and plate leads do not run close together, do not run parallel to each other, that no plate lead comes close to a grid terminal of the tube socket or coupling device, and that the grid leads are as short as possible. Very often it occurs that such a squeal is due to an unbalanced condition in the pushpull stages, which can be remedied by bridging a small bypass condenser across the secondary winding of the input transformer of the push-pull stage. Any size condenser from .00025 to .001-mfd. capacity can be used for this purpose.

When I use a baffle board as is customarily recommended in radio magazines, I find that the a.c. hum of the dynamic speaker is greatly increased. Using the speaker without the baffle eliminates the hum

entirely. Will it injure the speaker to use it without a baffle?

Operating a dynamic loudspeaker without a baffle such as is generally recommended, is not injurious to the speaker but defeats the object of the speaker itself, namely the faithful reproduction of low tones which is not usually possible with a magnetic type of speaker. You will notice that the low tones will be heard distinctively when the baffle is used, but that they are ab-



Here we have the Senator and the Major, Brad Brown and Al Llewelyn of the LaPalina Rhapsodizers, who appear Sunday nights at 8 o'clock EST and Wednesdays at 9:30 over the Columbia System

sent or very faint without the baffle. The a.c. hum, which is more pronounced when using a baffle, can often be eliminated, or at least minimized, by connecting a uni-lateral condenser of large capacity across the field winding of the speaker, these condensers being made especially for the purpose.

At times there is an annoying scratching noise of irregular frequency in my speaker. The receiver is a new one and I have not been able to find the trouble. When I remove the aerial I can still get the signals of local stations, but very faintly, and it seems as if the noise is not present when the aerial is thus disconnected.

The information you give is sufficient to go directly to the seat of the trouble. Inspect your aerial. You will undoubted-

ly find that it is brushing against the building or against the branches of a tree, or is grounded in some other way, particularly during wet and windy weather, which accounts for the scratching noise in your receiver. You might install a light-plug antenna, which will eliminate the trouble permanently.

In experimenting with my set I find that by removing the C-bias from the first audio tube, the volume is increased and therefore I do not see the advantage in using the bias. Also, I have installed two sockets in parallel on the last audio stage. Whwere one 112A tube was formerly used, I now use two 201A tubes, which produce more volume than the 112A tube. Why are power tubes used when ordinary tubes requiring less voltage and are cheaper, give better results?

The sole object you had in mind when making the changes in your receiver was volume without consideration of tone quality. I admit frankly that you have achieved your object but only at a sacrifice of factors usually held far more important than volume. The last few vears manufacturers of receivers have made remarkable progress in making receivers that will deliver excellent tone quality. This has been done by improving the speakers, circuits and in providing power tubes. Although the 112A tube does not give the loudness you desire, you will nevertheless find that it gives pure and clear reproduction without any appreciable distortion. Distortion is also produced by removing the C-bias on the first audio stage, which will be noticed by those who can distinguish between a pure and a false tone. This characteristic can even be detected by means of a milliammeter cut in series with the plate lead of this tube. You will then notice that the needle fluctuates badly when no grid bias is provided.

SEPTEMBER GIRL

Inadvertently we failed to give in last month's issue the interesting information that the winning personality illustrated on our cover was that of Ginger Rogers, the well-known movie star, who recently appeared in a Columbia program.

A Peculiar Ground

In an interesting letter, Mrs. L. R. Ledbetter, 1004 Belmont Street, Vicksburg, Miss., describes a puzzling result she recently achieved in experimenting with a ground. Perhaps others may want to try this device. Her letter follows:

"First I want to thank you for your answer to my inquiry of some months ago. It is remarkable—the individual attention RADEX gives its subscribers.

"I would like very much to know if you can give me a solution for a very unusual thing—at least unusual to us. Having recently moved and having no ground connection, I decided that was the cause of so much interference even though I seldom used the ground wire at the other location except on the short antenna post, at the same time using the regular antenna on the other post, thereby getting more and better reception.

"This morning I located a ground wire that had been used for a telephone, evidently, which was running right into my room through a hole in the outside wall. I had no insulated wire so proceeded to use regular twisted lamp cord. I connected one of the two wires of this to the ground post on my set (an eighttube and ballast Brunswick) and one wire to the ground wire. Immediately the noise disappeared and volume increased. And here is the problem:

"I found by inspection that I was using the brown striped wire on one end and the red striped on the other! I untwisted the wires and used one—and again reception was entirely spoiled by crackling noises. The radio dealer told me to connect both wires to each end—and that doesn't work. I believe that the principle employed in the ground is the same used in making socket antennas, is it not? It certainly appears absurd to me, but I most positively had to twist those wires back together and use them as I had at first."

Mrs. Ledbetter is quite right in her assumption that she accidently used the same principle as is employed in socket (Continued on page 22)

NEW MAP is a BEAUTY

HE long-promised Radio Map of North America is now off the press and ready to mail. We are sure our readers will agree that it is well worth waiting for. The two-page map formerly included in each copy of RADEX, was altogether too small to serve the purpose. Then, too, it showed only the United States and our friends in Canada, Cuba and Mexico were entirely out of the picture. At first we planned to replace this map with a four-page insert but we found that even four pages were too few in which to show all the stations from Edmonton and St. Johns, on the north, to NBA and TIX, on the South. We therefore decided to get out something really worthwhile.

The new map occupies a space equivalent to twelve pages of RADEX. It is printed in two colors and is marked in squares approximately 100 miles across. To avoid confusing detail all geographical markings which have nothing to do with radio are omitted. The name of every city in which a broadcasting station is located, is clearly shown in its proper place. The squares are keyed to correspond with the symbols following the names of each city in the Index by States and Cities. Thus any city desired may be instantly located by referring to this key.

At the bottom of the map is a scale of miles so that the distance between any two cities on the North American continent may be quickly found. This, we believe, is far preferable to the old Table of Distances on which it was possible to show only one city in each state. The time zones are accurately marked in color according to the latest laws and regulations. The Index by States and Cities is reproduced in the map just as it appears in each issue of RADEX. In addition there is a short course in scientific tuning with a sample page of Index by Frequencies for the use of those who have never learned the pleasure there is in tuning a radio set by the RADEX method.

The map is bound in a cover similar to the parent publication and, on the whole, is a child of which RADEX is quite proud. The price of the new map is twenty-five cents but, for a limited time, we are offering a copy free with each yearly subscription to RADEX, or both a map and a leatherette cover free with either two subscriptions for one year or one subscription for two years.

RADIO as YOU GO

Radio has joined hands in earnest with the automobile this year to spread entertainment to the highways of the country.

While the idea of installing a receiver in the motor car is about as old as broadcasting itself, the plan is attracting wider attention now that better receivers are being built to function out where the tall structures of the city blend into a horizon that is broken only by waving trees and fields of grain.

In the past, difficulty was encountered in building a receiver that would operate properly when bumping along any kind of a country road. Now such receivers, which are battery supplied, have been improved in design to the point where vibration of the tubes has been practically overcome.

Radio in an automobile does much to ease the strain of a long drive, according to Lieut. Donald S. Leonard of the Michigan State Police, who has just returned to Detroit from a long tour to Washington, D. C., New York and Philadelphia in a police patrol car equipped with radio. "Passengers are less inclined to talk to the driver while listening to a radio program," he says.

The cast of Mystery House, NBC's serial melodrama which has been running for many months, is wondering if the following letter from a member of its audience in Washington, D. C., is a knock or a boost:

"I am an old lady 92 years of age, and I would appreciate it if you will advise me if Mystery House is near an end as I should like to know what the conclusion will be before I die."

The DX Tourists

(Continued from page 16)

branch of the Anglo-American Radio Society, whose English offices are at 11 Hawthorne Drive, Willowbank, England. While the plans for this organization are not entirely complete, Mr. Malone outlines a number of activities which will be undertaken including a radio contest to be held between October 11 and April 11.

Other clubs devoted to radio include the following: Newark News Radio Club, Irving R. Potts, President, 215 Market Street, Newark, N. J. Chicago Daily News DX Club, Charles J. Gilchrist, Secretary, care The Daily News. Chicago, Illinois. Buffalo Evening News DX Club, E. K. Bame, Secy.-Treas., 16 Kaufman Road, Buffalo, N. Y. The Evening Telegram Listeners' Club. 233 Bay Street, Toronto 2, Canada, Mr. Young, Radio Editor. If our readers know of any other clubs which are functioning we will be glad to learn about them.

DX Comments

F. C. Wilks, Ossining, N. Y., reports the reception of KHIJQ, the airplane "New Arbella," which was on tour of the United States celebrating the Tercentenary of Massachusetts' founding. It was on the third harmonic of 230 keys.

Ralph D. Ohlwiler, 19 Taft Street. Southbridge, Mass., reports hearing VAS many times last winter, but states that he has been unable to secure verification. We doubt whether VAS will verify, as this is a commercial station which broadcasts weather reports to fishermen on behalf of the Canadian government. Mr. Ohlwiler states that he has now received stations on 95 of the 96 broadcasting channels.

"I have a nine-tube all-electric set and no two tubes are matched, in fact they are all a different make. Notwithstanding this, I have dialed over 410 stations in the United States alone and have one recorded from every state in the Union." This report is from Wm. Bowers, Toledo, Ohio, "Have dialed 18 Canadian stations, five in Mexico, five in Cuba, and HHJ in Haiti. Picked up KPPC, a 50-watt station in Pasadena,

Calif. On July 7th I picked up the following western stations: KFI, Los Angeles; KHJ, Los Angeles; KNX, Hollywood; KFAD, Oakland; KSL, Salt Lake City; KOA, Denver; KFEL, Denver: KEX, Portland; KJR, Seattle, and KMIC, Inglewood, Calif. I have verifications from all these stations." This is certainly some record for a midsummer day.

Cadet Theodore H. Erbe, of the McDonogh School, McDonogh, Md., a member of the Newark News Radio Club, reports that 2XIP, at Horseheads, N. Y., has shut down. N. Tuchinsky, 3436 Filbert Street, Philadelphia, reports that among his best catches are WNAD, Norman, Okla., CFCN, in Calgary, CFBO, in St. Johns, N. B., and HJL, in Bogota, South America. He asks for the correct frequency of 2YA in Wellington, New Zealand, 2BL in Australia, and JOAK in Japan.

"Three or four months ago you published a letter of mine regarding my log," writes Alan Locklin, 150 Brampton

Have You a Hobby?



Here's one with a real thrill to it

Build Model Airplanes!

Enjoy these long, cool evenings in this most fascinating of all pastimes. A hobby that has depth, education, and marvelous romance!

We Supply Everything

The hobby-kit on the Cleveland Amphibion (pictured above), modeled after the famous Sikorsky, contains full-size drawings, easy-to-follow instructions, and all materials. It's a beauty when finished and flies like a bird. Makes a stunning radio or mantle piece. Postfree to any part of the world, only \$3.30.

Free Lance Models at \$1.25 Complete kits, containing everything needed, at only \$1.25 each. (12 different planes, including Lindbergh's ship, Hawk's record-breaker, etc.). Note-

book catalog explains fully. Send NOW for Note-book Catalog Lists kits from 59c up; outline draw-

Navy. ings of full-size planes. Brimful of interest. Send 25c for your copy TODAY.

Chief Engineer of Cleveland Model & Supply Co., former-ly Chief of De-sign Section, Bureau of Aeronautics, U. S.

Captain

Richardson

CLEVELAND MODEL & SUPPLY CO. Model Engineers - 1866D W. 57th St., Cleveland, O. Road, Syracuse, N. Y. "I have received many letters asking as to the make of my set, length of aerial, etc. I use a Zenith Colonial using three 227, six 226, one 210 and one 281 tubes. My ground is a cold-water pipe and my aerial is 75 feet long and about 40 feet high. I get all of my DX on the loud-speaker, as I never use headphones."

"The best catch I ever made," writes Joseph J. Becker, 415 South 11th Street, Hamilton, Ohio, "was KFPM, Greenville, Texas, on 1310 kcys. and using only 15 watts. For a ground, I drove a 5%-inch copper wire and a one-inch copper pipe in the earth for about five feet and I connected my ground wire to these and soldered it firmly. Every other day I water my copper ground and I find this ground is much better than a water pipe. I have a long aerial of about 85 feet and a short one of about 30 feet.

R. A. Butts, 203 South Main Street, Ellensburg, Wash., describes his unusual ground as follows: "It consists of one sheet of copper 28 x 40 inches and nine old, heavy-duty "B" batteries buried ten feet in the earth. I find that this ground improves my radio reception about 85%."

A Peculiar Ground

 $(Continued\ from\ page\ 19)$

aerials, namely that of the fixed condenser. Using one of two twisted wires at the set end and the other at the ground end really made a condenser which by-passed into the ground the high-frequency current while there was no actual connection of set to ground. The current passed by induction from one wire to the other and, in Mrs. Ledbetter's case, gave happy results though why this was so, we will have to leave to the engineers to decide.

The New Radio Map is FREE with a year's Subscription



Henry Burbig

ONSIDER yourself introduced, please, to Henry Burbig. And don't bother apologizing for your glove. All he cares about is making you laugh. And that has been his task for more than three years on the Columbia Broadcasting System. Long before this, however, he began to special in laughs.

His nurse testifies that he giggled instead of cried in the cradle. But the earliest authentic record of his professional activities starts in his fourteenth year. At this not-so-tender-age—like Byron, Bryant, and other child wonders—he managed to bring a pencil into contact with a piece of paper, and turn out some sentences with a title attached, "Levinsky's Wedding" he called it.

Well satisfied with himself, he rushed to an actor friend, who rushed him in turn to a booking agent, and this gentleman, to complete the concatention, rushed him into vaudeville, an odd haven for such a young fellow. But as good a starting place as any for the circuitous road to theatrical success.

"I set to work at once," Henry explained blandly, "playing one town after another, but when I reached Syracuse my dad caught up with me, and hauled me back to school."

"So I began wrestling again with the three 'R's' and learned the essentials of forgery in order to doctor up my report card. I finished somehow, and actually forded my way into Fordham, to study real doctoring. Six months of this was enough. I hungered for the footlights

and the fame, and finally threw up the chances of having a doctor's office with the usual old magazines, to return to the cachination business.

"Once back in vaudeville, I played every state in the Union, including Oshkosh, taking time off to play only Tom Thumb golf, miniature pool, or perhaps it was Lilliputian lotto.

"Finally my act gave way to my digestion. Food out in the one night stands put me on the blink, so I walked back to New York, and began all over again. Took a job at Dr. Rhenish's Health Institute and started in violently developing other people's biceps!"

Soon after, Henry was stationed at a

out, found a spot on the Vitaphone Hour with Eddie Cantor, signed up with CeCo and appeared over the Columbia Broadcasting chain. Now he's doing something new, "Syncopated Histories," preparatory to the series for Necco, beginning September 6th.

Henry is easily recognizable in a crowd, if the crowd isn't too big. He leans toward rotundity. His cheeks are round and pink and he's always in the pink of condition, except when in love. And he is always in love because he is continually afraid that nobody loves a fat man.

"I have qualities, I suppose," he admits modestly, when describing himself. "My eyes are large and glowing.



Members of the Hank Simmons' Show Boat Company gathered around their big birth-day cake recently to celebrate their second year on the air. A good time was had by all. Left to right: Edith Thayer (Jane McGrew), Frank Readick (Happy Jack Lewis). Laurance Grattan (DeWitt Schuyler), Edith Clinton (Lette Simmons), Brad Sutton (Frank Miller), James F. Ayers (George Morris), Harry Swan (Joe Carroll), and Elsie May Gordon (Maybelle).

New York hotel as director of the hostelry gym, a happy circumstance. For across the hall was the hotel radio station. Henry made friends with the announcer there, and he, in turn, made friends with Henry. Between visiting biceps, radio and risibilities the two almost lost their jobs.

Then all of a sudden Henry read "Levinsky's Wedding" over the air, gratis, and from that time on he shot as fast as a fat man can shoot, to fame. One thousand letters poured in the next day to attest his worth; and one thousand more when he graciously read, gratis again, "Little Red Riding Hood." The air being everywhere, Henry spread

I have big feet and an asthmatic wheeze. Under strictly critical conditions, I have amagnificent capacity for looking stupid."

Henry's theories about laughter and the radio—"A twist of a word does it," he says. "Just making black-eyed Susan a cock-eyed blossom.

"It's the most serious work I know, my part in being funny. And aside from talking about myself, I like nothing better than talking about myself."

Back of this insouciant self-satisfaction, Burbig has a through-going interest in comedy. He slaves over his pieces. He tries them out on his friends. He gives his audience the very best of which he is capable.

HIGH FREQUENCY INTERFERENCE

By G. R. WALTERS

NE of our really big problems in the matter of radio interference is high frequency. Perhaps you know it by some other name such as Violet Ray, X-ray and diathermy.

We can dismiss X-ray from our discussion for several reasons. In the first place X-ray machines are almost invariably installed by factory experts in down-town office buildings. These rooms are shielded and unless they are being used in the treatment of cancer or some diagnosis, they are only operated for a few seconds at a time. They are seldom used at night and they operate at frequencies outside of the broadcast band. X-ray machines except in extremely rare cases, do not distrub radio reception.

I wish I could say as much for Violet Ray and diathermy. The operation of a professional size diathermy can be heard in a radio receiver at distances varying from one block to five miles. When one of these machines is in operation all radio reception must cease within a radius of four blocks. In many cities the practitioners using these machines have established themselves in purely residential districts. Some of them give treatments far into the night.

I can best describe the noise they make as a continuous buzz which starts suddenly and continues from fifteen to twenty minutes. It covers the entire broadcast band if you are close to it and peaks around the center of the dial if you live some distance from the source. The volume of this interference is so great that it will split the parchment of a dynamic speaker. In several cases they have ruined radio tubes. It requires a somewhat elaborate job of filtering and screening to correct this interference.

This equipment can be silenced. I have operated a radio receiver within five feet of a diathermy which was properly shielded and filtered and heard no interference.

The four walls, the ceiling and the floor should be covered with what is known as sixteen mesh iron screen which

should be thoroughly grounded. This can be covered with plaster board or celotex and cannot be seen. A filter on the service line will permit none of the interference to either radiate or feed back on the lines. When this is done a next door neighbor can use a radio without interruption and the practitioner can give treatments with a clear conscience.

In Southern California within the service range of KFI-KECA, there are twenty-three ordinances which make it unlawful to operate equipment which creates preventable interference. Some of these protect the radio listener between the hours of 6 and 11 p.m. and others for the full twenty-four hours.

A word to those who have received specifications on antenna and grounds. There is only one proper way to install it. First, you must not use ordinary wire for your lead-in but the kind with either lead or metal covering. Your dealer will tell you about it if you ask him. Perhaps this wire is not available everywhere but your dealer can get it for you.

Try to place your antenna about thirty to thirty-five feet from the ground. Do not connect your antenna to this shielded wire until you have removed all interference from your radio receiver. You may need a filter to do this. And once more let me tell you that unless you have interference present in your set, it would be a useless expenditure to install one

I would suggest that you make your installation in such a manner that you can disconnect the ground wire from the metal sheath of this if necessary. When you do this you have a regular antenna such as we have always known.

If you are using a pipe and salt ground, hammer the end together or to a point, it will drive easier. Drill a series of holes in the side walls of the ground pipe. Get a one-half inch cap to screw on the threads to protect the top end when you drive it into the ground.

Turn the hose on this ground occasionally. You will have a moist ground which improves your reception.

Football is Coming

OUR of the best intersectional football games of the season are included on the schedule of broadcasts from WABC and the Columbia network.

Ted Husing, sports announcer, will open the radio football season with the Army-Boston University game at West Point, September 27. The following Saturday, October 4, he will be in the new stadium at South Bend, Ind., for the first important intersectional contest — Notre Dame and Southern Methodist.

There will be a break in the schedule following the October 4th game at South Bend for the World Series broadcast. Then the season will get under way in earnest, with the Army-Harvard encounter at Cambridge, October 18th.

Princeton will travel to Chicago November 1 to do battle with Chicago University, while the Illini will invade New York on the following Saturday, November 8th, to fight the Army at the Polo Grounds. These battles between the East and Middle West will be followed by two Eastern classics, the Yale-Princeton game at Princeton November 15th, and the Penn-Cornell Thanksgiving game at Philadelphia November 27th.

The complete schedule of broadcasts follows:

September 27 — Army-Boston University, at West Point.

October 4 — Southern Methodist-Notre Dame, at South Bend.

October 11 — (World Series.)

October 18 — Army-Harvard, at Cambridge.

October 25 — Notre Dame-U. of Pittsburgh, at Pittsburgh.

November 1 — Princeton-Chicago, at Chicago.

November 8 — U. of Illinois-Army, at New York.

November 15 — Yale-Princeton, a Princeton.

November 22 — Penn-Cornell, at Philadelphia.

November 29 — Army-Notre Dame, at Chicago.

A BOOK FOR THE BEGINNER



THE science of radio presents a fascinating study, and many would like to understand the theory and practice of transmission and reception. Why do the sounds made in a broadcasting studio become reproduced in your home, when no sound travels between the station's transmitter and your receiver? What does the sta-

tlon do, what does your receiver do, to accomplish the result? What circuits are used? What are the different types of receivers

and their respective advantages?
Find out all the desired particulars in the first book on radio to be written for the sheer novice—
"Foothold on Radio," by J. E. Anderson, M.A., and Herman Bernhard, LL.B. The book is written in plain, simple English, and the treatment is non-technical and non-mathematical. Anyone who can read English can understand what's printed in this illustrated book, published May, 1930.

A NOTHER new book by the same authors, antitled, "The Superheterodyne," is intended for those technically versed who desire complete understanding of the theory, construction and operation of the Superheterodyne. Constructional chapters deal with a practical receiver based on the theory. Published June, 1930.

A THIRD volume by Anderson and Bernard is entitled "Audio Power Amplifiers," also technical.

The book begins with an elementary exposition of the historical development and circuit constitution of audio amplifiers and powering sources.

Radio World, the first and only national radio weekly, ninth year, publishes all the latest new and circuits of radio. Its technical presentations are highly authoritative. Construction of ultrasensitive and selective circuits and of superb power amplifiers is featured regularly. Subscribe for Radio World and follow the developments on pentodes, Loftin-White amplifiers, band pass filters, pre-tuners, Superheterodynes, screen grid tubes, push-pull, etc.

. 1	Radio World, 145 West 45th St., New York City Enclosed find:
	\$2.00 for 16 weeks' subscription for Radio World (16 issues); send "Foothold on Radio" free as premium.
	\$3.00 for 6 months' subscription for Radio World (26 weeks); send "The Superheterodyne" free as a premium.
	\$6.00 for one year's subscription for Radio World, (52 issues, one each week). Send "Audio Power Amplifiers" free as a premium.
	☐ I am a Radio World subscriber. Extend my subscription. (Check if true.)
	Name
	Address
	CltyState

CLIPPING the AIR

By the "PRETZELITE"

You needn't be afraid of losing two of your radio favorites.

Amos 'n' Andy and Rudy Vallee will

be with you for some time yet.

The famous blackface stars have just signed a five-year contract with NBC, and Vallee has signed an agreement calling for him to appear in 70 more Thursday evening concerts beginning September 4th, when his present contract expires.

Amos 'n' Andy now are beginning

their eleventh year in radio.

Firemen enjoy their Amos 'n' Andy! Recently an Auburn, N. Y., woman, learning that an apartment house occupied by her daughter was on fire, dashed to the place to see what damage had been done. There she found six "smoke eaters" who, having hastened through with their work of extinguishing the blaze, were quietly standing in the hall listening to the Amos 'n' Andy broadcast from a radio in the apartment.

A demonstration of the uncanny ability of radio waves to penetrate the depths of the earth and even pass through solid rock was given by scientists near Chattanooga, Tenn., last week when a radio set was installed in a cave on Lookout Mountain.

The set was operated for ten days. When it was operated 500 feet underground, it was possible to tune in on both local and distant stations with

good reception.

When, however, the set was moved down to 1000 feet, some trouble was encountered with distant stations, although the local broadcasting came in clearly.

An almost human radio receiver, which tunes itself automatically to a predetermined series of broadcasts at definite times throughout the day, was demonstrated yesterday by the manufacturers of Lyric radios, the Rudolph Wurlitzer Manufacturing Company.

With this new device a listener may find in the newspapers the programs he wishes to hear during the day and set his radio accordingly, and at each specified hour the set is automatically tuned in to receive the desired station.

Arthur L. Lippmann, one of the most prolific contributors of magazine verse in America, is the latest recruit to radio from the ranks of popular writers. The National Broadcasting Company has announced that a new radio column conducted by Lippmann, will take to the air over WJZ Tuesday night at 7:15 o'clock. The program will be known as the Benrus Columnist, under the sponsorship of the Benrus Watch Company, of New York. There will also be music by a novelty orchestra under the direction of Ross Gorman.

Station KDKA will make its first tests under the new 400,000-watt license within three weeks, Westinghouse officials announced today.

The Federal Radio Commission has issued a permit to make tests under the new power between the hours of 1 and 6 a.m. At all other times the station must operate under its original power of 50.000 watts.

First tests will be broadcast from the new station at Saxonburg, 10 miles from Pittsburgh. The 400,000-watt power will make KDKA the most powerful station in the world.

A special radio station with a world-wide radius, to be used in time of emergency, will be established for the League of Nations at Geneva, according to the terms of an agreement signed on behalf of the League and the Swiss Government, the Department of Commerce is informed through a British press report received from its offices abroad.

Under ordinary conditions it is to be run by the Radio Suisse Company. When it is run by the League, the Swiss Government will be entitled to have an observer present, the report states.

CFRB	KOL	WBRC	I WFAN	WJJD	wowo
960 C	1270 C	930 C	610 C	1090 C	1180 C
CKAC	комо	WBT	WFBL	WJR	WPG
730 C	920 N	1080 C	1360 C	750 N	1100 C
CKGW	KPO	WBZ	WFBM	WJZ	WPTF
690 N	680 N	990 N	1230 C	760 N	680 N
KDKA	KPRC	WBZA	WFI	WKBN	WQAM
980 N	920 N	990 N	560 N	570 C	560 C
KDYL	KRLD	WCAE	WFIW	WKBW	WRC 950 N
1290 C	1040 C	1220 N	940 C	1480 C	WREC
KECA	KSCJ	WCAH	WFJC 1450 N	WKRC 550 C	600 C
1430 N	1330 C	1430 C	WFLA	WKY	WREN
KFAB	KSD 550 N	WCAO 600 C	620 N	900 N	1220 N
770 N	KSL	WCAU	WGN	WLAC	WRR
1300 C	1130 N	1170 C	720 N	1470 C	1280 C
KFI	KSTP	wcco	WGR	WLBW	WRVA
640 N	1460 N	810 C	550 N	1260 C	1110 N
KFJF	KTAR	WCFL	WGST	WLBZ	WSAI
1480 C	620 N	970 N	890 C	620 C	1330 N
KFKX	KTHS	WCKY	WGY	WLIB	WSB
1020 N	1040 N	1490 N	790 N ———	720 N	740 N
KFPY	KTRH	WCSH	WHAM	WLIT	WSM
1340 C	1120 C	940 N	1150 N	560 N	650 N
KFRC	KTSA	WDAE	WHAS	WLS	WSMB
610C	1290 C	1220 C	820 N	870 N	1320 N
KFSD	KVI	WDAF	WHEC_	WLW	WSPD
600 N	760 C	610 N	1440 C	700 N	1340 C
KGO	KVOO	WDAY	WHK	WMAK	WSUN 620 N
790 N	1140 N =	940 C	1390 C	900 C	WTAG
KGW	KWK 1350 N	WDBJ 930 C	WHO 1000 N	630 C	580 N
620 N	KYW	WDBO	WHP	WMAQ	WTAM
КН J 900 С ———	1020 N	1120 C	1430 C	670 C	1070 N
KHQ	WABC	WDOD	WIBO	WMC	I WTAR
590 N	860 C	1280 C	560 N	780 N	780 C
KLRA	WADC	WDSU	WIBW	I WMT	LWTIC
1390 C	1320 C	1250 C	580 C	600 C	1060 N
KLZ	WAIU	WEAF	WIOD	WNAC	WTMJ
560 C	640 C	660 N	1300 N	1230 C	620 N
KMBC	WAPI	WEAN	WISN	WNAX	WTOC
950 C	1140 N	780 C	1120 C	570 C	1260 C
KMOX	WBAL	WEBC	WJAR	WOAI	WW J 920 N
1090 C	1060 N	1290 N	890 N	1190 N WOC	WWNC
KOA	WBAP	WEEI 590 N	WJAS 1290 C	1000 N	570 C
830 N ———	800 N	WENR	WJAX	WOW	WXYZ
KOIL 1260 C	770 C	870 N	900 N ———	590 N ———	1240 C
KOIN	WBCM	WFAA	WIDX N	330 1	1240
940 C	1410 C	800 N	1270 N		

ENTER YOUR DIAL NUMBERS IN THESE SPACES

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

These programs are correct to date out are subject to change daily mercuries									
Daily (Except Saturday and Sunday) 6:45-8:00 Tower Health Exercises	WSPD WMT WWNC WTAR WDBJ WDOD WREC WLAC KLRA KFJF KLZ KDYL KVI KFPY WPG WDAY WBT								
WEAF WEEL WCAE WFL WRC WGY									
WGR CKGW 8:15-8:30 Morning Devotions	6:05-6:45 Black and Gold Room Orchestra WEAF WCAE WCSH WWJ WTAG WRC WGY WGR WOC WHO								
WEAF WRČ WCAE WGY WHAS WOW WGR WFI WCSH WLS WJAR WWJ WCKY WPTF WIOD WAPI WFLA WSUN	6:45-7:00 Uncle Abe and David WEAF WEEL WJAR WCSH WFI WRC								
8:30-9:00 Cheerio	WCAE WTAG								
WEAF WEEL WCKY WRC WGR WJAR	7:00-7:15 Amos 'n' Andy WJZ WBZ WBZA WHAM KDKA WRC								
WGY WTAG WCSH WCAE WWJ WOW WDAF KSTP WAPI KPRC WFI WSB	WJZ WBZ WBZA WHAM KDKA WRC CKGW WRVA WPTF WJAX WIOD WCKY								
WDAF KSTP WAPI KPRC WFI WSB WJAX WPTF WOAI CKGW WIOD WHAS	WFLA WSUN WBAL								
WFLA WSUN WTAM WSM WMC	7:00-7:15 The Crockett Mountaineers								
9:00-9:15 Quaker Crackels Man	WABC WLBZ WCAU WMAL WHP WJAS								
WLW WLS WRC WJR KWK WREN	WLBW WHEC WKBW WADC WKRC WFBM								
KFAB WTMJ KSTP WEBC	WLBW WHEC WKBW WADC WKRC WFBM WMAQ KMBC WISN WCCO WIBW KFH WBCM WMT WWNC WDBJ WBRC WDOD								
9:00-9:30 Something for Everyone WABC WMAL WHP WJAS WHEC WKBW	WREC KLRA KFJF KLZ KDYL KHJ								
WHK WKRC WAIU WKBN WMAQ KMOX	KFPY KOL WDAY WORC WBT WKBN								
WHK WKRC WAIU WKBN WMAQ KMOX KOIL KMBC WIBW KFH WBCM WSPD	7:30-7:45 Phil Cook — Quaker Man								
WMT WWNC WDBJ WBRC WDOD WREC	WJZ WBZ WBZA WFLA WSUN WIOD								
WLAC KLRA KFJF WPG WBT	WKY WRVA WPTF WJAX WBAL WHAM								
9:00-10:00 Morning Melodies WEAF WRC WWJ WOW WHAS WGY	KDKA WHAS WENR KWK WREN KFAB WTMJ KSTP WSB WSM WEBC WSMB								
WEAF WRC WWJ WOW WHAS WGY WTAM WAPI WGR WSM WIBO	WJDX WOAI KTHS KYOO KOA KSL								
11:15-11:45 Radio Household Institute	KGO KECA KGW KOMO KHQ KFSD								
WEAF WIAR WTAG WCSH WLIT WRC	KGO KECA KGW KOMO KHQ KFSD KTAR KPRC WRC WFAA								
WHAS WSM WMC WSB WGR WCAE	11:15-11:30 Heywood Broun's Radio Column								
WWJ WSAI KFKX WTAM KSD WOW	WABC WEAN WNAC WLBZ WCAU WCAO								
WTMJ KSTP WEBC WAPI WSMB KTHS KVOO KPRC WOAI WKY WEEI WGY	WLBW WFBL WKRC WKBN WFBM KMOX KOIL KSCJ KMBC WISN WCCO KFH								
12:00-12:30 Columbia Revue	WBCM WSPD WMT WWNC WTAR WDBJ								
WABC WEAN WNAC WLBZ WFAN WCAO	WGST WDOD WREC WLAC KLRA KFJF								
WMAL WHP WJAS WLBW WFBL WHEC	KLZ KDYL KFRC WBT WPG WNAX								
WKBW WAIU WKBN WOWO KMBC WISN	WDAY WORC WXYZ KOL								
WIBW WBCM WWNC WDBJ WGST WDOD WREC KRLD KLRA KFJF KLZ KFRC	WDAY WORC WXYZ KOL 11:15-11:30 Uncle Abe and David WWJ WSAI WTAM WENR KSD WDAF								
KVI KFPY WPG KOL WDAY WORC	WEBC WHAS WSM WSB WSMB WJDX								
1:30-2:00 Harold Stern and Ambassador Orchestra	WHO WOC WFJC WOW WMC WTMJ								
WARC WEAN WERZ WEAN WCAO WMAL	11:30-11:45 Amos 'n' Andy								
WHP WJAS WLBW WHEC WMAK WADC WAIU WOWO WBBM KMBC WCCO WIBW	KYW KWK WREN WTMJ KSTP WEBC								
WAIU WOWO WBBM KMBC WCCO WIBW	KFSD WKY KPRC WOAI WJR KOA KSL WDAF WBAP WMAQ KECA KTHS								
KFH WBCM WMT WTAR WBRC WDOD WREC KLRA KFJF KHJ KFPY WDAY	KGO KOMO KHQ KGW WHAS WSM								
1-45-2-30 National Farm and Home Hour	WMC WLW WSB WSMB KFAB WJDX								
WIZ WHAM KDKA WJR WLW KSTP	11:45-12:00 Literary Digest Topics — Floyd Gibbons								
WEBC WRVA WPTF WJAX WHAS WSM	WJR KWK WLW WENR WREN KFAB								
WMC WSB KVOO WKY WOAI WRU	0 1								
WHO WOW WDAF KPRC WJDX WBAL WSMB WIOD KWK WREN KOA WBZ	Sunday								
WEAA KEAB WAPI KTHS WELA WSUN	1:00-1:30 Southland Sketches—Spirituals								
KFKX WOC WBZA	WJZ WBAL KFAB KDKA WLW KWK								
2.00 2.20 Calumbia Salan Orchestra	KOA KSL CKGW WHAM								
WABC WEAN WNAC WCAU WCAO WMAL	1:30-2:00 Neopolitan Nights WJZ WBAL WLW WRC KSL WHAS								
WHP WMAK WADO WERO WATO WEED	WJZ WBAL WLW WRC KSL WHAS WLS CKGW WHAM KFAB KOA								
WFBM KOIL WISN WIBW WGL KFH WBCM WSPD WMT WWNC WTAR WDBJ	2:00-3:00 Roxy Symphony Concert								
WBRC WDOD WREC WLAC KLRA KFJF	WJZ WBZ WBZA WBAL KDKA KYW								
KLZ KFRC KVI KFPY WPG WDAY	WRC WFAA WEBC KFAB CKGW WHAS								
WORC WBT	WREN KSTP KWK WTMJ WSB WRVA								
3:30-4:00 Columbia Educational Features	WJAX WHAM WFLA WSUN WLW WPTF 2:30-3:00 NBC Artists Service Program								
WABC WEAN WNAC WCAU WCAO WMAL WHP WMAK WKRC WKBN WFBM WMAQ	WEAF WTAG WOW KSD WWJ WGY								
KMBC WISN WCCO WIBW KFH WBCM	WDAF WOC WHO WGR WIBO								

2:30-3:00 Ballad Hour	WOLK WOL	O TUMAT	7:35-8:30 Major Bowes Family WEAF WSMB KSTP WCSH WEBC WSM
WABC WEAN WLBZ WHP WHEC WKBW WKBN WMAQ KMOX WCCO WIBW WBCM	WCAU WCA WHK WKR	C WAIII	WDAF WIOD WMC WSB WJDX WKY
WKBN WMAQ KMOX	KOIL KMB	C WISN	WJAR WCAE WRC WGY WWJ WSAI
WCCO WIBW WBCM	WSPD WMT		KSD WFJC WHAS WTAM WOAI KTHS
WDBJ WBRC WDOD	WREC KLRA	KLZ	WFLA WSUN WHO WOC WTAG WCFL
KDYL KVI KFPY	WPG WDA	y worc	7:45-8:00 The World's Business WABC WEAN WNAC WLBZ WFAN WMAL
3:00-3:30 Paul Tremaine and WABC WEAN WNAC	His Orchestra WLBZ WCA	U WCAO	WABC WEAN WNAC WLBZ WFAN WMAL WHP WJAS WLBW WHEC WKBW WADC
WMAL WHP WIAS	WKRW WAD	C WKBN	WKRC WAIU WKBN WFBM WMAQ KMOX
WFBM WMAO KMOX	KOIL KMB		KOIL KMBC WISN WCCO WIBW WSPD
WFBM WMAQ KMOX WCCO WBCM WMT	WWNC WDB		WMT WWNC WDBJ WDOD KLRA KFJF
WDOD WLAC KLRA	KFJF KLZ	KDYL	KLZ KDYL KHJ KFRC KVI KFPY WPG WNAX WDAY WORC
KFRC KVI KFPY	WPG WDA	y worc	WPG WNAX WDAY WORC
3:00-4:00 The Friendly Hour WJZ WBAL KDKA	WJR WLW	KWK	8:00-8:30 Mayhew Lake and His Band WABC WEAN WNAC WLBZ WCAU WCAO WMAL WJAS WLBW WHEC WADC WHK
WREN KFAB WRVA		wjdx	WMAL WJAS WLBW WHEC WADC WHK
KVOO WFAA WOAI	KSL WFL.	WSUN	WKRC WKBN WOWO WFBM KMOX KOIL
KTHS WSB WLS	WBZ WBZ.	A KGW	KMBC WISN WCCO WIBW WSPD WMT
KFSD KGO			WWNC WTAR WDBJ WBRC WDOD WREC WLAC KRLD KLRA KFJF KLZ KDYL
3:30-4:00 Conclave of Nations	WIDE WOL	7 77010	KHJ KFRC KVI KFPY KOL WNAX
WABC WEAN WNAC WMAL WHP WJAS	WLBZ WCA WKBW WAD	U WCAO C WKRC	WORC WBT
WKBN KMBC WISN	WCCO WIBY	V WBCM	8:15-9:15 Colliers Radio Hour
WMT WWNC WDBJ	WBRC WDO	D WLAC	WJZ WBZ WBZA WHAM KDKA WJR
KLRA KLZ KDYL	KFRC KVI	KFPY	WLW KYW KWK WREN KOA KSL
WPG WDAY WORC	WBT		KHQ KOMO KFI KGW KPO 8:30-9:00 Chase and Sanborn Orchestra
4:00-4:30 Don Carlos and Ma	rimba Band WJR WLW	WBZ	WEAF WJAR WTAG WCSH WRC WGY
WJZ WBAL KFAB WBZA WHAM	WJR WLW	WDL	WGR WCAE WEIG WWI WSAI KSD
			WOW WIOD WHAS WEBC WMC WSB
4:00-5:00 National Sunday Fo WEAF WEEI WJAR	WTAG WCSI	H WGR	WSMB WKY KTHS KPRC WOAI WTMJ WJDX WTAM KSTP WIBO WPTF KVOO
KOA WIOD WOW	WRVA WKY	WOAI .	WAPI WRVA WFAA WHO WOC WLIT
WRC WSAI WJAX	WHAS WJD	X WFAA	9-00-9-15 "Our Government"
FVOO KPRC WEBC WWJ WSUN WFLA	WFJC WDA WHO WSB	F KHQ WIBO	WEAF WIAR WTAG WLIT WOSH WEBC
WOC KPO KGO	KGW KOM	o wmc	WGY WCAE KSD WHAS WKY WSAI WFJC WSB WMC WSM WFAA WTMJ
WCAE CKGW	11011		WFJC WSB WMC WSM WFAA WTMJ WOW WOAI WWJ WSMB WTIC WJDX
4:00-5:00 Cathedral Hour			WIOD WELA WSUN WOC WHO WCFL
WABC WEAN WNAC	WLBZ WCA	U WCAO	WEEI WRC
WHP WJAS WLBW WKRC WAIU WKBN	WKBW WAD WOWO WFB	C WHK M KMOX	9:00-10:00 Majestic Theatre of the Air WABC WEAN WNAC WLBZ WCAU WCAO
KOIL KMBC WISN	WCCO WIB		WMAL WJAS WLBW WFBL WMAK WKBW
WRCM WSPD WMT	WWNC WDR	J WGST D KLRA	WDEL CFRB CKAC WADC WHK WKRC
WBRC WDOD WREC	WLAC KRL) KLRA	WGHP WOWO WFBM WBBM KMOX KOIL
KFJF KLZ KDYL WDAY WORC WBT	KHJ KVI	KFPY	KMBC WISN WCCO WIBW KFH WSPD WWNC WSAZ WTAR WDBJ WBRC WDOD
5:00-6:00 Sabbath Reveries			WREC WLAC WDSU KRLD KLRA KFJF
WJZ WBZ WBZA	WBAL WHA	M WLW	KTSA KLZ KDVI KHI KERC KOIN
KWK WREN KFAB	KSTP WEB	C WJAX I KVOO	KVI KFPY KOL
WIOD WMC KOMO KPRC WFLA WSUN	WJDX WOA WSB KOA	KTAR	9:15-9:45 Atwater Kent Program WEAF WEEI WRC WFI WGY WGR
KGO KGW KHO	KDKA WRC	MIMIC	WCAE WTAM WWJ WSAI KSD WOW
5:30-6:00 Tea Time Tunes			KSTP KOA KSL KFI KGW KOMO
WEAF WEEL WTAG CKGW WWJ WDAF		WCAE	KPO KHQ WSM WMC WFAA KPRC WOAI WKY WSMB WHAS WGN WSB
CKGW WWJ WDAF	who woc	wow	WOC WHO
6:00-6:30 Songs at Eventide WJZ WBAL KFAB	WJR KDK	A WBZ	9:45-10:15 Mystery House
WBZA WHAM KWK	WREN CKG	N	WEAF WEEL WTAG WRC WGY WGR WCAE WFJC WWJ WSAL KSD WOC
6:00-7:00 Catholic Hour WEAF WEEI WJAR	WTAG WCSI	H WRC	WCAE WFJC WWJ WSAI KSD WOC WHO WOW WDAF CKGW KOA KPO
WGY WWJ WEBC	WIOD WSM	WKY	KTAR KGW KOMO KSL WEBC WFI
WJDX KGO KPO	KSTP KHO	комо	WSB WJDX
KGW WOW WSAI WCAE KYW WFJC	WGR KECA WOC WHO	N KTAR WDAF	10:00-10:30 Arabesque — Desert Play WABC WEAN WNAC WLBZ WCAU WCAO
WCAE KYW WFJC WTMJ WJAX WFLA	WSUN WHA		WMAL WHP WJAS WLBW WFBL WHEC
WSB WBAP KPRC	WOAI KOA	WFI	WKRC WKBN WOWO WFBM WMAQ WBBM
WRVA			KOIL KSCJ KMBC WISN WSPD WMT
7:00-7:30 Quiet Harmonies	WCAU WCA	O WMAL	WWNC WTAR WDBJ WGST WBRC WDOD WREC KRLD KLRA KFJF KLZ KDYL
WABC WEAN WLBZ WHP WJAS WLBW	WCAU WCA WFBL WHE		WREC KRLD KLRA KFJF KLZ KDYL KHJ KVI KFPY WBT WNAX WDAY
WKRC WKBN WFBM	WBBM KOIL	KSCJ	WORC WXYZ KOL
WISN WCCO WIBW	KFH WSPI) WMT	10:15-10:45 Studebaker Champions
WWNC WTAR WDBJ		D WREC	WEAF WYIC WTAG WFI WCSH WRC WGY WCAE WTAM WWJ WGN KSTP
KRLD KLRA KFJF KVI KFPY WBT	KLZ KDY WDAY WOR	L KHJ C WXYZ	WEAF WYIC WTAG WFI WCSH WRC WGY WCAE WTAM WWJ WGN KSTP WJAR WTMJ KOA WEBC KGO KGW
7:00-7:30 Songs of the Season	I WALL WOLL		KOMO KFI KHQ WOW WEEL WDAF
7:00-7:30 Songs of the Seasor WEAF WEEI WTAG WGR WCAE WFJC	WFI WRC	WGY	KSD WGR
WGR WCAE WFJC 7:30-8:00 Williams Oilomatics	WRVA KOA		10:30-11:00 Around the Samovar WARC WEAN WNAC WLBZ WCAU WCAO
WJZ WBZ WBZA	WJR KWK	KOA	WABC WEAN WNAC WLBZ WCAU WCAO WMAL WJAS WLBW WHEC WADC WHK WKRC WAIU WKBN WOWO WFBM KMOX
KSL WHAM WLW	WREN KDK	A WGN	WKRC WAIU WKBN WOWO WFBM KMOX

KOIL KMBC WCCO WIBW WSPD	WMT	8:00-8:30 Half Hour in Nation's Capital WEAF WEEI WIOD WPTF WJAX WJAR
WWNC WTAR WDBJ WBRC WLAC KFJF KLZ KDYL KFRC KFPY	KLRA WPG	WEAF WEEL WIOD WPTF WJAX WJAR WTAG WCSH WLIT KFSD KOMO WRC
WNAX WORC WRT		WCAE WGR WEIC WWI WSAI KSD
10:45-11:15 Sunday at Seth Parkers WEAF WCAE WHAS WFJC WJAX	wow	WOC WOW WHO KYW WDAF KSTP WJDX WSMB KGO KVOO KPRC WOAI
WKY WWI WPTF WCY WRC	KOA	KOA KECA KGW WFLA WSUN WTIC
KGO WEEI WIOD WMC WSB	WCSH	WKY
WEBC KGW KYW WSM WHO WTAM CKGW KSTP KSD WDAF	WJDX WSMB	8:00-8:30 Mardi Gras WABC WEAN WLBZ WCAU WCAO WMAL
KPRU KOMO KHQ WTMJ WOC	KTAR	WHP WJAS WLBW WFBL WKBW WADC
KFSD KVOO WGR		WHK WKRC WFBM WMAQ KMOX KOIL
11:00-12:00 Back Home Hour WABC WLBZ WMAL WHEC WKBW	WKRC	KSCJ WISN WCCO WIBW WGL KPH WBCM WSPD WMT WWNC WTAR WDBJ
WKBN WFBM KMOX WISN WCCO	WIBW	WBRC WDOD KLRA KFJF KLZ KHJ
WSPD WMT WTAR WDBJ WDOD	KLRA WDAY	KFRC KVI KFPY WBT WPG WNAX WDAY WORC WXYZ KOL
WBT KLZ KVI KFI I WNAX	WDAI	8:30-9:30 A. & P. Gypsies
11:30-12:00 Russian Cathedral Choir	woo	8:30-9:30 A. & P. Gypsies WEAF WEEI WTAG WJAR WTIC WCSH WLIT WRC WGY WGR WCAE WWJ
WEAF WRC WFJC WWJ WBAP KOA WHO WOW WSB WGY	WOC WTAM	WLIT WRC WGY WGR WCAE WWJ WSAI WGN KSD WOC WDAF WTAM
CKGW KSTP WEBC KVOO	** 1 .11.**	WOW WHO
Monday		8:30-9:00 Crime Prevention Program WJZ WBZ WBZA KDKA WREN KFAB
3:00-3:30 Phil Napoleon and His Band		CKGW WTMJ WJDX KGO KOMO KFSD
3:00-3:30 Phil Napoleon and His Band WJZ KDKA WHAM KPRC WBZ	WBZA	9:00-9:30 Maytag Orchestra
WBAL KWK WREN 3:30-4:00 Salon Singers		KVW KWK WDEN KSTP WERC WSM
WEAF WRC KSD WTAG WGY	WFJC	WSB WSMB KTHS WKY KPRC WOAI
KSTP WGR WOW WCFL		KOA KSL WCKY WJDX KGO KECA KGW KHQ KOMO WTMJ WHAS WFAA
4:00-4:30 The Captivators WABC WEAN WNAC WCAU WCAO	WMAL	KVOO WMC
WHP WFBL WHEC WMAK WADC	WKRC	9:00-9:30 Minneapolis-Honeywell Symphony Hour WABC WEAN WNAC WCAU WCAO WMAL WJAS WLBW WFBL WKBW WADC WHK WKIC WOWO WBBM KMOX KOIL KMBC
WAIU WKBN KOIL KSCJ KMBC WCCO WIBW WGL WBCM WSPD	WISN	WABC WEAN WNAC WCAU WCAO WMAL
WWNC WTAR WDBJ WGST WBRC	WDOD.	WKRC WOWO WBBM KMOX KOIL KMBC
WREC WLAC KRLD KLRA KFJF	KLZ	
KDYL KVI KFPY WBT WPG WXYZ KOL	WDAY	9:30-10:00 Bourjois — An Evening in Paris WABC WEAN WNAC WCAU WCAO WMAL WJAS WLBW WFBL WKBW WADC WHK
4:00-5:00 Silver State Light Opera Company	*****	WJAS WLBW WFBL WKBW WADC WHK
WJZ WBAL WHAM WRC WLW KOA KGO KOMO CKGW KSTP	WREN	WKRC WOWO WBBM KMOX KOIL KMBC WSPD WBT WPG WXYZ
4:30-5:00 Gypsy Camp WABC WEAN WNAC WCAU WCAO		9:30-10:00 General Motors Family Party
WABC WEAN WNAC WCAU WCAO WHP WFBL WMAK WADC WHK	WMAL WKRC	WEAF WEEL WTIC WJAR WCSH WTAG WLIT WRC WGY WGR WCAE WTAM
WAIU WFBM KOIL KSCJ KMBC	WISN	WLIT WRC WGY WGR WCAE WTAM WWJ WGN KSD WOC WOW WDAF
WCCO WIRW WGL. WRCM WSPD	WMT	WSAI KSTP WTMJ WHAS WSM WMC
WWNC WTAR WDBJ WGST WBRC WREC WLAC KRLD KLRA KFJF	WDOD KLZ	WSB WJAX KECA WFAA WOAI KPRC WKY KOA KSL KGO KGW KOMO
KDYL KVI KFPY WBT WPG WXYZ KOL	WDAY	KHQ WHO
WXYZ KOL		9:30-10:00 Chesebrough Real Folks
5:30-5:45 My Bookhouse Story Time WABC WEAN WNAC WCAU WCAO WFBL WKBW WADC WHK WOWO KMOX WCCO WSPD WXYZ	WMAL	WLW KYW WJR WREN CKGW
WFBL WKBW WADC WHK WOWO	WMAQ	10:00-10:30 Moonshine and Honeysuckle
6:00-6:30 Mormon Tabernacle Choir and Organ		WEAF WEEL WCSH WRC WGY WGR WCAE WWJ KSD WOC WHO WDAF
6:00-6:30 Mormon Tabernacle Choir and Organ WJZ WBAL WSM KWK KOA	KSL	WOW
KGO KOMO KFAB KGW KPO CKGW WRC WHAS KDKA KSTP	WLW KFSD	10:00-10:30 Stromberg-Carlson Program WJZ WBZ WBZA WHAM KDKA WJR
6:00-6:30 Carl Rupp and His Captivators		KYW KWK WREN WTMJ WEBC WRVA
WABC WCAO WMAL WHP WJAS WHEC WKBW WAIU WKBN WBBM	WLBW	WJAX WIOD WHAS WSM WMC WSB WSMB WKY KTHS KPRC WOAI KOA
WISN WIBW WGL KFH WBCM	WSPD	KGO KFI WCKY KGW KHQ KOMO
	WDOD	WIDX KSTP WPTF KVOO WFLA WSUN
WREC KRLD KLRA KFJF KLZ KHJ WDAY WBT	KDYL	KTAR KFSD 10:00-10:30 Robert Burns Panatella Program
7:00-7:30 Current Events		10:00-10:30 Robert Burns Panatella Program WABC WEAN WNAC WCAU WCAO WMAL WJAS WLBW WFBL WKBW WADC WHK
WABC WLBZ WHP WJAS WLBW WKBW WADC KMOX WISN WCCO	WHEC WIBW	WJAS WLBW WFBL WKBW WADC WHK WKRC WGHP WOWO WFBM WMAQ KMOX
KFH WBCM WMT WWNC WDBJ	WGST	KOIL KMBC WCCO WSPD KLZ KDYL
WBRC WDOD WREC KLRA KFJF	KLZ	KHJ KFRC KOIN KVI KFPY KOL
KDYL KHJ KFRC KVI KFPY WDAY WORC	KOL	10:30-11:00 American Maize Program WCAU WHP WJAS WLBW WADC WHK
7:30-8:00 Colonial Beaconlights		WKRC WCAH WKBN WBBM KOIL KSCJ
WEAF WEEL WJAR WTAG WCSH	WGY	WISN WCCO WSPD WMT KLZ KDYL KHJ KFRC KOIN KFPY WNAX WDAY
7:45-8:00 Sinclair Program WABC WCAU WCAO WADC WHK WMAQ KMOX KOIL KSCJ WSPD	WKRC	KOL
WMAQ KMOX KOIL KSCJ WSPD	WXYZ	10:30-11:00 Jospe Woodwind Ensemble
KRLD		WJZ WHAM KDKA WJR WREN WFAA KPRC
7:50-8:30 Roxy and His Gang WJZ WBZ WBZA WHAM KWK	WSB	10:30-11:00 Sign of the Shell
WSM WCKY KGO KFAB KOA WSUN WRC KGW WCFL CKGW	WFLA	WEAF WEEL WTIC WJAR WTAG WCSH WLIT WRC WGY WGR WCAE WWJ
KTHS KTHS	100	WSAI WENR KSD WOC WOW WDAF

WRVA KOA KSTP WPTF WJAX WIOD WHAS WSM WMC WSB WSMB WJDX WEBC WHO WTAM

11:00-11:15 Phil Spitalny's Music
WEAF WRC WGY WWJ WSMB WCAE
WTAM WSAI WJDX

WTAM WSAI WJDA

11:00-11:15 Bert Lown and His Biltmore Orchestra
WABC WEAN WNAC WLBZ WCAO WLBW
WFBL WHK WKBN KOIL KSCJ KMBC
WISN WCCO KFH WBCM WSPD WMT
WWNC WTAR WDBJ WBRC WDOD WREC
WLAC KLRA KFJF KLZ KFRC KFPY WLAC KLRA KFJF KLZ KFRC KFPY WBT WPG WNAX WDAY WORC WXYZ KOL

11:30-12:00 Kay Kyser's Hotel New Yorker Orchestra WEAF WRC WWJ WDAF WCFL KOA WOW KSTP

11:30-12:00 Ted Fiorito and Orchestra
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHEC WADC WKBN WFBM KMOX
KOIL WISN WCCO WIBW KFH WBCM WFDM KFH WBCM WBRC WDOD KDYL WMT WWNC WTAR WDBJ WREC WLAC KLRA KFJF WBT KFPY KOL WNAX KLZ WNAX WDAY WORC

WDOD WREC KRLD KLRA KFJF KDYL KVI KFPY WBT WPG KDYL KVI KFP WDAY WXYZ KOL

Tuesday

10:15-10:30 Through the Looking Glass WJZ WBZ WBZA WHAM WLW WREN KFKX WJR KDKA KWK CKGW

| 10:15-10:30 | Through the Looking Glass | W1Z | WBZ | WBZA | WHAM | WLW | WREN | KFKX | WJR | KDKA | KWK | CKGW | S:30:4:00 | Golden | Gems | WEAF | WEEI | WTIC | WTAG | WGR | WTAM | WBAP | WFJC | KSD | WOW | KSTP | WBAP | WTIAN | WBAP | WFJC | WHAW | WABC | WEAN | WHAW | WABC | WSPD | WBT | WFBL | WKBW | WADC | WHK | WSPD | WBT | WFBL | WKBW | WADC | WHK | WSPD | WBT | WFBL | WGSP | WTAN | WBD | WSPD | WBT | WFBL | WTAM | WTAM | WTAM | WSPD | WTAM | WXYZ KOL

4:00-3:00 Pacific Vagabonds
WJZ WREN KFAB WHAM WLW KOA
KPO KGO KSTP WJAX WBAP WJR
WAPI KFSD WSM WTMJ

7:15-7:30 Emerson Gill and His Orchestra
WABC WEAN WNAC WLBZ WCAU WCAO
WHP WJAS WLBW WFBL WHEC WKBW

7:30-8:00 Soconyland Sketches
WEAF WEEI WJAR WTAG WCSH WGY
WGR WTIC

8:00-8:30 Troika Bells WEAF WFI WWJ WCSH CKGW WGR

8:00-8:30 Pure Oil Orchestra WBAL WHAM KDKA WJR WREN KWK KSTP WTMJ WEBC WHAS WJAX WRVA WSM WSB KFAB WJZ KWK WJAX WRVA WPTF WMC WJDX WAPI WLW

WIDA WARI 8:00-8:30 Blackstone Program WABC WEAN WNAC WCAU WCAO WMAL WHP WJAS WLBW WFBI WHEC WKBW

WADC WHK WGHP WAIU KOIL KMBC WCCO WSPD WMT

8:30-9:00 Florsheim Frolic WEAF WTAG WCSH WFI WGR WCAE WWJ WSA WRC WGY WGN KSD WSAI WOC WHO WOW WDAF KSTP WRVA WJAX WIOD WSUN WFLA WEBC WSM WMC WSB WOAI WKY WSMB WJDX WBAP KPRC KOA KSL

WOAL WKY KOA KSL WJAR WHAS

8:45-9:00 Premier Salad Dressers
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WDAE WFBL WKBW WADC
WHK WKRC WQAM WOWO WMAQ KMOX
KOIL KMBC WCCO WDBO WSI'D WGST
WTOC WLAC WDSU KRLD WRR KLZ
KDYL KHJ KFRC KOIN KVI KFPY
WBT WPG WXYZ KOL

9:00-9:30 Tek Music WJZ WBZ KYW KWK WBZA WBAL WHAM KDKA WREN WCKY CKGW

9:00-9:30 Henry-George
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WKBW WADC
WHK WKRC WGHP WOWO WBBM KMOX
KOIL KMBC WISN WCCO KFH WSPD

WGY KSD WHO WSB KOMO KHQ WSAI WOW WOC

9:30-10:00 Happy Wonder Bakers
WEAF WJAR WEEI WTAG WCSH WRC
WGY WGR WCAE WTAM WFJC WWJ WGY WSAI WWJ WDAF WHO KSD WHO WOW WDAK
KSTP WEBC WRVA WHAS WMC
WSMB KVOO WKY KOA KSL
KGO KOMO KECA KGW KHQ
WFI KPRC WOC WTMJ KSTP

WOC WWJ
10:00-10:15 Graybar's, Mr. and Mrs.

WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WHEC WKBW WADC
WHK WKRC WGHP WAIU WKBN WOWO
WFBM WBBM KMOX KOIL KMBC WISN
WCCO KFH WSPD WWNC WTAR WDBJ
WGST WBRC WREC WLAC WDSU KRLD KLZ KDYL KHJ KFPY KTRH KOL

WDSU KLRA WRR KDYL KHJ KFRC WPG WNAX WDAY WDOD WREC WLAC KFJF KTSA KLZ KOIN KFPY WBT WXYZ KOL KNX WQAM WDBO WDAE WXYZ KOL WTOC KTRH

WIOC KIRD 10:30-11:00 Radio-Keith-Orpheum Program WEAF WEEI WJAR WTAG WCSH WFI WRC WGY WGR WCAE WFJC WSAI WHO KSD WOW WSMB WOAI KTH

KOA KSL KGO WIBO WJDX WTMJ	KGW K	OMO VOO	KHQ WRVA	8:00-8:30 The WJZ	Yeast F WRZ	oamers WRZA	WHAM	KDKA	KVW
WJAX WIOD WHAS	WSM W	MC	WSB	KWK	WREN	KSTP	WHAM WEBC	WLW	KFAB
WDAF WEBC KECA	WPTF W		WSUN	WTMJ					
WOC WBAP KFSD WTAM	KTAR W	/WJ	WKY	8:00-8:30 Ma WABC	nnattan i WEAN	WNAC	WLBZ	WCAO	WHP
10:30-11:00 Cuckoo				WJAS	WEAN WLBW	WFBL	WHEC	WCAO WKBW	WADC
WJZ WJR KWK KDKA	WREN W	IBZ	WBZA	WAIU WISN	WFBM WCCO	WMAQ	KMOX	KOIL WBCM	KMBC
11:00-11:15 Anheuser-Busch I	Program			WMT	WWNC	WTAR	WDBJ	WBRC	WDOD
WABC WHK WGHP KMOX KOIL KMBC	WAIU W	FBM	WBBM	KLRA	KFJF	KLZ	KFRC	KVI	KFPY
WDOD WREC WDSU	KLRA W	/RR	WMT KFJF	WPG 8:30-9:00 Mo	KOL biloil Cor	WDAY	WORC	WBT	
KTSA KTRH				WEAF	WEEI	WJAR	WTAG	WCSH	WLIT
11:00-11:30 Vincent Lopez and WEAF WFI WCAE	d His Orche	stra SD	woc	WRC WFJC	WGR WTAM	WWJ	WSAI KVOO	KSD WFAA	WOW KPRC
WHO WSMB KOA WMC WJDX WOW	WSAI W		WTAM	WOAI WEBC	WKY	KSL	WTIC	WGY	WGN
WMC WJDX WOW				WEBC	WTMJ	WDAF	WCAE	WНО	WOC
11:30-12:00 Jack Albin and H WEAF WFI WRC	WOC W	VHO	KSTP	8:30-9:00 Syl WJZ	WBZ	WBZA	WHAM	KDKA	WREN
KOA WJDX				KWK	KYW	KFAB	WLW		
W-1	1			8:30-9:00 For WABC	ty Fathoi WEAN	n Trawle WNAC	WCAII	WCAO	WM AT.
Wedne				WHP	WJAS	WLBW	WFBL	WHEC	WKBW
10:30-11:00 U.S. Navy Band (WABC WEAN WNAC	Concert	ZOATT	WCAO	WADC WMAQ	WHK	WKRC	WGHP	wowo	WFBM
WMAL WHP WJAS	WLBW W	FRI.	WHEC	9:00-9:30 Ha	sev. Stu	rt Progr	am		
WKBW WADC WOWO WIBW WBCM WSPD	KOIL K	MBC	WISN	9:00-9:30 Ha WEAF WRC	WÉEI	WJAR	WTAG WGR	WCSH	WLIT
WBRC WDOD WLAC	KLRA K	DBJ	WGST WORC	W RC KSD	WGY WOC	WOW	WGR KSTP	WWJ WJAX	W HAS
11:00-12:00 The Recitalists				WMC	WSB	WSMB	KVOO	KOA	KPRC
WJZ WHAM KWK	WTMJ W	VSM	KOA	WOAI KSL	KGO CKGW	KOMO KECA	KHQ	KGW WHO	WSM
WBAL 3:00-3:30 Matinee Gems				9:00-9:30 Gol	d Medal	Fast Fre	ight		
WJZ WBAL KDKA	KWK W	VREN	CKGW	9:00-9:30 Gol WABC WJAS	WEAN	WNAC	WCAU	WCAO	WMAL
WRVA WJAX WJDX 4:00-5:00 Radio Guild	WHAM W	VBZ	WBZA	WJAS WKRC	WAIU	WCAH	WKBW KFBK	WADC	WHK WFBM
WJZ WLW WBAL	WHAM C	KGW	KFAB	WBBM	KMOX	KOIL	KSCJ	KMBC	WISN
KSTP WJAX WSM KGO WREN KFSD	KTHS W	/BAP	KOA	WCCO WREC	KMJ WLAC	KFH WLAP	WSPD KRLD	WTAR KLRA	WDBJ KFJF
5:00-5:30 Footnotes — Freddie	e Rich			KLZ	\mathtt{KDYL}	KHJ	KFRC	KOIN	KVI
WABC WFAN WCAO	WMAL W	чнр	WKBW	KFPY	WBT	WPG	WXYZ	KOL	
WADC WKRC WAIU WISN WIBW WGL	WBBM K WBCM W	VSPD	KMBC WMT	9:15-9:30 O (WJZ	edar in WBZ	ne WBZA	WLS	KWK	WREN
WWNC WTAR WDBJ	WGST W	VDOD	WREC	KDKA	WHAM	WJR	22		
WLAC KRLD KLRA KFRC KVI KFPY		LZ OL	KDYL WDAY	9:30-10:00 La	Palina S WEAN	Moker WNAC	WCATI	WCAO	WM AT.
WBT		LOL	WDAI	WABC WJAS	WLBW	WFBL	WMAK	WADC	WHK
5:45-6:00 Columbia Male Trio	urun u	VJAS	WFBL	WKRC	WGHP	WOWO	WMAQ	KMOX	KOIL
WABC WCAO WMAL WKBW WADC WAIU	WMAQ W	VBBM	KOIL	KMBC 9:30-10:30 Ca	imel Plea	ısure Ho	ur		
KSCJ KMBC WISN	WCCO W	VIBW	WBCM	WJZ	WBZ	WBZA	WHAM	KDKA	WREN
WSPD WMT WWNO	WTAR W	VDBJ KLRA	WGST KFJF	WLW KWK	KŸW	WSJS	WPTF	WRVA	WJR
KLZ KDYL KFRC	KVI K	FPY	WBT	9:30-10:30 Pa	lmolive	Hour			
WDAY WXYZ 6:00-6:40 Whyte's Orchestra					WEEI WRC	WTIC WGY	WJAR WGR	WTAG WCAE	WCSH WWJ
WJZ WBAL WREN WSM WAPI KOA	KFAB K	STP	WHAS	WSAI	WGN	KSD	WOC	wow	WSMR
		TAR		KSTP WSB	WGN WTMJ WJAX	WHAS KVOO	WSM WOAI	WMC KOA	WHO KSL
6:15-6:30 Ozzie Nelson's Glei WABC WLBZ WCAO	n Islanders WMAI. W	VHP	WJAS	KGO	KGW	KOMO	KHQ	WFAA	KECA
WLBW WFBL WHEC	WMAL W WKBW W	VHK	WAIU	KPRC			-		
WKBN KSCJ KMBC KFH WBCM WMT	WISN W	VCCO	WGL	10:00-11:00 V WABC	WEAN	WNAC WLBW	WLBZ	WCAU	WCAO
WBRC WDOD WREC	KRLD K	CLR A	KFJF	WMAL	WJAS	WLBW	WFBL	WHEC	WKBW
KIZ KDVI WRT	WDAV U	VXYZ		WADC	WHK KMOX	WKRC	KSCJ	WOWO KMBC	WFBM WISN
7:45-8:00 Eskimo Pie Program WABC WNAC WCAU WFBL WHEC WKBW	WCAO W	VMAL	WJAS	WMAQ WIBW	KFH	WBCM	WSPD	WMT	WWNC
WFBL WHEC WKBW	WHK V	VKRC	WMAO	WIBW WTAR KFJF WNAX	WDBJ KLZ	WDOD KDYL	WLAC KFPY	KRLD WBT	KLRA WPG
KMOX WCCO WGST	WBRC K	CRLD	WBT	WNAX	WDAY	WORC	WXYZ	KOL	****
WIZ WRZ WRZA	ners WRAL W	VHAM	KDKA	WNAX 10:30-11:00 (WEAF	Coca Cola	Program	n WIAD	WEAG	WCSH
7:45-8:00 Dic-a-Doo Entertain WJZ WBZ WBZA KYW KWK WREN	KFAB K	STP	WEBC	WLIT	WRC	WGR	WOAL	WTAG WWJ	WSAI
7:45-8:00 "Back of the News	in Washingt	l nn		WOC	KYW	KSD	WEBC	KSTP	WRVA
WEAF WRC KOA KGO WCSH WGY	WTAG K WCAE W WJAX W	VFJC	KECA WRVA	WJAX KPRC	WIOD WOAI	WSM KOA	WSMB KSL	WKY KGO	KTHS KECA
KGW KOMO KFSD	WJAX V	VSAI	WIBO	KGW	KHΩ	KOMO	WJDX	WGY	CKGW
KSD WOC WHO WAPI KTHS KPRC	WOW V	VDAF	WSM	WDAF WHO	WHAS WOW	WPTF KFSD	WTMJ WMC	KVOO WSB	WTAM
8:00-8:30 East of Cairo				11:00-11:15	incent L	opez Orc	hestra		
8:00-8:30 East of Cairo WEAF WCSH WGR		VDAF		WEAF	WFLA	WSUN	WRC	WCAE	
WJDX WSMB WJAR WOW WEEI WTAM	nsGU K I	GW	WHO	WSAI WJDX	KSD WKY	WOC	WHO	wow	KSTP
	-								

11:30-12:00 California Melodies WABC WEAN WNAC WLBZ WCAU WCAO WMAL WADC WFBM KOIL KMBC WISN WCCO WIBW WBCM WSPD WMT WWNC WBRC WDOD WREC WTAR WDBJ WGST KLRA KFJF KLZ KDYL KHJ WLAC KFPY WNAX WDAY WORC KOL KFRC WBT

Thursday

WJZ WJR WBZ WBZA WHAM KWK WREN KDKA KYW WCKY

4:30-5:00 Melody Magic
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WFBL WMAK WADC WHK
WKRC WAIU WOWO KOIL KSCJ KMBC
WISN WCOO WIBW WBCM WSPD WMT
WWNC WTAR WDBJ WGST WBRC WDOD
WREC WLAC KRLD KLRA KFJF KLZ
KDYL KVI KFPY WBT WPG WDAY
WORC WXYZ KOL

5:00-5:30 In the Spotlight
WEAF WEEI WTIC WJAR WLIT WRC
WGY WGR WCAE WFJC WWJ WSAI
WOC WHO WTAG WTAM WJAX KOA
KGO KTAR KFSD

5:30-5:45 The Toddy Party
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGY WGR WCAE WSAI
KYW CKGW WWJ

7:00-7:30 Mid-Week Federation Hymn Sing WEAF WMC WIBO WWJ WGR WJAR WHAS KSD KOA

7:30-8:00 Ward's Tip Top Club
WABC WEAN WNAC WCAU WCAO WJAS
WFBL WHK WGHP WKBN KMOX

WFBL WHK WGHP WKBN KMACA

8:00-8:30 Toscha Seidel and Concert Orchestra
WABC WEAN WNAC WFAN WMAL WHP
WJAS WLBW WHEC WKBW WADC WKRC
WAIU WKBN WOWO WFBM WBBM KMOX
KOIL KSCI WISN WCCO WIBW KFH
WBCM WSPD WMT WWNC WTAR WDBJ
WBRC WDOD KLRA KLZ
KYI KFPY WBT WPG WNAX WDAY
WXYZ KOL WORC

- Rudy Vallee WJAR WCSH WFI WCAE WFJC WHO 8:00-9:00 Fleischmann Hour -WTAG WEAF WEEI WHO WGY WGR WĎĀF WWJ WTMJ WJAX WIOD WOW WMC WSB WESC WRVA KSL KOMO WBAP KTHS WJDX WHAS WMC WSAI KOA WSM KHQ WBAP KTHS CKGW WTAM KGW WOAI KECA KSD WGN WPT WPTF KPRC WOC KTAR KSTP

8:00-9:00 B. A. Rolle and Lucky Strike Orchestra
WJZ WBAL WHAM KDKA WJR KYW
KWK WREN

8:30-8:45 Kaltenborn Edits the News
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WKRC
WOWO WMAQ KMOX KOIL
WSPD WXYZ WBT WPG

8:45-9:00 Hamilton Watch Program
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKRC WOWO KMOX KOIL KMBC WJJD
WSPD WXYZ

9:00-9:30 Van Heusen Program

WABC WEAN WAAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WHEC WKBW
WADC WHK WKRC WOWO WBBM KMOX
KOIL KMBC WCCO WSPD WGST WDSU
KRLD WXYZ WBT WPG

9:00-9:30 Arco Birthday Party WEAF WEEI WJAR WTAG WCSH CKGW WFI WRC WGY WGR WSB WSM WIOD WJAX WOAI WBAP WRVA WWJ KOA KSL. WKY WBAP WRVA WSAI KSD WDAF WEBC WSMB WJDX KYW WCAE WOC WPTF WFJC WTMJ WMC KGO KECA комо кно KGW wow WHO KSTP

9:00-9:30 Knox-Dunlap Orchestra WJZ WBZ WBZA WBAL WHAM KDKA WIBO KWK WREN WCKY WJR

9:30-10:00 Jack Frost's Melody Moments
WEAF WJAR WWJ WTAG WCSH WFI
WRC WGY WGR WCAE WSAI WTAM
WIBO

9:30-10:00 Detective Story Magazine
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKRC WGHP WOWO WBBM KMOX KOIL
KMBC WSPD

 9:30-10:00 Maxwell House Ensemble

 WJZ
 WBZ
 WBZ
 WBAL
 WLW
 KSTP

 WKY
 WTMJ
 WBBC
 WHAS
 WSM
 KPRC

 KOA
 WJAX
 WRVA
 WSB
 WBAP
 KYW

 KWK
 WREN
 WIOD
 WJR
 WSMB
 WOAI

 KGO
 KECA
 KGW
 KOMO
 KHA
 KSTP

 WPTF
 CKGW
 WMC
 WHAM
 KDKA
 KSLP

10:00-11:00 Victor Herbert Opera Series
WJZ WBAL WHAM WCKY WREN CKGW
KDKA

| 10:00-10:30 Burbig's | Syncopated History | WABC | WEAN | WNAC | WLBZ | WCAU | WCAO | WNAL | WHAL | WHAL

| KOL | 10:00-11:00 RCA | Hour | WEAF | WEEI | WJAR | WTAG | WCSH | WFJ | WWJ | WKZ | WMG | WKZ | WJAY |

11:00-11:15 Hotel Paramount Orchestra
WEAF WFI WRC WGR WCAE WWJ
WSAI KSD WOC WHO WMC WSMB
WJDX

WJDX
11:00-11:15 Bert Lown and His Biltmore Orchestra
WABC WEAN WNAC WLBZ WCAO WMAL
WHP WLBW WFBL WHEC WKRC WKBN
WOWO KOIL KSCJ KMBC WISN WCOO
WTAR WDBJ WDOD WREC WLAC KLRA
KPJF KLZ KDYL KHJ KFPY WBT
KOL WPG WNAX WDAY WORC WXYZ

11:30-12:00 Ted Weems and His Orchestra WABC WEAN WNAC WLBZ WC WMAL WHP WLBW WFBL WI WCAU WCAO WHEC WADO wcco KMBC WISN WKBN KOIL KSCJ WIBW WBCM WSPD WMT WWNC KFH WBRC WDOD WREC WTAR WDBJ WGST WLAC KLRA KFPY KFJF KLZ KDYL KHJ KFRČ WBT WPG WNAX WDAY WORC WXYZ KOL

11:30-12:00 WEAF WOC	Don Bige WRC WHO	low and I WGR WOW	His Orche WWJ CKGW	KSD WFI	WJDX KSTP
12:00-12:30 WABC WLBW WISN WWNC WREC	Paul Tree WEAN WADC WCCO WTAR KLRA	WNAC WKRC WKRC WIBW WDBJ KFJF	d His Ord WLBZ WFBM KFH WGST KLZ	Mestra WCAU KOIL WSPD WBRC KDYL	WMAL KMBC WMT WDOD WBT
KVI	KFPY	WDAY	WNAX	KDIL	WDI
Friday					
11:45-12:00 WEAF KSTP WRVA	KOA		WTAM WCFL	WWJ WDAF	WSM WSMB
1:00-2:00 Pa WEAF KYW	W.OC	WHO	WTAM WOW	KSTP WDAF	KSD
4:00-5:00 Da WEAF WOC	WFJC WHO	elodies KSD	WDAF	WRC	WCAE
7:15-7:30 Te WABC WLBW WCCO WBRC KDYL	WNAC WFBL WGL WDOD KFRC	and His WLBZ WKBW WBCM WREC KFPY	Orchestra WCAO WADC WMT KLRA WDAY	WHP KSCJ WWNC KFJF WORC	WJAS WISN WDBJ KLZ KOL
8:00-8:30 Ne WJZ KWK	WREN	KFAB	WHAM WJR	WCKY	WIBO
8:00-8:30 Ni WABC WKBW WFBM WSPD WREC KFPY	Wit Ho WLBZ WADC KMOX WMT KLRA WPG	WHP WHK WISN WWNC KLZ KOL	WJAS WKRC WCCO WTAR KHJ WDAY	WLBW WAIU WIBW WDBJ KFRC WORC	WHEC WOWO WBCM WDOD KVI WBT
8:00-9:00 Ci WEAF WCAE WOW WOC KOMO WTAG	WEEI WTAM WDAF KOA KGO CKGW	WTIC WJAR KSTP WFAA KGW KECA	WLIT WCSH WTMJ WSAI KHQ WHO	WRC KYW WKY WEBC KPRC	WGR KSD WWJ WOAI KSL
8:30-9:00 Di WABC WLBW WOWO WISN WDBJ KDYL WORC	WEAN WFBL WFBM WCCO WDOD KFRC WXYZ	WLBZ WKBW WMAQ WBCM WNAX KVI KOL	WMAL WADC KOIL WSPD KLRA KFPY	WHP WKRC KSCJ WWNC KFJF WBT	WJAS WAIU KMBC WTAR KLZ WDAY
8:45-9:00 No WJZ WJAX WBZ	WIOD WBZA	W HAM KFAB	WIBO	KWK WREN	WRVA WLW
9:00-9:30 CI WEAF WLIT WIBO WHO	WRC KSD	WGY WWJ	WOW WGR	WTAG WCAE WDAF	WCSH WSAI WOC
9:00-9:30 In WJZ KPRC WSB KOMO WSMB KYW	WHAM KFSD WJAX KHQ WIOD WEBC	WOAI WRVA KWK WFAA KECA	WMC KOA WAPI WBZ WJR WCKY	WKY WHAS KSL WBZA WTMJ CKGW	WREN WSM KGO KGW KSTP
9:00-10:00 T WABC WJAS WKRC KMBC	True Stor WEAN WLBW WGHP WSPD	y Hour WNAC WFBL WOWO	WCAU WMAK WMAQ	WCAO WADC KMOX	WMAL WHK KOIL

WWJ

9:30-10:00 Eversharp Men WEAF WELL

WEEL

WSAI

WTIC

WGY

WOW

WJAR

WGR

WHO

WTAG

WCAE

WOC

Armour Program
WBZ WBZA WJR
WEBC WRVA WMC
KSL WKY WHA 9:30-10:00 WJZ KYW WREN KSTP WMC WOAI WSB WHAS KGO KOA KGW WKY WHAS WJAX WJDX KOMO KHQ WIOD KDKA WTMJ WAPI WHAM KWK KECA WSM WLW WSMR 10:00-10:30 Armstrong Quakers WJZ WBZ WBZA KDKA WREN KPRC WHAM WJR KYW KWK KSTP WTMJ WEBC WHAS WSM WSB WOAI WKY WKY WSMB KOA KSL KĞW WMC WLW 10:00-10:30 The Radio Follies WABC WEAN WNAC WHP WJAS WFBL WCAU WCAO WMAL WKBW WADC WHEC WKRC KOL WHK WOWO WMAQ KMOX WISN WTAR KOIL KMBC WCCO WSPD KDYL KHJ WGST KLZ KFRC KOIN KFPY WXYZ WPG KVI KFBK 10:30-10:45 Wrigley Football Program
WABC WEAN WNAC WCAU
WJAS WLBW WFBL WKBW WCAO WMAL WKBW WADC WHK WKRC WOWO WBBM KMOX KOIL KMBC WSPD KLZ KLZ KDYL KHJ KFPY WXYZ WPG KOIN KFRC KOL. 10:30-11:00 Under the Jolly Roger
WJZ WHAM KDKA KWK WJAX
WBZ WBZA WLW WREN KSTP WJAX WIOD 11:00-11:15 Elgin Program WJZ WBZ WBZA WHAM KDKA WRVA WJAX KWK WREN KFAB WEBC WIOD WSM WSB WJDX WSMB KV00 WKY KTHS KPRC WOAI KOA KOMO KHO KSL KGO KECA KGW WLW WBAP WMC KFSD KSTP 11:00-11:15 Vincent Lopez Orchestra WEAF CKGW WOW WWJ KSD WTIC WOC WHO WDAF WRC KSTP 11:00-11:15 Bert Lown and His Orchestra WABC WEAN WNAC WLBZ W WLBW WKRC KOIL KMBC W WCAO WMAL WLBW WISN WCCO WBCM WSPD WMT WWNO WGST WDOD WREC WLAC WIBW WWNC WTAR WDBJ KLRA KFJF KLZ KFRC WNAX WDAY WORC KFRC KFPY WPG WRT 11:30-12:00 Will Osborne and His Orchestra
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHEC WADC KOIL
WCCO WIBW WBCM WMT WNC WTAR
WDBJ WGST WBRC WDOD WREC WLAC KLRA KFJF KFJF KLZ KDYL WNAX WDAY WORC KDYL KFPY WRT KOL 12:00-12:30 Cotton Club Band WABC WEAN WNAC WLBZ WCAU WMAL KOIL KOIL KMBC WISN WBCM WSPD WMT WADC WHK WKRC WCCO WIBW KFH WBCM WWNC WTAR WDBJ WGST WREC KLRA KFJF KLZ WBT WNAX WDAY WBRC WDOD KDYL Saturday 10:30-11:00 New World Salon Orchestra WABC WEAN WNAC WCAU WCAO WMAL WHP WJAS WFBL WHEC WKBW WADC WKRC WAIU KMOX KOIL KSCJ KFH WECM WSPD WMT WWNC WGST WBRC WDOD WREC WLAC WHK WWNC KMBC KFH WDBJ WPG

KRLD KDYL WBT KLRA KFJF WORC WXYZ

2:30-3:00 Columbia Salon Orchestra WABC WEAN WNAC WLE WLBZ WCAU WCAO WJAS WMAL WHP WFBL WHEC WMAK WADC WHK WKRC WAIU WSPD WWNC WTAR WDBJ WMAQ WBCM WBRC WDOD WBRC WORC WXYZ WLAC KLRA WBT WPG

WCSH

WFJC

WDAE

4:00-5:00 Merry Makers — Dance Band WJZ WLW KDKA WBAP KFAB KOA WBZ WBZA KYW WHAM WTMJ

4:30-5:90 Spanish Serenade
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WFBL WMAK WADC WHK
WKRC WAIU WKBN WFBM KOIL
KMBC WISN WCOO WIBW WBCM WSPD
WMT WWNC WTAR WDBJ WGST WBRC
WDOD WREC WLAC KRLD KLRA
KLZ KDYL KHJ KVI
WPG WDAY WXYZ KOL

4:30-5:00 Mellow Melodies
WEAF WTIC WCAE WTAM WDAF WRC
KSTP KTHS WFAA WTMJ WTAG WBAP
WSB

5:30-6:00 Blue Aces WJZ WBZ WBZA WHAM WHAS KWK WSB WFAA

 5:45-6:00 Columbia Educational Features

 WABC
 WAPAN
 WCAO
 WHP
 WJAS
 WFBL

 WKBW
 WADU
 WOLU
 KSCJ
 KMBC

 WISN
 WCCO
 WIBW
 WBCM
 WSPD
 WMT

 WWNC
 WTAR
 WDDJ
 WGCM
 WDDD
 WREC

 WLAC
 KRLD
 KLRA
 KFJF
 KLZ
 KVI

 KFPY
 WBT
 WDAY
 WXYZ
 WXYZ

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

6:00-6:40 Jack Albin's Hotel Bossert Orchestra WJZ WBZ WBZA WHAM KWK KFAB

6:15-6:45 Ted Husing's Sportslants
WABC WMAL WHP WAS WLBW WHEC
WKBW WAIU WOWO KMOX KMBC WISN
WBRC WDOD WREC KRLD KLRA KFJF
KLZ KHJ KVI KFPY KOL WDAY

7:15-7:30 Ted Fiorito and His Orchestra
WABC WNAC WLBZ WHP WJAS WLBW
WFBL WHIEC WKBW WADC WOWO KSCJ
WISN WCCO WIBW KFH WBCM WWNC
WDBJ WBRC WDOD WREC KRLD KLRA
KFJF KLZ KDYL KHJ
WBT WDAY WORC KOL

7:30-8:00 The Fuller Man

WJZ WBZA WHAM WLW CKGW

WREN KFAB KWK KOA KSL KGO

KECA KGW KHQ WEBC KOMO KYW

KSTP KVOO KPRC WTMJ KDKA

7:30-8:00 Phil Spitalny's Music WEAF WJAR WTAG WGY WTAM WWJ WRVA WGR WRC WCSH WHO WOC WOW

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

8:00-9:00 "Pop" Concert
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WSMB WSAI
WTMJ WJDX KOA KGO KGW KSD
WOC WHO WOW WDAF WWJ

8:15-8:30 Wonder Dog WJZ WBAL WHAM KDKA WLW KYW WREN KFAB WJR KWK

8:30-8:45 Johns Manville Program
WABC WEAN WNAC WCAU WCAO WJAS
WFBL, WKBW WHK WKRC WOWO WMAQ
KMOX KOIL KSCJ KFH WGST WBRC
WDSU WRR KFRC KOIN
WPG WBT WNAX WDAY

8:30-9:00 Pickard Family WJZ WREN WLS WHAM KFAB KDKA 9:00-9:30 Silver Flute
WEAF WEEI WJAR WTAG WCSH WRC
WFI WGR WGY WWJ WSAI KSD
WOC WHO WOW

9:00-10:00 Hank Simmons' Show Boat

WABC WEAN WNAC WLBZ
WMAL WHP
WKRC WKBN WOWO WFBM WMAQ KMOX
KOIL KMBC WISN WCCO WIBW KFH
WBCM WSPD WMT WWNC WTAR WDBJ
WGST WBCC WD0JD WREC WLAC KLRA
KFFF KLZ KDYL KHJ KFFC KVI
KFFY WPG WNAX WDAY WORC WBT

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

10:00-10:15 Cub Reporter
WJZ KDKA WCKY WREN CKGW WBZ
WBZA

10:00-11:00 B. A. Rolfe's Lucky Strike Orchestra WEAF WEEI WJAR WTAG WFI WGY WGR WCAE WWJ WGN WGN KSD WGR WDAF WIOD WHO WOW KSTP WTMJ WSMB WJAX WHAS WOAI WKY WAPI WSB KPRC WMC WSAI WFJC KOA WOAI WAT WAPI WAAI WFJC KGO KSL KGW KOMO KHQ WJDX WPTF WRVA WCSH WFLA WOC KFI KTAR KFSD WBAP WOC

10:15-10:30 Broadway Lights
WJZ KDKA KWK WREN CKGW

11:00-11:15 Troubadour of the Moon WEAF WFI WRC WCAE WOC WHO WDAF WIOD KSTP WAPI WSMB

WART WOOD KSTF WATI WSMD

11:00-11:30 Jack Denny and His Mt. Royal Orchestra

WABC WEAN WNAC WLBZ WFAN WCAO

WMAL WHP WJAS WLBW WFBL WHEC

WADC WHK WKRO WKBN KMOX KOIL

KSCJ KMBC WISN WCCO WIBW KFH

WBCM WSPD WMT WNCC WTAR WDBJ

WGST WBRC WOOD WREC WLAC KLRA

KFJF KLZ KDYL KHJ KFRC KFPY

WBT WPG WNAX WDAY WORC WXYZ

KOL

11:30-12:00 Guy Lombardo and Royal Canadians
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WHEC WADC WKBN
WFBM KMOX KOIL KMBC WISN WCCO
WIBW KFH WBCM WMT WWNC WTAR
WDBJ WGST WBRC WDOD WREC WLAC
KLRA KFJF KLZ KDYL KFRC KFPY
WNAX KOL WDAY WORC WBT

WASC WEAN WASC WCAU WMAL WHP
WHK WKRC WFBM KMOX KOIL
WISN WCCO WIBW WBCM WSPD WMT
WWNC WTAR WDBJ WGST WBRC WDOD
WREC KRLD KLRA KFJF KLZ
WBT KVI KFPY WNAX KOL WDAY

12:00-1:00 Kay Kyser's Hotel New Yorker Orchestra
WEAF WTMJ WRC WJDX WFJC WCFI
WOW WWJ KSD WOC WHO WDAI
WFLA KSTP WSUN WSB KSD

NOTICE OF COPYRIGHT

The method of logging by wave-lengths or frequencies was devised by The Radex Press in 1924 and has been copyrighted and recopyrighted each year since that time. The arrangement of stations in groups by frequencies or wave-lengths with dial readings in connection therewith is fully covered by our copyright and all infringers will be vigorously prosecuted.

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; S, 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.

540 kilocycles 555.6 meters

CKX † 500 ___ Brandon, Manitoba XFA __ 50 ___ Mexico City Manitoba Telephone System Sria, de Agricultura y Fomento

550 kilocycles 545.1 meters

Brookings, S. D. St. Louis, Mo. Bismarck, N. D. Corvallis, Ore. St. Louis, Mo. Buffalo, N. Y. KFDY 500 $^{1+}_{2+}$ **KFUO** 500 KFYR Ş 1000 $\bar{1}$ KOAC 1000 2N N C KSD WGR 500 1000 WKRC 1000 Cincinnati, Ohio 547 XEY 105 Merida, Yucatan

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

560 kilocycles 535.4 meters

KFDM KLZ 500 Beaumont, Texas 1000 Denver, Colo. KTAB WFI 1000 San Francisco, Ca Philadelphia, Pa. 1N+500 3+N 1N X+ 3S C Philadelphia, Pa. Chicago, Ill. Philadelphia, Pa. Knoxville, Tenn Chicago, Ill. Miami, Fla. WIBO 1000 WLIT WNOX WPCC 500 1000 500 WQAM 1000

Magnolia Petroleum 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.

570 kilocycles 526.0 meters

Wichita Falls, Texas Los Angeles, Cal. Seattle, Wash. **KGKO** 250 + KMTR KXA WEAO 500 500 Seattle, wasn.
Columbus, Ohio
Youngstown, Ohio
Cazenovia, N. Y.
New York City
Yankton, S. D.
New York City + 750 $\hat{1}_{2}^{C}$ WKBN 500 --WMAC 250 WMCA 500 3 WNAX WNYC WSYR 1000 500 Č 3 --2 250 Syracuse, N. Y. WWNC 1000

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.

580 kilocycles 516.9 meters

CFCL CHMA 500 38 Toronto, Ont. 250 Edmonton, Alta. CKCL CKNC CKUA KGFX KSAC WIBW 500 Toronto, Ont. Toronto, Ont. 3 * 500 3 Edmonton, Alta. Pierre, S. D. 500 4 200 Ď 500 $\frac{2}{2} + C$ Manhattan, Kans. 500 Topeka, Kansas Charleston, W. Va. Huntington, W. Va. WOBU WSAZ 250 1 - -250 WTAG 250 N Worcester, Mass.

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

KCYS.

CUT OUT ON DOTTED LINES

Spokane, Wash. Lincoln, Nebr. Boston, Mass. Berrien Springs, Mich. Omaha, Nebr. Mexico City Lynchburg, Va.

Louis Wasmer, Inc. 670 Nebraska Wesleyan University Edison Elec. Illuminating Co. WKZO, Inc. Woodmen of the World Sria. de Industria, Commercio y Trabajo DIAL Abe Cohen

591 CP 600 kilocycles 499.7 meters

590 kilocycles 508.2 meters

Ď

ĩN

1000

1000

1000

1000

1000

500

500

KHQ WCAJ WEEI

WKZO

XFI

t

+N

CFCH		250	3	Iroquois Falls, Ont.
CJRM		500	4	Moose Jaw, Sask.
CIRW		500	4	Fleming, Sask.
CMW		1000	595	Havana, Cuba
CNRO		500	3	Ottawa, Ont.
KFSD	*	500	+N	San Diego, Cal.
WCAC		250	2+	Storrs, Conn.
WCAO	*	250	C	Baltimore, Md.
WGBS		250	$^{2}+$	New York City
WMT	*	500	C	Waterloo, Iowa
WOAN		500	1	Lawrenceburg, Tenn.
WREC		500	1+C	Memphis, Tenn.

610 kilocycles 491.5 meters

WIP * 500 2 Philadelphia, Pa. WJAY _ 500 D Cleveland, Ohio		500		San Francisco, Cal Kansas City, Mo. Philadelphia, Pa. Philadelphia, Pa. Cleveland, Ohio	١.
---	--	-----	--	---	----

620 kilocycles 483.6 meters

			7	D 41 1 0
KGW	*	1000	+N	Portland, Ore.
KTAR		500	+N	Phoenix, Arizona
WFLA	*	1000	i+N	Clearwater, Fla.
WLBZ		500	C	Bangor, Maine
WSUN	*	1000	1+N	St. Petersburg, Fla.
WTMJ		1000	+N	Milwaukee, Wis.
XET	†	500		Monterrey, N. L.

630 kilocycles 475.9 meters

CFCT	*	500		Victoria, B. C.
CIGX		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.
XFC		350	631	Jalapa, Ver.

640 kilocycles 468.5 meters

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

650 kilocycles 461.3 meters

OOO KIIC	ocy cr		101.0 1110001
KPCB	100	Ñ	Seattle, Wash.
WSM	5000		Nashville, Tenn.

660 kilocycles 454.3 meters

WAAW WEAF	*	500 50000	D .	Omaha, Neb. New York City
WEAF	Ť	50000	N	New Tork City

670 kilocycles 447.5 meters

WMAQ	*	5000	C	Chicago, Ill.
XEB		1000	666	Mexico City

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

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

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

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 Veracruz

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

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

Omaha Grain Exchange National Broadcasting Co., Inc.

WMAQ, Inc. E. Buen Tono, S. A.

[37]

INDEX BY FREQUENCIES A	ND DIAL NUMBERS
680 kilocycles 440.9 meters	
KFEQ * 2500 D St. Joseph, Mo. KPO † 5000 N San Francisco, Cal. WPTF * 1000 N Raleigh, N. C.	Scroggin & Co., Bank Hale Bros. & The Chronicle Durham Life Insurance Co.
690 kilocycles 434.5 meters	
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 500 Louisburg, 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	
WLW * 50000 N Cincinnati, Ohio XEZ _ 500 697 Mexico City, Mex.	Crosley Radio Corp. Joaquin Zamacona
710 kilocycles 422.3 meters	
KMPC _ 500 _ Los Angeles, Cal. WOR _ 5000 _ Newark, N. J.	R. S. MacMillan Bamberger Broadcasting Service, Inc.
720 kilocycles 416.4 meters	38
WGN - 25000 N Chicago, III. WLIB - 25000 N Chicago, III. 8WMC - 500 722 St. Johns, N. F.	Chicago Tribune Chicago Tribune Wesley United Church
730 kilocycles 410.7 meters	
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 - 3000 - Havara, Cuba CNRM - 5000 2 Montreal, Que. XEN † 1000 731 Mexico City	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 Compania Civil de Inversiones Urbanas
740 kilocycles 405.2 meters	
KMMJ - 1000 - Clay Center, Neb. WSB - 5000 N Atlanta, Ga.	The M. M. Johnson Co. Atlanta Journal Co.
750 kilocycles 399.8 meters	
TIX 50 San Jose, Costa Rica WJR † 5000 N Detroit, Mich.	WJR, The Goodwill Station, Inc.
760 kilocycles 394.5 meters	
KVI - 1000 C Tacoma, Wash. WEW - 1000 D St. Louis, Mo. WJZ † 30000 N New York City	Puget Sound Broadcasting Co., Inc. St. Louis University Radio Corp. of America, 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. XED - 2000 769 Reynosa, Tams.	Instituto Provincial KFAB Broadcasting Co. The Atlas Co., Inc. The Atlas Co., Inc. Alfonso Dominquez
780 kilocycles 384.4 meters	
CKY 5000 3 Winnipeg, Manitoba CNRW 5000 3 Winnipeg, Manitoba KELW 500 2 Burbank, Cal.	Manitoba Telephone System Canadian National Railways Union Bank & Trust Co.
[90]	

INDEX BY FREQUENCIES AN	ND DIAL NUMBERS	
KTM * 500 2+ Los Angeles, Cal. WEAN 250 +C Providence, R. I. WISJ 250 + Madison, Wis. WMC 500 +N Memphis, Tenn. WPOR 500 1 Norfolk, Va. WTAR * 500 1C Norfolk, Va. XEW 500 Mexico City	Pickwick Broadcasting Corp. Shepard Broadcasting Service, Inc. Wisconsin State Journal Bdcsg. Co. Memphis Commercial-Appeal WTAR Radio Corp. WTAR Radio Corp. Mexico Music Co.	
790 kilocycles 379.5 meters		
CMHC - 500 791 Tuinucu, Cuba KGO † 7500 N San Francisco, Cal. WGY † 50000 N Schenectady, N. Y.	Frank H. Jones National Broadcasting Co., Inc. General Electric Co.	KCYS.
800 kilocycles 374.8 meters		880
WBAP * 10000 1XN Fort Worth, Texas WFAA - 50000 1N Dallas, Texas XEU - 101 Veracruz, Mex.	Carter Publications, Inc. News & Journal Natalio Ulibarri	MTRS. 340.7 DIAL
810 kilocycles 370.2 meters		
WCCO - 7500 C Minneapolis, Minn. WPCH - 500 D New York City	Northwestern Broadcasting, Inc. Eastern Broadcasters, Inc.	
820 kilocycles 365.6 meters	47	1
WHAS † 10000 N Louisville, Ky.	Courier-Journal & Times	
830 kilocycles 361.2 meters	1	
CMGA 300 834 Colon, Cuba KOA 12500 N Denver, Colo. WHDH 1000 D Boston, Mass. WRUF * 5000 Gainesville, Fla.	Leopoldo V. Figueros National Broadcasting Co., Inc. Matheson Radio Co., Inc. University of Florida	
840 kilocycles 356.9 meters		3
CFCA † 500 1 Toronto, Ont. CHCT 1000 - Red Deer, Alta. CKLC 1000 2 Red Deer, Alta. CMC 500 - Havana, Cuba CNRD 1000 2 Red Deer, Alta. CNRT 500 1 Toronto, Ont. WGM 100 3 Adamsburg, Pa. WOOP 100 3 Jeannette, Pa. XEM 500 - Tampico, Tams. XFX 500 - Mexico City, Mex.	Star Publishing & Ptg. Co. G. F. Tull & Ardern, Ltd. Alberta Pacific Grain Co., Ltd. Cuban Telephone Co. Canadian National Railways Canadian National Railways Pioneer Broadcasting Co., Inc. Oakford-Olympia Park Corp. Herbert A. Denny y Cia. Secretaria de Educacion Publica	CUT OUT ON DOTTED LINES
850 kilocycles 352.7 meters	42	0.1
KWKH * 10000 1 Shreveport, La. NBA 750 846 Balboa, Canal Zone WWL * 5000 1 New Orleans, La.	Hello World Broadcasting Corp. United States Navy Loyola University	N DOJ
860 kilocycles 348.6 meters	43	TE
XMBC	KMO, Inc. Atlantic Broadcasting Corp. Atlantic Broadcasting Corp. WHB Broadcasting Co. Juan G. Buttner	D LINES
870 kilocycles 344.6 meters	40	!
WENR - 50000 IN Chicago, III. WLS - 5000 IXN Chicago, III.	Great Lakes Broadcasting Co. Agricultural Broadcasting Co.	
880 kilocycles 340.7 meters		h l
CHCS - 10 4 Hamilton, Ont. CHML - 50 4 Hamilton, Ont. CHMC - 100 3 Quebec, Que. CJCB - 50 5 Quebec, Que. CKC1 22.5 3 Quebec, Que. CKCV 5 50 3 Quebec, Que. CKOC - 50 4 Hamilton, Ont. CNRQ 5 50 3 Quebec, Que. CKOC - 50 4 Guebec, Que. CKOC - 50 4 Guebec, Que. CNRQ 5 50 2 Hamilton, Ont. CNRQ 6 50 4 Complex Que. CNRQ 7 50 0 Quebec, Que. CNRQ 7 50 0 Quebec, Que. CNRQ 8 Greeley, Colo. CNRQ 1 CONRAGOR CONRA	The Hamilton Spectator Maple Leaf 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.	3

	INDEX I	BY FREQUENCIES A	ND DIAL NUMBERS
KPOF WCOC WGBI * WQAN * WSUI *	500 2 500 + 250 1 250 1 500	Denver, Colo. Meridian, Miss. Scranton, Pa. Scranton, Pa. Iowa City, Iowa	Pillar of Fire, Inc. Mississippi Broadcasting Co., Inc. Scranton Broadcasters, Inc. Scranton Times University of Iowa
890 kiloc	veles :	336.9 meters	
CFBO * CKCO KFNF * KGJF * KUSD * WGST WILL * WKAO WMAZ † WMMN * XES †	500 2+ 250 2+ 250 2+ 250 2+ 250 1+C 250 2+ 250 1+ 250 1+ 250 1+ 250 5+ 250 5+ 250 5+	St. John, N. B. Ottawa, Ont. Shenandoah, Iowa Little Rock, Ark. Vermillion, S. D. Atlanta, Ga. Urbana, Ill. Providence, R. I. San Juan, P. R. Macon, Ga. Fairmount, W. Va. Tampico, Mexico	C. A. Munro, Ltd. Dr. G. M. Geldert Henry Field Co. Church of the Nazarene University of South Dakota Georgia School of Technology University of Illinois The Outlet Co. Radio Corp. of Porto Rico Junior Chamber of Commerce Holt-Rowe Novelty Co. Difusora Portena XES
900 kiloo	voles 3	333.1 meters	
CMX	250	Havana, Cuba	Francisco Lavin
KGBU †	500	Ketchikan, Alaska	Alaska Radio & Service Co.
KHJ * KSĚI *	1000 C 250	Los Angeles, Cal. Pocatello, Idaho	Don Lee, Inc. KSEI Broadcasting Association, Inc.
WBEN	1000 CP1	Pocatello, Idaho Buffalo, N. Y.	Bullalo Evening News
WKŸ *	1000 N 1000 N	Jacksonville, Fla Oklahoma City	City of Jacksonville WKY Radiophone Co.
WLBL *	2000 D	Stevens Point, Wis.	Wisconsin Dept. of Markets
910 kiloc	cycles 3	329.6 meters	
CFOC CJGC * CNRL *	500 1	Saskatoon, Sask.	The Electric Shop, Ltd.
CNRL *	500 2 500 2	London, Ont. London, Ont.	Free Press Printing Co., Ltd. Canadian National Railways
CNRS	500 1	Saskatoon, Sask.	Canadian National Railways
920 kiloc	cycles 3	325.9 meters	
CMHD	250	Caibarien, Cuba	Manuel A. Alverez
KFEL †	1000 500 1	Port au Prince, Haiti Denver, Colo.	Republic of Haiti Eugene P. O'Fallon, Inc
	500 1	Denver, Colo. Seattle, Wash.	Republic of Haiti Eugene P. O'Fallon, Inc. Colorado Radio Corp.
KPRC	1000 N 1000 +N	Houston, Texas	
WAAF WBSO	1000 +N 500 D 500 D	Houston, Texas Chicago, Ill.	Houston Printing Co. Drovers Journal Publishing Co. Babson Statistical Organization, Inc. The Detroit Nave
wwj †	1000 N	Wellesley Hills, Mass. Detroit, Mich.	
WWJ † XEX XFE	500 923 250 923	Detroit, Mich. Mexico City, Mex. Villa Hermosa, Tab.	Excelsior Cia Editorial S. A.
			Gobierno Del Estado d Tobasco
930 kiloc	cycles 3	322.4 meters	
CEBC	500 4 500 3	Edmonton, Alta. Kingston, Ont.	The Edmonton Journal, Ltd. Queen's University
CHNS *	500 50	Kingston, Ont. Halifax, N. S.	Halifax Herald, Ltd.
CKPR	50 3	Wolfville, N. S. Midland, Ont.	Acadia Academy Midland Broadcasting Corp.
CNRE	500 4 500	Edmonton, Alta. Halifax, N. S.	Canadian National Railways
KFWI	5 00 1	San Francisco, Cal.	Canadian Nation1 Railways Radio Entertainments, Inc.
KGBZ KMA *	$\begin{array}{ccc} 500 & 2+ \\ 500 & 2+ \end{array}$	York, Nebr. Shenandoah, Iowa	Dr. George R. Miller May Seed & Nursery Co.
KROW	500 1	Oakland, Cal.	Educational Broadcasting Com
WBRC WDBJ *	500 +C 250 +C 50 D	Birmingham, Ala. Roanoke, Va.	Birmingham Broadcasting Co., Inc. Richardson-Wayland Elec. Corp. St. Pauls P. E. Church
WIBĞ	50 D	Elkins Park, Pa.	St. Pauls P. E. Church
940 kiloc	cycles 3	319.0 meters	
KGU †	1000	Honolulu, Hawaii Portland, Ore.	Marion A. Mulrony KOIN, Inc.
WAAT	300 D	Jersey City, N. J.	Bremer Broadcasting Corp.
WCSH *	1000 N 1000 C	Jersey City, N. J. Portland, Maine Fargo, N. D.	Congress Square Hotel Co.
WFIW	1000 C	Hopkinsville, Ky.	Congress Square Hotel Co. WDAY, Inc. WFIW, Inc.
WHA	750 D	Madison, Wis.	University of Wisconsin

	Y FREQUENCIES AN	D DIAL NOMBERO	
950 kilocycles 3	15.6 meters	3 3	
CMCQ - 500 955 KFWB * 1000 - 500 X KGHL - 500 X KMBC * 1000 C WRC † 500 N	Havana Cuba Hollywood, Cal. Billings, Mont. Kansas City, Mo. Washington, D. C.	Andres Martinez Warner Bros. Broadcasting Corp. Northwestern Auto Supply Co., Inc. Midland Broadcasting Co., Inc. Radio Corp. of America	
960 kilocycles 3	12.3 meters		
CFCY * 250 1 CFRB - 4000 2C CHCK 30 1 CHWC 500 3 CJBR 500 3 CKCK † 500 3 CNRR 500 3 CNRX 4000 2	Charlottetown, P. E. I. Toronto, Ont. Charlottetown, P. E. I. Pilot Butte, Sask. Regina, Sask. Regina, Sask. Regina, Sask. Toronto, Ont.	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	
970 kilocycles 3	09.1 meters		
KJR * 5000 XEH 101 964 WCFL 1500 N	Seattle, Wash. Monterrey, N. L. Chicago, III.	Northwest Broadcasting System, Inc. Ing. Constantino de Tarnava Chicago Federation of Labor	ксу 104
980 kilocycles 3	05.9 meters		MTI 28
KDKA 50000 N XEO 101 983	Pittsburgh, Pa. Mexico City	Westinghouse Elec. & Mfg. Co. F. Armida y Cia.	DIA
990 kilocycles 3	02.8 meters	:	;
WBZ * 15000 1NY WBZA * 500 1NY	Springfield, Mass. Boston, Mass.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co.	
1000 kilocycles	299.8 meters		
KFVD - 250 WHO - 5000 1N WOC - 5000 1N XEI - 101 999	Culver City, Cal. Des Moines, Iowa Davenport, Iowa Morelia, Mexico	Los Angeles Broadcasting Co. Central Broadcasting Co. Central Broadcasting Co. Carlos Gutierrez M.	
1010 kilocycles	296.8 meters [
CFLC - 50 3 CKCR - 50 3 CMBZ - 100 - CMCF - 250 - CMCF - 500 2Y KGGF - 500 2Y KOW * 500 - CMNN - 250 1 WIS - 500 C+ WNAD - 500 2 WPAP - 250 1 WOAO - 250 1 WRNY - 250 1	Prescott, Ont. Waterloo, Ont. Havana, Cuba Havana, Cuba Picher, Okla. San Jose, Cal. New York City Columbia, S. C. Norman, Okla. New York City New York City New York City New York City	Radio Association John Patterson Manuel y G. Salas Raul Karmen Powell & Platz Pacific Agricultural Foundation, Ltd. Marcus Loew Booking Agency George T. Barnes, Inc. University of Oklahoma Calvary Baptist Church Calvary Baptist Church Aviation Radio Station, Inc.	CUT OUT ON DOTTED LINES
1020 kilocycles	293.9 meters [ED)
KFKX - 10000 1N KYW - 10000 1N WRAX - 250 D	Chicago, Ill. Chicago, Ill. Philadelphia, Pa.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co. Berachah Church, Inc.	LINES
1030 kilocycles	291.1 meters [
CFCF 500 500	Montreal, Que. Vancouver, B. C.	Canadian Marconi Co. Canadian National Railways	
1040 kilocycles	288.3 meters [
KRLD * 10000 1C KTHS § 10000 1N WKAR 10000 D	Dallas, Texas Hot Springs, Ark. East Lansing, Mich.	KRLD Radio Corp. Chamber of Commerce Michigan Agricultural College	

[41]

	INDEX	BY FREQUENCIES AN	ND DIAL NUMBERS
1050 1	kilocycles	285.5 meters	
KFKB KNX	* 5000 X	Milford, Kansas Hollywood, Cal.	KFKB Broadcasting Assn., Inc. Western Broadcast Co.
1060 1	kilocycles	282.8 meters	
KWJJ WBAL WJAG	* 10000 1N * 1000 1N * 1000 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 k	cilocycles	280.2 meters	
KJBS WCAZ WDZ WTAM * XER	* 100 D - 50 D - 100 D	San Francisco, Cal. Carthage, III. Tuscola, III. Cleveland, Ohio Mexico City	Julius Brunton & Sons Co. Superior Broadcasting Service James L. Bush WTAM, Inc. F. Armida y Cia
1080 k	cilocycles	277.6 meters	2.5
WBT WCBD WMBI	* 5000 C * 5000 1 5000 1	Charlotte, N. C. Zion, Ill. Chicago, Ill.	Station WBT, Inc. Wilbur Glenn Voliva Moody Bible Institute
1090 k	cilocycles	275.1 meters	
KMOX XEL	* 5000 1CX	St. Louis, Mo. Saltillo, Coah.	Voice of St. Louis, Inc. Antonio Garza Castro
1100 k	kilocycles	272.6 meters	
KGDM WLWL WPG	* 250 DX * 5000 1 5000 1C	Stockton, Cal. New York City Atlantic City, N. J.	E. F. Peffer Missionary Society of St. Paul WPG Broadcasting Corp.
1110 k	kilocycles	270.1 meters	
KSOO ?	* 2000 * 5000 N	Sioux Falls, S. D. Richmond, Va.	Sioux Falls Broadcasting Assn., Inc. Larus & Bros. Co., Inc.
1120 k	kilocycles	267.7 meters	
CFJC CHGS CJOC KFIO KFSG KMIC KRSC KTRH WDBO WDEL WHAD WISN WTAW	15	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.	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
1130 k	cilocycles	265.3 meters	
KSL WJJD	5000 N 20000 C 1000 D 105 1131	Salt Lake City Mooseheart, Ill. New York City Oaxaca, Oax.	Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Frederico Zorrila
/1140 1	kilocycles	263.0 meters	27
KVOO WAPI	* 5000 1N 5000 1N	Tulsa, Okla. Birmingham, Ala.	Southwestern Sales Corp. Alabama Polytechnic Institute
1150 1	kilocycles	260.7 meters	
CMHA	200 1154 * 5000 N	Cienfuegos, Cuba Rochester, N. Y.	Jose Ganduxe Stromberg-Carlson Tel. Mfg. Co.
		F 40 3	

KCYS.

1200

MTRS.

249.9

DIAL

258.5 meters 1160 kilocycles

5000

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

Main Auto Supply Co. West Virginia Broadcasting Corp.

1170 kilocycles

10000

256.3 meters

Muscatine, Iowa Philadelphia, Pa. Norman Baker Universal Broadcasting Co

1180 kilocycles

5000 KEX KOB WDGY 20000 1000 WHDI 500 254.1 meters

Portland, Ore. State College, N. M. Minneapolis, Minn. Minneapolis, Minn.

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

1190 kilocycles

50000

WRAF

WRBL

10-BP

XEA XES

WWAE

100

50

100

101

8--

252.0 meters Bridgeport, Conn. San Antonio, Texas

Bridgeport Broadcasting Station, Inc. Southern Equipment Co.

249.9 meters 1200 kilocycles

ž

Paragould, Ark. Gunnison, Colo. **KBTM** 100 D KFHA KFJB KFWF KGCU KGDE 50 + 5 100 Marshalltown, Iowa St. Louis, Mo. Mandan, N. D. Fergus Falls, Minn. 100 100 + 100 Huron, S. D. Yuma, Colo. KGDY 100 KGEK KGEW KGFJ KGHI a 50 Ť 100 ġ Fort Morgan, Colo. Los Angeles, Cal. Little Rock, Ark. 100 100 Lacey, Wash. Monroe, La. Santa Maria, Cal. Bellingham, Wash. 10 50 KGY KMLB DCP 100 KSMR KVOS 100 ---Stockton, Cal.
Bangor, Maine
New Orleans, La.
Ponca City, Okla
Rapid City, S. D.
Burlington, Vt. KWG WABI WABZ 100 t 100 100 ī WBBZ 100 WCAT WCAX 100 $\bar{2}$ Burlington, Vt Janesville, Wis. 100 WCLO 100 Harrisburg, Pa. Emory, Va. Worcester, Mass. Knoxville, Tenn. WCOD WEHC 100 3 100 +XWEPS 100 WFBC 50 + 4S Cincinnati, Ohio WFBE 100 Canton, Ohio Green Bay, Wis Utica, N. Y. WHBC 10 WHBY 100 WHBY WIBX WIL WJBC WJBL WJBW WKJC WLAP WLBG 100 + 5+ St. Louis, Mo. La Salle, Ill. Decatur, Ill. 100 100 6 100 6 100 13 New Orleans, La. Lancaster, Louisville, Ky. 100 + + 5+ 100 Louisvine, Va. Petersburg, Va. St. Louis, Mo. Washington, Pa. Carbondale, Pa. 100 WMAY WNBO WNBW 100 100 4 10 2 X WNBX Springfield, Vt. Worcester, Mass. 10 100 WDPF 100 88 Flint, Mich.

W. J. Beard's Temple of Music The Hawkins-Craig Syndicate Marshall Electric Co., Inc. St. Louis Truth Center, Inc. Mandan Radio Association Jaren Drug Co. J. Albert Loesch and George W. Wright Beehler Elec, Equipment Co. City of Fort Morgan Ben S. McGlashan Berean Bible Class St. Martin's College G. C. Liner Santa Maria Valley R. R. Co. 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. Norman R. Hoffman Emory & Henry College Alfred Frank Kleindienst 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 Kingshighway Presbyterian Church John Brownlee Spriggs Home Cut Glass & China Co. First Congregational Church Alfred Frank Kleindienst City of Flint

Chas. Middleton David Parmer Hammond-Calumet Broad. Corp. Alberto Palos Sauza

Cerveceria de Durango, S. A. Radio & Electric Shop

La Porte, Ind.

C. Lerdo Dgo Wingham, Ont

Columbus, Ga. Hammond, Ind

Guadalajara, Jal.

1210 kilocycles	247.8 meters	
	Chatham, Ont.	Western Ontario "Better Radio" Club
CFCO - 100 CFNB - 50	Fredericton, N. B.	James S. Neill & Sons, Ltd.
CHWK † 5	Chilliwack, B. C.	Chilliwack Broadcasting Co., Ltd.
CKMC 15	Sea Island, B. C. Cobalt, Ont.	G. C. Chandler R. L. MacAdam
CKPC t 25	Preston, Ont.	Metal Shingle & Siding Co.
KDFN † 100	Preston, Ont. Casper, Wyo. Devils Lake, N. D.	Donald Lewis Hathaway
KDLR 100 KFOR 100 +	Devils Lake, N. D.	KDLR, Inc.
1/EVS 100 4	Lincoln, Nebr. Cape Girardeau, Mo.	Howard A. Shuman Hirsch Battery & Radio Co.
KFXM 100 9	San Bernardino, Cal.	Hirsch Battery & Radio Co. J. C. & E. W. Lee
KGCR 100	Watertown, S. D.	Cutler's Radio Brdcstg. Service, Inc.
KGMP § 100 KGNO 100	Elk City, Okla. Dodge City, Kans.	Bryant Radio & Electric Co.
KMJ * 100	Fresno, Cal.	Melvin A. McCollum James McClatchy Co.
KPPC § 50 9	Pasadena, Cal.	Pasadena Presbyterian Church
117 AT TO # 100	Shreveport, La.	
WALR * 100 WBAX 100 1	Zanesville, Ohio Wilkes-Barre, Pa.	Koy, W. Waller John H. Stenger, Ir
WBBL † 100 7S	Richmond, Va.	Hello World Broadcasting Corp. Roy. W. Waller John H. Stenger, Jr. Grace Covenant Presbyterian Church H. L. Dewing & Chas. Messter Westchester Broadcasting Corp. Clinton R. White Dutee W. Flint
WCBS § 100 2	Richmond, Va. Springfield, Ill.	H. L. Dewing & Chas. Messter
	Yonkers, N. Y.	Westchester Broadcasting Corp.
WCRW * 100 4 WDWF 100 5	Chicago, Ill. Providence, R. I.	Dutee W. Flint
WEBO - 100 6	Harrisburg, Ill.	First Trust & Savings Bank
WEBQ - 100 6 WEDC - 100 4 WGBB * 100 3	Harrisburg, Ill. Chicago, Ill.	Emil Denemark, Inc.
WCCM	Freeport, N. Y.	Harry H. Carman Great Southern Land Co., Inc.
WHBF - 100	Gulfport, Miss Rock Island, Ill.	Beardsley Specialty Co.
WHBU † 100	Anderson, Ind.	Citizens Bank
WIBA 500 XZ WJBI 100 3	Anderson, Ind. Madison, Wis.	Capital Times Co.
WJBI - 100 3 WJBU - 100 1	Red Bank, N. J. Lewisburg, Pa.	Monmouth Broadcasting Co. Bucknell University
WIBY 50	Gadsden, Ala.	Gadsden Broadcasting Co., Inc.
WJW * 100	Mansfield, Ohio	Mansfield Broadcasting Assn.
WLCI * 50 WLSI 100 5		Lutheran Assn. of Ithaca The Lincoln Studios, Inc.
WMAN † 50 X WMBG - 100 7	Columbus, Ohio	Columbus Broadcasting Co.
WMBG - 100 7	Providence, R. I. Columbus, Ohio Richmond, Va. Jamaica, N. Y.	Havens & Martin, Inc.
WMRJ 100 3 WOCL * 25	Jamaica, N. Y.	Peter J. Prinz A. E. Newton
WOMT 100	Jamestown, N. Y. Manitowoc, Wis. Pawtucket, R. I.	Francis M. Kadow
WPAW * 100 5	Pawtucket, R. I.	Shartenburg & Robinson Co.
WODX 50	Thomasyilla Ca	Stevens Luke
WRBO † 100 X+ WRBU 100	Gastonia N C	J. Pat. Scully A. J. Kirby Music Co.
WSBC * 100 4	Chicago, Ill.	World Battery Co., Inc.
WSIX 100	Greenville, Miss. Gastonia, N. C. Chicago, Ill. Springfield, Tenn. Springfield, Ill.	638 Tire & Vulcanizing Co.
WTAX 50 2X	Springfield, Ill.	WTAX, Inc.
1220 kilocycles	245.8 meters	
CMBC * 100 1225		Damingo Formandos Carr
KFKU 1000 1	Havana, Cuba Lawrence, Kans,	Domingo Fernandez Cruz University of Kansas
KWSC 500 X+	Lawrence, Kans. Pullman, Wash.	State College of Washington
WCAD * 500 D	Canton, N. Y.	St. Lawrence University
WCAE * 1000 N WDAE * 1000 C	Pittsburgh, Pa. Tampa, Fla.	Gimbel Bros.
WREN * 1000 1N	Lawrence, Kans.	Tampa Publishing Co. Jenny Wren Co.
1230 kilocycles	243.8 meters	
KFQD 100	Anchorage, Alaska	Anchorage Radio Club
KGGM 250 +	Albuquerque, N. Mex.	New Mexico Broadcasting Co.
KYA 1000 WBIS 1000 2	San Francisco, Cal.	Pacific Broadcasting Corp.
WFBM * 1000 1C	Boston, Mass. Indianapolis, Ind.	Shepard Broadcasting Service, Inc. Indianapolis Power & Light Co.
WNAC * 1000 2C	Boston, Mass.	Shepard Broadcasting Service, Inc.
WPSC 500 D	Boston, Mass. State College, Pa.	Pennsylvania State College
WSBT * 500 1	South Bend, Ind.	South Bend Tribune
1240 kilocycles	241.8 meters	
KTAT 1000 1	Ft. Worth, Texas	S A T Broadcast Co
WACO † 1000 1	Waco, Texas	S. A. T. Broadcast Co. Central Texas Broadcasting Co., Inc.
WACO † 1000 1 WXYZ † 1000 C	Detroit, Mich.	Kunsky-Trendle Broadcasting Corp.

INDEX	BT FREQUENCIES AT	AD DIAL NOMBERS	
1250 kilocycles	239.9 meters		
KFMX	Northfield, Minn. Long Beach, Cal. Boise, Idaho Newark, N. J. Northfield, Minn. New Orleans, La. Newark, N. J. St. Paul, Minn. St. Paul, Minn. Paterson, N. J. Minneapolis, Minn. Little Rock, Ark.	Carleton College Nichols & Warinner, Inc. Boise Broadcasting Station WAAM, Inc. St. Olaf College Jos. H. Uhalt May Radio Broadcast Corp. Northwestern Broadcasting Inc. University of Minnesota Richard E. O'Dea Minnesota Broadcasting Corp. Joseph E. Phelps	
1260 kilocycles	238.0 meters		
KOIL * 1000 C KRGV * 500 1 KVOA - 500 D KWWG - 500 1 WLBW - 500 C+ WTOC * 500 C	Council Bluffs, Iowa Harlingen, Texas Tucson, Ariz. Brownsville, Texas Oil City, Pa. Savannah, Ga.	Mona Motor Oil Co. KRGV, Inc. Robert M. Riculfi Herald Pub. Co. Radio-Wire Program Corp. Savannah Broadcasting Co.	
1270 kilocycles	236.1 meters	14	
KFUM - 1000 - 1000 KGCA 50 2D	Colorado Springs, Colo. Decorah, Iowa Seattle, Wash. Seattle, Wash. Decorah, Iowa Grand Rapids, Mich. Ithaca, N. Y. Baltimore, Md. Jackson, Miss. Grand Rapids, Mich.	W. D. Corley Charles W. Greenley Seattle Rroadcasting Co., Inc. First Presbyterian Church Luther College WASH Broadcasting Corp. Cornell University Baltimore Radio Show, Inc. Lamar Life Insurance Co. Walter B. Stiles, Inc.	
1280 kilocycles	234.2 meters		
CMCE - 100 1285 KFBB - 1000 + WCAM - 500 1 WCAP * 500 1 WDOD * 1000 +C WOAX - 500 1 WRR - 500 C	Havana, Cuba Great Falls, Mont. Camden, N. J. Asbury Park, N. J. Chattanooga, Tenn. Trenton, N. J. Dallas, Texas	Julio E. Power Buttrey Broadcast, Inc. City of Camden Radio Industries Broadcast Co. WDOD Broadcasting Corp. WOAX, Inc. City of Dallas	KCYS.
1290 kilocycles	232.4 meters [1310
KDYL * 1000 C KFUL - 500 1 KLCN * 50 D KTSA † 1000 1+C WEBC - 1000 +N WJAS * 1000 C WNBZ - 50 D	Salt Lake City Galveston, Texas Blytheville, Ark. San Antonio, Texas Superior, Wis. Pittsburgh, Pa. Saranac Lake, N. Y.	Intermountain Broadcasting Corp. Will H. Ford C. L. Lintzenich Lone Star Broadcast Co. Head of Lake Broadcasting Co. Pittsburgh Radio Supply House Smith & Mace	MTRS. 228.9 DIAL
1300 kilocycles	230.6 meters		1
KFH - 1000 2C KFJR - 500 3 KGEF * 1000 4 KTBI * 1000 4 KTBR 500 3	Wichita, Kansas Portland, Ore. Los Angeles, Cal. Los Angeles, Cal. Portland, Ore.	Radio Station KFH Co. Ashley C. Dixon & Son Trinity Methodist Church Bible Institute of Los Angeles M. E. Brown	CUT O

OUT ON DOTTED LINES

228.9 meters

Los Angeles, Cal. Portland, Ore. Brooklyn, N. Y. New York City New York City Troy, N. Y. Miami Beach, Fla. Kansas City, Mo.

1310 kilocycles Jerome, Ariz. Sacramento, Cal. **10**0 KCRJ KFBK † 100 7⁻⁻ KFGQ KFIU KFJY 100 Boone, Iowa Juneau, Alaska Ft. Dodge, Iowa 10 7 --8 100

3

1

500

1000 500 1000

500 1000

1000

KTBR WBBR WEVD WHAP

WHAZ WIOD

woo

Chas. C. Robinson Jas. McClatchy Co. Boone Biblical College Alaska Electric Light & Power Co. C. S. Tunwall

M. E. Brown People's Pulpit Association Debs Memorial Radio Fund, Inc. Defenders of Truth Society, Inc. Rensselaer Polytechnic Institute Isle of Dreams Broadcasting Corp.

Unity School of Christianity

M. E. Brown

INDEX BY FREQUENCIES AND DIAL NUMBERS						
KFPL _	100		Dublin, Texas	C. C. Baxter		
KFPL KFPM * KFUP KFXJ KFXR	15		Greenville, Texas	The New Furniture Co.		
KFUP .		8	Denver, Colo.	Fitzsimmons General Hospital		
KFXR -	100	8 +	Edgewater, Colo. Oklahoma City	R. G. Howell Exchange Ave. Baptist Church		
KGBX *	100		St. Joseph, Mo.	KGBX Inc.		
KGBX * KGCX KGEZ †	100	t C	Wolf Point Mont	First State Bank of Vida		
	100		Kalispell, Mont. Ravenna, Neb. Yakima, Wash.	Chamber of Commerce O. F. Sothman and R. H. McConnell		
KIT			Yakima, Wash.	Carl E. Haymond Mrs. W. J. Virgin Robert M. Dean		
KMED .	_ 50		Mediora, Ore.	Mrs. W. J. Virgin		
KRMD _ KTLC _	100	9	Shreveport, La. Houston, Tex.	Robert M. Dean		
KTŞL		X 9 2 7	Shreveport, La.	Houston Broadcasting Co. G. A. Houseman		
KTSM _	_ 100	2	El Paso Texas	W. S. Bledsoe & W. T. Blackwell		
KWCR KXRO †	100		Cedar Rapids, Iowa	Harry F. Paar KXRO, Inc.		
KXRO † WAGM † WBOW *	75 50		Cedar Rapids, Iowa Aberdeen, Wash. Royal Oak, Mich.	RARU, Inc. Royal Oak Broadcasting Co		
			Terre Haute, Ind.	Royal Oak Broadcasting Co. Banks of Wabash, Inc.		
WBRE WCLS *	- 100		Wilkes-Barre, Pa.	Louis G. Baltimore		
WEALI	1.00	1 2	Joliet, Ill.	WCLS, Inc. Eagle Broadcasting Co.		
WEBR *	100	+	El Paso, Texas Buffalo, N. Y.	Howell Broadcasting Co., Inc.		
WFBG -	_ 100	3	Altoona, Pa.	Wm. F. Gable Co.		
WFDF - WFKD -	50	4	Flint, Mich. Philadelphia, Pa.	Frank D. Fallain Foulkrod Radio Engineering Co.		
WGAL *	100	5	Lancaster, Pa.	WGAL, Inc.		
WGH *	100	5 C	Lancaster, Pa. Newport News, Va.	Hampton Roads Broadcasting Corp.		
WHAT WIBU		4X	Philadelphia, Pa.	Independence Broadcasting Co.		
WIBU		3	Poynette, Wis. Johnstown, Pa.	William C. Forrest Johnstown Automobile Co.		
WJAC WJAK * WKAV * WKBB	50	Ğ	Marion, Ind.	Marion Broadcasting Co.		
WKAV *		ī	Laconia, N. H.	Laconia Radio Club Sanders Bros. Radio Station R. B. Broyles Furniture Co.		
			Joliet, Ill. Birmingham, Ala.	Sanders Bros. Radio Station D. R. Broyles Furniture Co.		
WKBS *	100		Galesburg, Ill.	Permil N. Nelson		
WLBC †	50	6	Muncie, Ind. Auburn, N. Y.	Donald A. Burton		
WLBC † WMBO † WNBH *	100 100		Auburn, N. Y. New Bedford, Mass.	Radio Service Laboratories New Bedford Broadcasting Co.		
WNBJ	100		Knoxville, Tenn.	Stewart Broadcasting Co.		
WORT	. 100	+	Union City, Tenn.	Tittsworth's Radio & Music Shop		
WOL * WRAW *		5XZ	Washington, D. C.	American Broadcasting Co.		
WSAJ *	50 100	5A.Z	Reading, Pa. Grove City, Pa.	Grove City College		
WSJŠ	. 100		Winston-Salem, N. C.	Reading Broadcasting Co. Grove City College Winston-Salem Journal Co.		
1320 k	ilocycl	00	227.1 meters			
1020 K						
KGHF KGIQ KGMB	250 250	$^{\mathrm{X}+}_{\mathrm{1}+}$	Pueblo, Colo Twin Falls, Idaho	C. P. Ritchie & J. E. Finch Radio Broadcasting Corp.		
KGMB †	500		Honolulu, Hawaii	Honolulu Broadcasting Co., Ltd.		
KID	500	1+	Idaho Falls, Idaho	KID Broadcasting Co.		
WADC † WSMB *	1000 500	C	Akron, Ohio New Orleans, La.	Allen T. Simmons Saenger Theatre & Maison Blanche Co.		
WSIVID	300	14	New Orleans, La.	Saenger Theatre & Maison Blanche Co.		
1220 1-	:11		225 1 4			
1330 k	•		225.4 meters			
KGB *	250	X 1+C	San Diego, Cal.	Pickwick Broadcasting Corp.		
KSCJ WDRC	1000 500		Sioux City, Iowa	Perkins Bros. Co. Doolittle Radio Corp.		
WSAI *	500	N	Cincinnati, Ohio	Crosley Radio Corp., Lessee		
WTAQ *	1000	1	New Haven, Conn. Cincinnati, Ohio Eau Claire, Wis.	Gillette Rubber Co.		
XEC	_ 50	1333	Toluca, Mex.	Jesus R. Benavides		
12401	• • •		222 5			
1340 k	ilocycl	es	223.7 meters			
KFPW	. 50	D	Fort Smith, Ark. Spokane, Wash. Toledo, Ohio	John Brown Schools Symons Broadcasting Co.		
KFPY WSPD *	. 1000 500	D C C+	Spokane, Wash.	Symons Broadcasting Co.		
WOLD #	300	C+	Tolego, Unio	Toledo Broadcasting Co.		
1250 1-	:1001		222.1	5		
1350 k		.es	222.1 meters			
KWK * WBNY * WCDA	1000	N	St. Louis, Mo.	Greater St. Louis Broadcasting Corp.		
WBNY *	250 250	1 1	New York City New York City	Baruchrome Corp. Italian Educ. Broadcasting Co., Inc.		
WKBQ	250	1	New York City New York City	Standard Cahill Co., Inc.		
WMSĞ	250	1	New York City	Madison Sq. Garden Brdcstg. Corp.		

1360 kilocycles 220.4 meters

CMKC KGER KGIR KPSN WCSC WFBL WGES WJKS WQBC	*	150 1000 500 1000 500 1000 500 1000 300	1364 4 C 1+ 1+ CP	Santiago de Cuba Long Beach, Cal. Butte, Mont. Pasadena, Cal. Charleston, S. C. Syracuse, N. Y. Chicago, Ill. Gary, Ind. Vicksburg, Miss.	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

2+ Enid, Okla.

100

KCRC †

KFBL		50	3	Everett, Wash.	
KFJI		100		Astoria, Ore.	
KFJI KFJM KFJZ KFLX	Ť	100		Grand Forks, N. D.	
KFJZ	-	100	X	Ft. Worth, Texas Galveston, Texas	
KFLX		100		Galveston, Texas	
KGAR	*	100	+	Tucson, Ariz.	
KGDA	†	100		Mitchell, S. D.	
KGFG		100	2	Oklahoma City	
KGFL		50		Ratan, N. M.	
KGKL	†	100		San Angelo, Texas	
KMAC	,	100	5	San Antonio, Texas	
KONO	Ť	100	5	San Antonio, Texas	
KOOS		100		Marshfield, Öre.	
KRE		100	6		
KVL		100	3	Berkeley, Cal. Seattle, Wash.	
KWKC		100		Kansas City, Mo.	
KZM	v- 4v	100	6	Hayward, Čal.	
WBGF	†	50		Glens Falls, N. Y.	
WBTM	†	100	7	Danville, Va.	
WCBM		100	+z	Baltimore, Md.	
WELK		100	+	Philadelphia, Pa.	
WFDV		100		Rome, Ga.	
WGL	*	100		Fort Wayne, Ind.	
WHBD	эļс	100		Mount Orab, Ohio	
WHBQ		100		Memphis, Tenn.	
WHDF		100	+	Calumet, Mich. Jackson, Mich.	
WIBM		100	1	Jackson, Mich.	
WJBK		50	1	Detroit, Mich.	
WLEY		100	+	Lexington, Mass.	
WLVA	†	100	7	Lynchburg, Va.	
WMBR	Ť	100		Tampa, Fla.	
WPOE	t	100		Patchogue, N. Y.	
WQDM		5	D.	St. Albans, Vt.	
WRAK		50		Williamsport, Pa.	
WRBJ		10		Hattiesburg, Miss.	
WRBT	*	100	~	Wilmington, N. C.	
WRJN		100		Racine, Wis.	
WSVS		50		Buffalo, N. Y.	
WRDO	\$	100	CP	Augusta, Me.	

Leese Bros. KFJI 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. 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. C. L. Carrell James F. Hopkins, Inc. Lexington Air Stations Lynchburg Broadcasting Corp. F. J. Reynolds 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

Champlin Refining Co.

1380 kilocycles 217.3 meters

KOH		500		Reno, Nevada
KOV	†	500	2	Pittsburgh, Pa.
KŠO	*	500	1	Clarinda, Iowa
WKBH	*	1000	1	La Crosse, Wis.
WSMK		200	2	Dayton, Ohio

1390 MTRS. 215.7lav Peters Doubleday-Hill Electric Co. Berry Seed Co. WKBH, Inc. Stanley M. Krohn, Jr. DIAL

1390 kilocycles 215.7 meters

Arkansas Broadcasting Co. Nielson Radio & Sporting Goods Co. University of Arkansas Radio Air Service Corp.

CUT OUT ON DOTTED LINES

KCYS.

1400 kilocycles 214.2 meters

CIVIDI		200	1405	Havana, Cuba
KLO	*	500	X	Ogden, Utah
KOCW	*	250	+	Chickasha, Okla.
WBAA		500	1	Lafayette, Ind.
WBBC		500	2	Brooklyn, N. Y.
WCGU		500	2	Brooklyn, N. Y.
WCMA		500	1	Culver, Ind.
WKBF	*	500	1	Indianapolis, Ind.
WLTH	*	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.

1410 kilocycles 212.6 meters

KFLV KGRS WBCM	† 	500 1000 500	4	Rockford, Ill. Amarillo, Texas
WDAG		250	C IX	Bay City, Mich. Amarillo, Texas
WHBL	*	500	4	Sheboygan, Wis.
WLEX		500	2	Lexington, Mass.
WMAF		500	2	S. Dartmouth, Mass.
WODX		500	3	Mobile, Ala.
WRBX	*	250		Roanoke, Va.
WSFA	†	50 0	3	Montgomery, Ala.
WSSH	†	500	2	Boston, Mass.

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	осус	les	211.1 meters
KBPS		100	4	Portland, Ore.
KFIZ		100		Fond du Lac, Wis.
KFQU	*	100	5X.	Holy City, Cal.
KFOW		100	011.	Seattle Wash
KFXD		100	ΧY	Seattle, Wash. Nampa, Idaho
KFXY		100		Flagstaff, Ariz.
KFYO		100	+	Abilene, Texas
KGFF		100		Alva, Okla.
KGGC		100	5	San Francisco, Cal.
KGIW		100		Trinidad, Colo.
KGIX		100		Las Vegas, Nevada
KGKX		100		Sand Point, Idaho
KICK	*	100		Red Oak, Iowa
KLPM	†	100		Minot, North Dakota
KORE		100		Eugene, Ore.
KTAP	8	100		San Antonio, Texas
KXL		100	4	Portland, Ore.
KX YZ		100	X	Houston, Texas
WEDH	*	30		Erie, Pa.
WEHS		100	2	Evanston, Ill.
WELL		50	X	Battle Creek, Mich.
WFDW	*	100		Talladega, Ala.
WHDL	§	10	D	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	§ *	100		New Orleans, La.
WKBI	*	100	2	Chicago, Ill.
WLBF		100	557	Kansas City, Kas.
WMBC		100	\mathbf{x} +	Detroit, Mich.
WMBH	<u>-</u> -	100	+	Joplin, Mo.
WPAD	† *	100	CP	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. Golden Gate Broadcasting Co. Leonard E. Wilson Las Vegas, Nevada, Radio Corp. C. E. Twiss and F. H. McCann Red Oak Radio Corp. John B. Cooley Eugene Broadcasting Station 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	1	1000	N	Los Angeles, Cal.
KGNF	†	500	D	North Platte, Neb.
WBAK		500	1X +	Harrisburg, Pa.
WCAH	*	500	1C	Columbus, Ohio
WGBC	*	500	2	Memphis, Tenn.
WHP	*	500	1C	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.

					of the Quencies his			
1	440	kil	ocyc]	les	208.2 meters			
V	CLS VABO VCBA WHEC VMBD VNRC VOKO VSAN VTAD	*	250 500 250 500 500 500 500 250 500	D 2 1 2C 3+	Oakland, Cal. Rochester, N. Y. Allentown, Pa. Rochester, N. Y. Peoria Heights, Ill. Greensboro, N. C. Poughkeepsie, N. Y. Allentown, Pa. Quincy, Ill.	B. B. Muss Hickson El Peoria Heig North Caro Hudson Va Allentown	ectric & Rad elman ectric & Rad ghts Radio L llina Broadca lley Broadca Call Publish	io Corp. aboratory
1	1450	kil	ocyc	les	206.8 meters	7		•
I V	CTBS VBMS VCSO VFJC VHOM VKBO VNJ VSAR VTFI	* * * * * * * * * * * * * * * * * * * *	1000 250 500 500 250 250 250 250 250 500	1 2 2N 1 1	Shreveport, La. Hackensack, N. J. Springfield, Ohio Akron, Ohio Jersey City, N. J. Jersey City, N. J. Newark, N. J. Fall River, Mass. Toccoa, Ga.	WBMS Bro Wittenberg W. F. Jone New Jersey Camith Co Radio Inve Doughty &	eadcasting Co g College s Broadcast, Broadcastir	Inc. ng Corp.
1	1460	kil	ocyc	les	205.4 meters			
	KSTP VJSV	*	10000 10000	NX	St. Paul, Minn. Alexandria, Va.	National E Independe	Battery Broad nt Publishin	deasting Co. g Co.
1	1470	kil	ocyc	les	204.0 meters			
ŀ	KGA VLAC VTNT	† 	5000 5000 5000	ĩC 1	Spokane, Wash. Nashville, Tenn. Nashville, Tenn.	Life & Cas	Broadcastin ualty Insura Publishing (g System, Inc. nce Co. Co.
]	1480	kil	ocyc	les	202.6 meters			
ŀ	KFJF VKBW	*	5000 5000	C	Oklahoma City Buffalo, N. Y.		ladio Mfg. Coadcasting C	
	1490	kil	осус	les	201.2 meters			
7	WCKY WJAZ WORD	*	5000 5000 5000	1N 1 1	Covington, Ky. Chicago, Ill. Chicago, Ill.	L. B. Wilso Zenith Rac People's Pr		tion
	1500	kil	осус	les	199.9 meters	10		
	CDB CGEFI CG	* + + + + + + + + + + + + + + + + + + +	100 100 50 50 100 100 100 100 100 100 10	3 1 2+	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. Binghamton, N. Y. Bristol, Tenn. Phildelphia, Pa. Augusta, Ga. Woodside, N. Y.	Red River Grant City Eagle Publ Hilliard Co Miller & K Wescoast Pacific We Columbia Rice Hotel E. R. Irey Arthur Fas Blair & Ar Knox Batt K. L. Asht John N. B Boston Br LeRoy Jos Rev. J. W. Paul J. Go First M. P Hewitt-Wo Radiophor Wm. Penn Warren C.	deasting Co. Broadcasting Park Corp. Lishing Co. Do., Inc. Liahn Broadcasting Stern Broadc Broadcasting and F. M. Be ske derson ery & Electri Dacker rahy Dadcasting Ce ph Beebe Sproul Ilhofer Church Dod Radio Co e Brdestg. S	Co., Inc. Co. asting g Co., Inc. owles c Co. o, Inc. tation, Inc. g Co. s Musicove, Inc.

KCYS. 1500 MTRS. 199.9 DIAL

ALABAMA	Watts		Ксуз.	San Jose J-1	500	KQW	1010
Birmingham O-21	5000	WAPI	1140	Santa Ana M-3	100	KŘEG	1500
Diffiningnam 0-21	500	WBRC	930	Santa Barbara M-2	100	KDB_	1500
	100	WKBC	1310	Santa Maria L-2 Stockton J-2	100 250	KSMR	1200
Gadsden O-21	50	W JBY WODX	1210	Grockton J-2	100	KGDM KWG	1100 1200
Mobile O-20 Montgomery P-21	500 500	WODX WSFA	1410 1410	CANAL ZONE	100	10,110	1200
Talladega O-21	100	WFDW	1420	Balboa FF-26	750	NID 4	250
AT A CIZ A				Danooa FF-26	750	NBA	850
ALASKA				COLORADO			
Anchorage Juneau	100 10	KFQD KFIU	1230	Colorado Springs K-1	1 1000	KFUM	1270
Ketchikan	500	KGBU	1310 900	Denver K-11	500	KFEL	920
	000	RODO	,,,,		100	KFUP	1310
ARIZONA					500 1000	KFXF KLZ	920
Flagstaff M-7	100	KFXY	1420		12500	KOA	560 830
Jerome M-6	100	KCRJ	1310	! _	500	KPOF	880
Phoenix N-6	500 500	KOY	1390	Edgewater K-10	50	KFXJ	1310
Prescott M-6	100	KTAR KPJM	620 1500	Fort Morgan J-11	100	KGEW	1200
	100	KGAR	1370	Greeley J-11 Gunnison K-9	500 50	KFKA KFHA	880 1200
Tucson O-7	500	KVOA	1260	Pueblo L-11	250	KGHF	1320
				Trinidad L-11	100	KGIW	1420
ARKANSAS				Yuma J-12	50	KGEK	1200
Blytheville M-19	50	KLCN	1290	CONNECTICUT			
Fayetteville M-16	1000 50	KUOA	1390 1340	I			
Fort Smith N-16 Hot Springs N-17	10000	KFPW KTHS	1040	Bridgeport H-27 Hartford H-27	500 50000	WICC	1190
Little Rock N-17	100	KGHI	1200	New Haven H-27	500	WTIC WDRC	1060 1330
	250	KGJF	890	Storrs H-28	250	WCAC	600
	1000 500	KLŔA	1390 1250				
Paragould M-18	100	KBTM	1200	DELAWARE			
				Wilmington J-26	250	WDEL	1120
CALIFORNIA				ŀ	100	WILM	1420
Berkeley J-2 Burbank M-3	100	KRE	1370	DISTRICT OF	COLU	MBIA	
Culver City M-3	500 250	KELW KFVD	780 1000	Washington J-26	250	WMAI.	630
Culver City M-3 El Centro N-4	100	KXO	1500		500	WRC	950
Fresno K-2	100	KMJ	1210	n open.	100	WOL	1310
Hayward J-1 Hollywood M-3	100 1000	KZM KFWB	1370 950	FLORIDA			
rionywood Wi-3	5000	KNX	1050	Clearwater R-24	1000	WFLA	620
Holy City M-3	100	KFQU	1420	Gainesville Q-24	5000	WRUF	830
Inglewood M-3	500	KMIC	1120	Jacksonville Q-24 Miami T-25	1000 1000	WJAX	900 560
Long Beach M-3	1000 1000	KFOX KGER	1250 1360	Miami Beach T-25	1000	WQAM WIOD	1300
Los Angeles M-3	1000	KECA	1430	Orlando R-24	500	WDBO	1120
•	5000	KFI	640	St. Petersburg S-24 Tampa R-24	1000 1000	WSUN WDAE	620
	500	KFSG	1120	Tampa 10-24	100	WMBR	1220 1370
	$\frac{1000}{100}$	KGEF KGFJ	1300 1200	GEORGIA			10,0
	1000	KHJ	900		250	WCCT	000
	500	KMPC	710	Atlanta O-22	250 5000	WGST WSB	890 740
	500	KMTR	570	Augusta O-23	100	WRDW	1500
	500 1000	KTM KTBI	780 1300	Columbus O-22	50	WRBL	1200
Oakland J-1	250	KTBI KLS	1440	Macon O-23 Rome N-22	250 100	WMAZ	890
	500	KLX	880	Savannah O-24	500	WFDV WTOC	1370 1260
Pasadena M-3	500	KROW	930	Thomasville Q-22	50	WODX	1210
rasacena ivi-3	50 1000	KPPC KPSN	1210 1360	Toccoa N-23	500	WŤFI	1450
Sacramento J-2	100	KFBK	1310	LIAWATI			
San Bernardino M-3	100	KFXM	1210	HAWAII			
San Diego N-3	500 250	KFSD KGB	1330	Honolulu	500 500	KGMB KGU	1320 940
San Francisco J-1	1000	KRFC	610	IDAHO	300	NGO	740
	500 100	KFWI KGGC	930 1420	Boise G-5	1000	KIDO	1250
	7500	KGO	790 l	Idaho Falls G-7	1000 500	KIDO KID	1250 1320
	100	KGO KJBS	1070	Nampa G-5	50	KFXD	1420
	5000	KPO	680	Pocatello H-7	250	KSEI	900
	1000	KTAB	560	Sand Point D-6	100	KGKX	1420
	1000	KYA	1230	Twin Falls H-6	250	KGIQ	1320

ILLINOIS	Watts		Ксуs.	Ottumwa J-17 Red Oak J-16	100 100	WIAS KICK	1420 1420
Carthage J-18	50	WCAZ	1070	Shenandoah J-16	500	KFNF	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 1000	WBBM WCFL	770 970				
	100	WCRW	1210	KANSAS			
	100 50000	WEDC WENR	1210 870	Dodge City L-13	100	KGNO	1210
	500	WGES WGN	1360 720	Kansas City K-16 Lawrence K-16	100 1000	WLBF KFKU	1420 1220
	25000 1000	WIBO	560		1000	WREN	1220
	5000 25000	WJAZ WJBT	1490 770	Manhattan K-15 Milford K-14	500 5000	KSAC KFKB	580 1050
	50	WKBI	1420	Topeka K-16	500	WIBW	580 1300
	25000 5000	WLIB WLS	720 870	Wichita L-15	1000	KFH	1300
	5000	WMAQ	670	KENTUCKY			
	5000 5000	WMBI WORD	1080 1490	Covington K-22	5000	WCKY	1490
	500	WPCC	560	Hopkinsville M-20	1000	WFIW	940 820
Cicero I-20	100 100	WSBC WHFC	1210 1420	Louisville L-21	10000 100	WHAS WLAP	1200
Decatur K-19	100	WJBL WEHS	1200 1420	Paducah M-19	100	WPAD	1420
Evanston I-20 Galesburg J-18	100 100	WKBS	1310				
Harrisburg L-19	100 100	WEBQ WCLS	1210 1310	LOUISIANA	•		1120
Joliet I-19	100	WKBB	1310	Haynesville P-17 Monroe P-18	10 50	KMLB	1120 1200
La Salle J-19 Mooseheart I-19	100 20000	WJBC WJJD WMBD	1200 1130	New Orleans R-19	100	WABZ WDSU	1200 1250
Peoria Heights J-19	500	WMBD	1440		1000 100	W JBO W JBW	1420
Quincy K-18 Rockford I-19	500 500	WTAD KFLV	1440 1410		100 500	WJBW WSMB	1200 1320
Rock Island I-18	100	WHBF	1210 1210		5000	WWL	850
Springfield K-19	100 50	WCBS WTAX	1210	Rayne Q-18 Shreveport P-17	150 50	KRMD	1120 1310
Tuscola K-20	100 250	WDZ WILL	1070 890	Silleveport 1-17	1000	KTBS	1450
Urbana J-20 Zion I-20	5000	WCBD	1080		100 100	KTSL KWEA	1310 1210
				NATED	10000	KWKH	850
INDIANA				MAINE	100	WRDO	1370
Anderson J-21	100	WHBU	1210	Augusta F-28 Bangor F-29	100	WARI	1200
Connersville K-21 Culver I-20	100 500	WKBV WCMA	1500 1400	Portland F-28	500 1000	WLBZ WCSH	620 940
Evansville L-20	500	WGBF	630 1370	Portiand 1-26	1000	W C311	710
Fort Wayne J-21	100 10000	WGL WOWO	1160	MARYLAND			
Gary I-20	1000 100	WJKS WWAE	1360 1200	Baltimore J-26	10000	WBAL	1060
Hammond I-20 Indianapolis J-21	1000	WFBM	1230	Datellilore J-20	250	WCAO WCBM	600
Lafayette J-20	500 500	WKBF WBAA	1400 1400		100 250	WCBM WFBR	1370 1270
La Porte 1-20	100	WRAF	1200	Cumberland J-25	100	WTBO	1420
Marion J-21 Muncie J-21 South Bend I-20	50 50	WJAK WLBC	1310 1310				
South Bend I-20	500	WSBT	1230	MASSACHUSE 7	TS		
Terre Haute K-20	100	WBOW	1310	Boston G-28	1000	WBIS	1230 990
TOTT/4					500 1000	WBZA WEEI	590 590
IOWA	F000	WOI	6.40		1000 100	WHDH WLOE	830 1500
Ames I-17 Boone I-17	5000 100	WOI KFGQ	640 1310		1000	WNAC	1230
Boone I-17 Cedar Rapids I-18	100	KFGQ KWCR	1310	Fall Divor H 28	500 250	WSSH WSAR	1410 1450
Clarinda J-16 Council Bluffs J-16	500 1000	KSO KOIL	1380 1260	Fall River H-28 Lexington G-28	500	WLEX	1410
Davenport I-18 Decorah H-18	5000 50	woc	1000	New Bedford H-28	100 100	WLEY WNBH	1370 1310
	100	KGCA KWLC	1270 1270	S. Dartmouth H-28	500	WMAF	1410
Des Moines I-17 Fort Dodge I-16	5000 100	WHO KFJY	1000 1310	Springfield H-27 Wellesley Hills G-28	15000 500	WBZ WBSO	990 920
Iowa City 1-18	500	WSUI	880	Worcester G-28	100	WEPS	1200
Marshalltown I-17 Muscatine J-18	100 5000	KFJB KTNT	1200 1170		100 250	WORC WTAG	1200 580
	5000		-2.0				100

MICHIGAN Watts	Keys.	NEBRASKA	Watts		Kcys.
Battle Creek I-21 50 WELL Bay City H-22 500 WBCM Berrien Springs I-20 1000 WKZO	1420 1410 590	Clay Center Lincoln J-15	1000 5000 100	KMMJ KFAB KFOR	740 770 1210
Calumet E-19 100 WHDF	1370 1370	Norfolk I-15	500 1000	WCAJ WJAG	590 1060
5000 WJR 100 WMBC	750 1420	North Platte J-13 Omaha J-15	500 500	WAAW	1430 660
1000 WWI 1000 WXYZ East Lansing H-21 1000 WKAR	920 1240 1040	Ravenna J-14 Scottsbluff I-11	1000	WOW KGFW	590 1310
East Lansing H-21 1000 WKAR Flint H-22 1000 WFDF 100 WPDF	1310 1200	York J-15	100 500	KGKY KGBZ	1500 930
Grand Rapids H-21 500 WASH 500 WOOD	1270 1270 1370	NIEWADA			
Jackson I-21 100 WIBM Lapeer H-22 100 WMPC	1500	NEVADA Las Vegas L-5	100	KGIX	1420
Royal Oak H-22 50 WKBZ 50 WKBZ 50 WKBZ	1500 1 1310	Reno I-3	100	кон	1380
MININESOTA	- 1	NEW HAMPSH	IIRE		
MINNESOTA Fergus Falls F-15 100 KGDE	1200	Laconia G-28	100	WKAV	1310
Minneapolis G-17 7500 WCCO 1000 WDGY	810 1180				
500 WHDI 1000 WRHM	1180 1 1250	NEW JERSEY	_	V	
Moorhead F-15 50 KGFK Northfield G-17 1000 KFMX 1000 WCAL	1500 1250	Asbury Park I-27 Atlantic City J-27	500 5000	WCAP WPG	1280 1100
St. Paul G-17 1000 WCAL 1000 WGMS 1000 WLB	1250 1250 1250	Camden I-26 Hackensack I-27 Jersey City I-27	500 250 300	WCAM WBMS WAAT	1280 1450 940
10000 KSTP	1460	Jersey City 1-27	250 250	WHOM WKBO	1450 1450
MISSISSIPPI		Newark I-27	1000 250	WAAM WGCP	1250 1250
Greenville O-19 100 WRBQ Gulfport Q-19 100 WGCM Hattiesburg Q-19 10 WRBJ	1210 1210 1370	Determine I 17	250 5000	WNJ WOR WODA	1450 710
Hattiesburg Q-19 Jackson P-19 Meridian P-20 10 WRBJ 500 WJDX WCOC	1270 880	Paterson I-27 Red Bank I-27 Trenton I-26	1000 100 500	W JBI WOAX	1250 1210 1280
Tupelo N-20 100 WDIX Vicksburg P-18 300 WQBC	1500 1360	Trenton 1 20	000	01111	1200
		NEW MEXICO			
MISSOURI		Albuquerque N-7 Raton M-11	250 50	KGGM KGFL	1230 1370
Cp. Girardeau L-19 100 KFVS Columbia K-17 500 KFRU Grant City J-16 50 KGIZ	1210 630 1500	State College P-9	20000	KOB	1180
Grant City J-16 50 KGIZ Jefferson City L-17 500 WOS Joplin M-16 100 WMBH	630	NEW YORK			
Kansas City K-16 1000 KMBC 100 KWKC	950 1370	Auburn H-25	100	WMBO	1310
1000 WDAF 500 WHB	610 860	Binghamton H-26 Brooklyn I-27	100 500 1000	WNBF WBBC	1500 1400 1300
St. Joseph K-16 1000 WOQ 2500 KFEQ	1300 680		500 500	WBBR WCGU WLTH	1400 1400
St. Louis L-18 100 KGBX 500 KFUO 100 KFWF	1310 550 1200		100 500	WMBQ WSGH	1500 1400
5000 KMOX 500 KSD	1090 550	Buffalo H-24	1000 100	WBEN WEBR	900 1310
1000 KWK 1000 WEW	1350 760		1000 5000	WGR WKBW WSVS	550 1480 1370
100 WIL 100 WMAY	1200 1200	Canton F-26 Cazenovia G-25	50 500 250	WCAD WMAC	1220 570
MONTANA		Freeport I-27 Glens Falls G-27	1000 50	WGBB WBGF	1210 1370
Billings F-9 500 KGHL	950	Ithaca H-25	1000 1000	WEAI WLCI	1270 1210
Butte F-7 500 KGIR Great Falls E-8 1000 KFBB Kalispell D-7 100 KGEZ	1360 1280 1310	Jamaica H-27 Jamestown H-24 Long Island City I-2	100 25 7 100	WMRJ WOCL WLBX	1210 1210 1500
Wolf Point E-11 100 KGCX	1310	Long Beach I-27	100	WGLB	1500

New York City I-27	5000	WABC	860	OKLAHOMA V	Vatts		Kcys.
New Tork City 1-27	250	WBNY	1350			VCEE	1420
	5000	WBOQ	860	Alva M-14 Chickasha N-14	100 250	KGFF KOCW	1400
	250	WCDA	1350		100	KGMP	1210
	50000	WEAF	660	Elk City N-13 Enid M-15	100	KCRC	1370
	500	WEVD	1300	Norman N-15	500	WNAD	1010
	250	WGBS	600	Oklahoma N-15	5000	KFJF KFXR	1480
	1000	WHAP	1300		100	KFXR	1310
	250	WHN WJZ	1010 760		100	KGFG	1370
	30000 250	WKBQ	1350		1000	WKY	900
	5000	WLWL	1100	Picher M-16	500	KGGF	1010
	500	WMCA	570	Ponca City M-15	100	WBBZ	1200
	250	WMSG	1350	Tulsa M-16	5000	KVOO	1140
	500	WNYC	570	OREGON			
	1000	WOV	1130		100	KEII	1370
	250	WPAP	1010	Astoria D-2	1000	KFJI KOAC	550
	500	WPCH	810	Corvallis E-2	100	KORE	1420
	250	WQAO WRNY	1010	Eugene F-2 Marshfield F-1	100	KÖÖS	1370
5 1 Y 27	250	WKNY	1010	Medford G-2	50	KMED	1310
Patchogue I-27	100	WPOE	1370 1440	Portland E-3	5000	KEX	1180
Poughkeepsie H-27	500 500	WOKO WABO	1440	1 orthana 2 s	100	KBPS	1420
Rochester G-25	5000	WHAM	1150	1	500	KF JR KGW	1300
	500	WHEC	1440	1	1000	KGW	620
Saranac Lake F-26	50	WNBZ	1290	1	1000	KOIN	940
Schenectady G-27	50000	WGY	790		500	KTBR	1300
Syracuse G-25	1000	WFBL	1360	1	500	KWJJ	1060
3,141430 0 10	250	WSYR	570		100	KXL	1420
Troy G-27	500	WHAZ WHDL	1300	PENNSYLVANIA	1		
Tupper Lake F-26	10		1420	I	100	WGM	940
Utica G-26	100	WIBX	1200	Adamsburg 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	WEDH	1420
Charlotte M-24	5000	WBT	1080	Grove City I-26	100	WSAJ	1310
Gastonia M-24	100	WRBU	1210	Harrisburg I-25	500	WBAK	1430
Greensboro M-24	500	WNRC	1440		100	WCOD	1200 1430
Raleigh M-25	1000	\mathbf{WPTF}	680	T	500 100	WHP WOOP	840
Wilmington N-26	100	WRBT	1370	Jeannette J-24	100	WJAC	1310
Winston-Salem M-24	100	wsjs	1310	Johnstown J-24 Lancaster I-25	100	WGAL	1310
				Lancaster 1-23	100	WKIC	1200
NORTH DAKOT	Γ A			Lewisburg I-26	100	WJBU WLBW	1210
Bismarck F-13	1000	KFYR	550	Oil City I-24	500	WLBW	1260
Devils Lake E-14	100	KDLR	1210	Philadelphia I-26	10000	WCAU	1170
Devils Lake E-14 Fargo F-15	1000	WDAY	940		100	WELK	1370 610
Grand Forks E-15	100	KFJM	1370		500	WFAN WFI	560
Mandan F-13	100	KGCU	1200		500 50	WFKD	1310
Minot E-13	100	KLPM	1420	1	100	WHAT	1310
						WIP	610
				II .	500		
OHIO					500 500	WLIT	
_	1000	WADC	1320		500	WLIT WPEN	560
_	1000 500	WADC WF IC	1320 1450		500 100	WLIT WPEN	560
Akron I-23	500	WADC WFJC WHBC	1320 1450 1200	Pittsburgh J-24	500	WLIT WPEN WRAX KDKA	560 1500 1020 980
Akron I-23 Canton I-23		WADC WFJC WHBC WFBE	1450	Pittsburgh J-24	500 100 250 50000 500	WLIT WPEN WRAX KDKA	560 1500 1020 980 1380
Akron I-23 Canton I-23	500 10	WHBC WFBE WKRC	1450 1200 1200 550	Pittsburgh J-24	500 100 250 50000 500 1000	WLIT WPEN WRAX KDKA KQV WCAE	560 1500 1020 980 1380 1220
Akron I-23 Canton I-23	500 10 100 1000 50000	WHBC WFBE WKRC WLW	1450 1200 1200 550 700	Pittsburgh J-24	500 100 250 50000 500 1000 1000	WLIT WPEN WRAX KDKA KQV WCAE	560 1500 1020 980 1380 1220 1290
Akron I-23 Canton I-23 Cincinnati K-22	500 10 100 1000 50000 500	WHBC WFBE WKRC WLW WSAI	1450 1200 1200 550 700 1330		500 100 250 50000 500 1000 1000 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ	560 1500 1020 980 1380 1220 1290 1500
Akron I-23 Canton I-23 Cincinnati K-22	500 10 100 1000 50000 500 1000	WHBC WFBE WKRC WLW WSAI WHK	1450 1200 1200 550 700 1330 1390	Reading I-26	500 100 250 50000 500 1000 1000 100 50	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW	560 1500 1020 980 1380 1220 1290 1500 1310
Akron I-23 Canton I-23 Cincinnati K-22	500 10 100 1000 50000 500 1000 500	WHBC WFBE WKRC WLW WSAI WHK	1450 1200 1200 550 700 1330 1390 610		500 100 250 50000 500 1000 1000 100 50 250	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI	560 1500 1020 980 1380 1220 1290 1500 1310 880
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23	500 10 100 1000 50000 500 1000 500 5000	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM	1450 1200 1200 550 700 1330 1390 610	Reading I-26 Scranton H-26	500 100 250 50000 500 1000 1000 50 250 250	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WOAN	560 1500 1020 980 1380 1220 1290 1500 1310 880 880
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23	500 10 100 1000 50000 500 1000 500 50000 500	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU	1450 1200 1200 550 700 1330 1390 610 1070	Reading I-26 Scranton H-26 State College I-25	500 100 250 50000 500 1000 1000 250 250 500	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC	560 1500 1020 980 1380 1220 1500 1310 880 880 1230
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23	500 10 1000 50000 500 1000 500 5000 500	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH	1450 1200 1200 550 700 1330 1390 610 1070 640 1430	Reading I-26 Scranton H-26 State College I-25 Washington J-24	500 100 250 50000 1000 1000 100 50 250 250 500 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC WNBO	560 1500 1020 980 1380 1220 1500 1310 880 880 1230
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23	500 100 1000 50000 500 1000 500 500 500	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO	1450 1200 1200 5550 700 1330 1390 610 1070 640 1430 570	Reading I-26 Scranton H-26 State College I-25	500 100 250 50000 1000 1000 250 250 250 500 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC WNBO WBAX	560 1500 980 1380 1220 1290 1500 1310 880 880 1230 1210
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22	500 100 1000 50000 500 1000 500 5000 50	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN	1450 1200 1200 550 700 1330 1390 610 1070 640 1430 570 1210	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26	500 100 250 50000 1000 1000 100 50 250 250 250 100 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC WNBO WBAX WBRE	560 1500 980 1380 1220 1290 1500 1310 880 880 1230 1210
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22	500 100 1000 50000 5000 5000 5000 500 50	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN WSMK	1450 1200 1200 550 700 1330 610 1070 640 1430 570 1210	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26 Williamsport I-25	500 100 250 50000 1000 1000 250 250 250 500 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC WNBO WBAX	560 1500 1020 980 1380 1220 1500 1310 880 820 1230 1210 1310
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22 Dayton J-22 Mansfield J-22	500 10 100 50000 5000 1000 500 500 500 750 50 200 100	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN WSMK WJW	1450 1200 1200 550 700 1330 1390 610 1070 640 1430 570 1210	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26	500 100 250 50000 1000 1000 1000 50 250 500 100 100 100 50	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WQAN WGBI WQAN WPSC WNBO WBAX WBAX WBAX	560 1500 1020 980 1380 1290 1500 1310 880 1230 1210 1210 1310
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22 Dayton J-22 Mansfield J-22 Mount Orab K-22	500 10 1000 50000 5000 5000 5000 5000 5	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN WSMK WJW WHBD	1450 1200 1200 550 700 1330 1390 610 1070 640 1430 570 1210 1380 1210	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO	500 100 250 50000 1000 1000 100 50 250 250 250 100 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WRAW WGBI WQAN WPSC WNBO WBAX WBRE	560 1500 1020 980 1380 1220 1500 1310 880 820 1230 1210 1310
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22 Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22	500 10 100 50000 5000 1000 500 500 500 750 50 200 100	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN WSMK WJW WHBD WCSO	1450 1200 550 700 1330 1390 610 1070 640 1430 570 1210 1380 1210 1370 1450	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34	500 100 250 50000 5000 1000 1000 250 250 500 100 100 50	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WQAN WGBI WQAN WPSC WNBO WBAX WBAX WBAX	560 1500 1020 980 1380 1290 1500 1310 880 1230 1210 1210 1310
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22 Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22 Steubenville J-23 Toledo I-22	500 100 1000 50000 5000 5000 5000 5000	WHBC WFBE WKRC WLW WSAI WHK WJAY WTAM WAIU WCAH WEAO WMAN WSMK WJW WHBD	1450 1200 550 700 1330 1390 610 1070 640 1430 570 1210 1380 1210 1370 1450	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34 RHODE ISLANI	500 1000 250 50000 10000 10000 1000 500 250 250 1000 100	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WQAN WPSC WNBO WBAX WBRE WRAK	560 1500 1020 980 1380 1290 1500 1310 880 880 1230 1210 1310 1310
Akron I-23 Canton I-23 Cincinnati K-22 Cleveland I-23 Columbus J-22 Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22	500 100 1000 50000 500 500 500 500 750 50 200 100 100 500 500 500 500 500 500 500 5	WHBC WFBE WKRC WLW WSAI WHK WJAY WAIU WCAH WEAO WMAN WSMK WJW WHBD WCSO WIBR	1450 1200 550 700 1330 1390 610 1070 640 1430 570 1210 1380 1210 1370	Reading I-26 Scranton H-26 State College I-25 Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34	500 100 250 50000 5000 1000 1000 250 250 500 100 100 50	WLIT WPEN WRAX KDKA KQV WCAE WJAS WMBJ WQAN WGBI WQAN WPSC WNBO WBAX WBAX WBAX	560 1500 1020 980 1380 1290 1500 1310 880 1230 1210 1210 1310

Providence H-28	100	WDWF	1210	VERMONT	Watts		Kcys
	250	WEAN	780	Burlington F-27	100	WCAX	1200
	250 100	WJAR WLSI	890 1210	St. Albans F-27	5	WQDM	1370
COLUMN CAROL		WLSI	1210	Springfield G-27	10	WNBX	1200
SOUTH CAROL	JINA 500	WCCC	1360	l wrochu.			
Charleston O-25 Columbia N-24	500	WCSC WIS	1010	VIRGINIA			
Spartanburg N-23	100	WSPA	1420	Alexandria J-26 Arlington J-25	10000	WJSV	1460
SOUTH DAKO	ГА		J	Danville L-25	1000 100	NAA WBTM	690 1370
Brookings H-15	500	KFDY	550	Emory L-23	100	WEHC	1200
Huron H-14	100	KGDY	1200	Lynchburg L-25	100	WLVA	1370
Mitchell H-14	50	KGDA	1370	I., .,	500	****	590
Pierre G-13	200	KGFX	580	Newport News L-26 Norfolk L-26	100 500	WGH WPOR	1316 780
Rapid City H-12 Sioux Falls I-15	100 2000	WCAT	1200 1110	NOTIOIR L-26	500	WTAR	780
Vermillion I-15	500	KSOO KUSD	890	Petersburg L-26	100	WLBG	1200
Watertown G-15	100	KGCR	1210	Richmond K-26	100	WBBL	1210
Yankton I-15	1000	WNAX	570	1	100 5000	WMBG WRVA	1210
TENNESSEE				Roanoke L-24	250	WDBJ	1110 930
Bristol L-23	100	WOPI	1500	Roanoke E-21	250	WRBX	1410
Chattanooga N-21	1000	WDOD	1280	WASHINGTON			
Knoxville M-22	50	WFBC	1200	Aberdeen D-2	75	KXRO	1310
	100 1000	WNBJ WNOX	1310 560	Bellingham C-3	100	KVOS	1200
Lawrenceburg N-20	500	WOAN	600	Everett C-3	50	KFBL	1370
Memphis M-19	500	WGBC	1430	Lacey D-3	10	KGY	1200
	100	WHBQ	1370	Longview D-3 Pullman E-5	100	KUJ KWSC	1500
	500	WMC	780	Seattle C-3	500 100	KFQW	1220 1420
	500 500	WNBR WREC	1430 600	Scattle & v	5000	KJŘ	97
Nashville M-20	5000	WLAC	1470	l	1000	KÖL	1276
	5000	WSM	650	l	1000	KOMO	920
	5000	WTNT	1470		100 5 0	KPCB KRSC	65(112(
Springfield M-20	100	WSIX	1210		1000	KTW	1270
Union City M-19	100	WOBT	1310	i	100	KVL	1370
TEXAS					500	KXA	570
Abilene P-13	100	KFYO	1420	Spokane D-5	100	KFIO	1120
Amarillo N-12	1000	KGRS WDAG	1410 1410		1000 5 000	KFPY KGA	1340 1470
Austin Q-14	250 100	KUT	1500	l	1000	KHQ	596
Beaumont R-17	500	KFDM	560	Tacoma D-3	500	KMO	860
Brownsville U-15	500	KWWG	1260		1000	KVI	700
Brownwood P-14	100	KGKB	1500	Wenatchee D-4 Yakima D-4	50 50	KPQ KIT	1500 1310
College Sta. Q-15 Corpus Christi S-14	500 100	WTAW KGFI	1120 1500	Takima D-4	30	KII	131
Dallas P-15	10000	KRLD	1040	WEST VIRGIN	ĪΑ		
	50000	WFAA	800	Bluefield L-24	100	WHIS	1420
	500	WRR	1280	Charleston K-23	250	WOBU	586
Dublin P-14	100	KFPL	1310	Fairmont J-24	250	WMMN	890
El Paso P-9	100 100	KTSM WDAH	1310 1310	Huntington K-23	250	WSAZ	580
Fort Worth P-15	100	KFJZ	1370	Wheeling J-24	5000	WWVA	1160
	1000	KTAT	1240	WISCONSIN			
Colored D. 16	10000	WBAP	800		4000	WT A C	
Galveston R-16	100 500	KFLX KFUL	1370 1290	Eau Claire G-18	1000	WTAQ KFIZ	1330
Greenville O-15	15	KFPM	1310	Fond du Lac H-19 Green Bay G-19	100 100	WHBY	1420 1200
Harlingen T-14	500	KRGV	1260	Janesville I-19	100	WCLO	120
Houston R-16	1000	KPRC	920	La Crosse H-18	1000	WKBH	138
	500	KTRH	1120	Madison H-19	750	WHA	94
	100 100	KXYZ KTLC	1420 1310		500	WIBA	121
San Angelo Q-13	100	KGKL	1370	Manitowoc H-20	250 100	WISJ WOMT	780 121
San Antonio R-14	100	KMAC	1370	Milwaukee H-20	250	WHAD	112
	100	KONO KTAP	1370	1	250	WISN	112
	100	KTAP	1420		1000	WTMI	62
	1000	KTSA	1290	Poynette H-19	100	WIBU	131
Waco Q-15	50000 1000	WOAI WACO	1190 1240	Racine I-20	100 500	WR JN WHBL	137 141
Wichita Falls O-14	250	KGKO	570	Sheboygan H-20 Stevens Pt. G-19	2000	WLBL	90
				Superior F-17	1000	WEBC	129
UTAH Orden I 7	500	KLO	1400				
Ogden I-7 Salt Lake City I-7	1000	KDYL	1290	WYOMING			
out Dane Oity 1-7	5000	KSL	1130	Casper H-10	100	KDFN	1210
	3000	NOL	1130	Casper 11-10	100	KDIN	12.

CAN	ADA		PRINCE EDWAR	D ISLAND	
ALBERTA	Watts	Kcys.	Charlottetown C-31	Watts 250 CFCY	Kcys. 960
Calgary B-7	500 CFAC	690	Summerside C-31	30 CHCK 100 CHGS	960 1120
	500 CFCN 500 CHCA	690 690	OUEBEC	100 01105	1120
	500 CJCJ	690	Montreal E-26	500 CFCF	1030
Edmonton A-8	500 CNRC 250 CHMA	690 580		5000 CHYC 5000 CKAC	730 730
	500 ČJCA 500 CKUA	930 580		5000 CNRM	730
	500 CNRE	930	Quebec D-27	100 CHRC 22 CKCI	880 880
Lethbridge C-8 Red Deer A-8	500 CNRE 50 CJOC 1000 CHCT	1120 840		50 CKCV	880 880
Red Deer A-6	1000 CKLC	840	CACKATICKETYA	50 CNRQ	880
	1000 CNRD	840	SASKATCHEWAI	500 CJRW	600
BRITISH COLU	MBIA		Moose Jaw C-11	500 CJRW 500 CJRM 500 CHWC	600 960
Chilliwack B-3	5 CHWK 15 CFIC	1210 1120	Pilot Butte Regina C-12	500 CIBR	960
Kamloops B-5 Sea Island	50 CJŎR	1210		500 CKCK 500 CNRR	960 960
Vancouver B-3	50 CHLS 50 CKCD	730 730 730 730	Saskatoon B-11	500 CFQC	910
	50 CKFC	730	Yorkton C-13	500 CNRS 500 CJGX	910 630
	50 CKMO 100 CKWX	730 730	HAITI	000 0,011	
	500 CNRV	1030	Port au Prince X-30	1000 HHK	920
Victoria C-3	500 CFCT	630	MEXICO		
MANITOBA			Chihuahua, Chih. R-9 Guadalajara, Jal. X-10 Jalapa, Ver. Y-14	250 XFF 101 XEA	920 1200
Brandon D-14 Winnipeg D-15	500 CKX 5000 CKY	540 780	Jalapa, Ver. Y-14	350 XFC	630
Willingeg D-13	5000 CNRW	780	Juarez, Chih.	101 XEJ 105 XEY	860 550
NEW BRUNSWI	CK		Merida, Yuc. X-19 Mexico City Y-13	1000 XEB	670
Fredericton D-29	50 CFNB	1210		1000 XEN 101 XEO	730 980
Moncton D-30 St. John D-30	500 CNRA 50 CFBO	630 890		101 XER	1070
NEWFOUNDLAN				500 XEW 500 XEX	780 920
St. Johns A-35	500 8WMC	720		500 XEX 500 XEZ 50 XFA	700 540
			l.	2000 XFG	640
NOVA SCOTIA Halifax E-31	500 CHNS	930		1000 XFI 500 XFX	590 840
	500 CNRH	930	Monterrey, N. L. U-13	101 XEH	960
Louisburg C-32 Sydney C-32	500 VAS 50 CJCB	690 880	Morelia, Mich. Y-12	500 XET 101 XEI	620 1000
Wolfville D-31	50 CJCB 50 CKIC	930	Morelia, Mich. Y-12 Oaxaca, Oax. AA-14	105 XEF 2000 XED	1130 770
ONTARIO			Reynosa, Tams. Saltillo, Coah.	10 XEL	1090
Chatham H-22	100 CFCO	1210	Tampico, Tams.	501 XEM 500 XES	840 890
Cobalt E-23 Hamilton H-24	15 CKMC 10 CHCS	1210 880	Toluca, Mex.	50 XEC	1330
Hammon H-24	50 CHML	880	Veracruz, Ver. Villahermosa, Tab.	101 XEU 250 XFE	800 920
Iroquois Falls F-26	50 CKOC 250 CFCH	880 600	CUBA		
Kingston G-25	500 CFRC	930	Caibarien W-25	250 CMHD	920
London H-23	500 CJGC 500 CNRL	910 910	Cienfuegos W-25 Colon W-24	200 CMHA 300 CMGA	1150 830
Midland G-23	50 CKPR 100 CKCO	930 890	Havana W-23	100 CMBC	1220 610
Ottawa F-25	500 CNRO	600		200 CMBY 100 CMBZ	1010
Prescott F-25 Preston G-23	50 CFLC 25 CKPC	1010 1210		500 CMC 100 CMCE	840 1280
Toronto G-24	500 CFCA	840		250 CMCF	1010
	500 CFCL 4000 CFRB	580 960		250 CMCF 500 CMCQ 500 CMI	9 5 0 770
	5000 CJSC	690 580		2000 CMK	730
	5000 CKGW	690		100 CMQ 1000 CMW	1220 600
	500 CKNC 500 CNRT	580 840	Santiago V 20	500 CMX	900 1360
	4000 CNRX	960	Santiago X-28 Tuinucu	150 CMKC 500 CMHC	790
Waterloo G-23	5000 CPRY 50 CKCR	690 1010	COSTA RICA		
Wingham G-23	25 10-BP	1200	San Jose FF-23	50 TIX	750

CFAC 690		CJRW 600	1	CMKC 1360	1	KFDM 560	1
Calgary, Alta.		Fleming, Sask		Santiago, Cuba		Beaumont, Tex.	1
CFBO 890		CJSC 690		CMQ 1220		KFDY 550	
St. John, N. B.		Toronto, Ont.		Havana, Cuba		Brookings, S.D.	
CFCA 840	- 1	CKAC 730		CM W 600		I KFEL 920	
Toronto, Ont. CFCF 1030		Montreal, Que.		Havana, Cuba		Denver, Colo.	
CFCF 1030 Montreal, Que.	- 1	CKCD 730		CMX 920		I KEE() 680	
CFCH 600		Vancouver, B.C. CKCI 880		Havana, Cuba CNRA 630		St. Joseph, Mo. KFGQ 1310	
Iroq's Falls, Ont.	1	Quebec, Que.		Moncton, N.B.		Boone, Iowa	
CFCL 580		CKCK 960		CNRC 690		KFH 1300	
Toronto, Ont.		Regina, Sask.		Calgary, Alta.	. 1	Wichita, Kansas	
CFCN 690	3	CKCL 580		CNRD 840		KFHA 1200	
Calgary, Alta.		Toronto, Ont.		Red Deer, Alta.	! !	Gunnison, Colo.	
CFCO 1210		CKCO 890		CNRE 930		KFI 640	
Chatham, Ont.		Ottawa, Ont.		Edmonton, Alta.		Los Angeles, Cal.	
CFCT 630	- 1	CKCR 1010		CNRH 930	1	l KFIO 1120	
Victoria, B. C. CFCY 960		Waterloo, Ont.		Halifax, N. S.		Spokane, Wash.	ļ
Ch'lottet'n, P.E.I.	l l	CKCV 880		CNRL 910		KFIU 1310	
CFJC 1120		Quebec, Que. CKFC 730		London, Ont. CNRM 730		Juneau, Alaska KFIZ 1420	
Kamloops, B. C.		Vancouver, B.C.		Montreal, Que.		KFIZ 1420 Fond du Lac, Wis	1
CFLC 1010		CKGW 690		CNRO 600		KFJB 1200	
Prescott, Ont.		Toronto, Ont.		Ottawa, Ont.		Marshalltown, Ia.	
CFNB 1210		CKIC 930		CNRQ 880		KFJF 1480	
Fredericton, N.B.		Wolfville, N.S.		Quebec, Que.		Oklahoma City	
CFQC 910		CKLC 840		CNRR 960		KFJI 1370	
Saskatoon, Sask.		Red Deer, Alta.		Regina, Sask.		Astoria, Ore.	
CFRB 960		CKMC 1210		CNRS 910		KFJM 1370	
Toronto, Ont.		Cobalt, Ont. CKMO 730		Saskatoon, Sask.		Grd. Forks, N.D.	
Kingston, Ont.	- 1	Vancouver, B.C.				KFJR 1300	
CHCA 690		CKNC 580		Toronto, Ont.		Portland, Ore. KFJY 1310	
Calgary, Alta.		Toronto, Ont.		Vancouver, B.C.		Fort Dodge, Ia.	
CHCK 960		CKOC 880		CNRW 780		KFJZ 1370	
Ch'lottet'n, P.E.I.		Hamilton, Ont.		Winnipeg, Man.		Ft. Worth, Tex.	
CHCS 880	- 11	CKPC 1210		CNRX 960		KFKA 880	
Hamilton, Ont.		Preston, Ont.		Toronto, Ont.		Greeley, Colo.	
CHCT 840	- 1	CKPR 930	1	CPRY 690		KFKB 1050	
Red Deer, Alta. CHGS 1120		Midland, Ont.		Toronto, Ont.		Milford, Kansas	
Sum'rside, P.E.I.	- 11	CKUA 580	11	HHK 920 Port au Prince, H.		KFKU 1220	
CHLS 730		Edmonton, Alta. CKWX 730		KBPS 1420		Lawrence, Kans. KFKX 1020	
Vancouver, B.C.		Vancouver, B.C.	1	Portland, Ore.	- 1	KFKX 1020 Chicago, Ill.	
CHMA 580		CKX 540		KBTM 1200		KFLV 1410	
Edmonton, Alta.	- 1	Brandon, Man.		Paragould, Ark.		Rockford, Ill.	
CHML 880		CKY 780		KCRC 1370		KFLX 1370	
Hamilton, Ont.	i	Winnipeg, Man.		Enid, Okla.		Galveston, Tex.	
CHNS 930	- 1	CMBC 1220	1	KCRJ 1310		KFMX 1250	
Halifax, N.S.		Havana, Cuba		Jerome, Ariz.		N'thfield, Minn.	
CHRC 880 Quebec, Que.	- 11	CMBY 1400 Havana, Cuba		KDB 1500		KFNF 890	
CHWC 960		CMBZ 1010		S. Barbara, Cal.		Shenandoah, Ia.	
Pilot Butte, Sask.		Havana, Cuba		KDFN 1210 Casper, Wyo.		KFOR 1210 Lincoln, Nebr.	
CHWK 1210		CMC 840		KDKA 980		KFOX 1250	
Chilliwack, B.C.		Havana, Cuba		Pittsburgh, Pa.		Long Beach, Cal.	
CHYC 730		CMCE 1280 [KDLR 1210		KFPL 1310	
Montreal, Que.		Havana, Cuba		Devils Lake, N.D.		Dublin, Texas	
CJBR 960		CMCF 1010		KDYL 1290		KFPWI 1310	
Regina, Sask. CJCA 930	——	Havana, Cuba CMCQ 950		Salt Lake City		Greenville, Tex.	
Edmonton, Alta.		Havana, Cuba		KECA 1430 Los Angeles, Cal.		KFPW 1340	
CJCB 880		CMGA 830		KELW 780		Ft. Smith, Ark. KFPY 1340	-
Syndey, N.S.		Colon, Cuba	- 1	Burbank, Cal.		Spokane, Wash.	
CJCJ 690		CMHA 1150		KEX 1180		KFQD 1230	
Calgary, Alta.		Cienfuegos, Cuba		Portland, Ore.		Anchorage, Alas.	
CJGC 910	- 1	CMHC 790	-	KFAB 770		KFQU 1420	
London, Ont.		Tuinucu, Cuba		Lincoln, Nebr.		Holy City, Cal.	
CJGX 630	- 11	CMHD 920	1	KFBB 1280		KEOW 1420	
Yorkton, Sask. CJOC 1120		Caibarien, Cuba CMI 770		Great Fls., Mont. KFBK 1310		Seattle, Wash.	
Lethbridge, Alta.		Havana, Cuba		Sacramento, Cal.		KrKC 510	
CJOR 1210		CMK 730		KFBL 1370		San F'ncisco, Cal. KFRU 630	
Sea Island, B.C.		Havana, Cuba	i	Everett, Wash.		Columbia, Mo.	
CJRM 600						Columnia, into	
Moose Jaw, Sask.							
	į,						
_							
_							
,	- 11				11		

KFSD 600	KGFF 1420	KIDO 1250	KPJM 1500
San Diego, Cal. KFSG 1120	Alva, Okla.	Boise, Idaho	Prescott, Ariz. KPO 680
KFSG 1120	KGFG 1370 Oklahoma City	KIT 1310 Yakima, Wash.	San F'ncisco, Cal.
Los Angeles, Cal. KFUL 1290	KGFI 1500	KJBS 1070	KPOF 880 Denver, Colo.
Galveston Tex.	KGFI 1500 Corpus Ch'sti,Tex	San F'ncisco, Cal.	Denver, Colo.
Galveston, Tex. KFUM 1270 Col. Spgs., Colo.	KGFJ 1200 Los Angeles, Cal.	I K IR 970	KPPC 1210
Col. Spgs., Colo.	Los Angeles, Cal.	Seattle, Wash.	Pasadena, Cal.
KFUO 550	II KGFK 1500	KLCN 1290	KPQ 1500
St. Louis, Mo.	Moorhead, Minn. KGFL 1370	Blytheville, Ark. KLO 1400	Wenatchee, Wash KPRC 920
KFUP 1310 Denver, Colo.	RGFL 1370	Ogden, Utah	Houston, Texas
KEVI) 1000	Raton, N. M. KGFW 1310		KPSN 1360
Culver City, Cal.	Ravenna, Nebr.	Minot, N. Dak.	Pasadena, Cal.
Culver City, Cal. KFVS 1210 Cape Gir'rd'u, Mo	KGFX 580 Pierre, S. D. KGGC 1420	H KLKA 1390	II KQV 1380
Cape Gir'rd'u, Mo	Pierre, S. D.	Little Rock, Ark.	Pittsburgh, Pa. KQW 1010
KRWR 950 I	KGGC 1420	KLS 1440	KQW 1010
Hollywood, Cal.	San F'ncisco, Cal. KGGF 1010	Oakland, Cal.	San Jose, Cal. KRE 1370
Hollywood, Cal. KFWF 1200 St. Louis, Mo.	RGGF 1010	Oakland, Cal.	Berkeley, Cal.
KFWI 930	Picher, Okla. KGGM 1230	KLZ 560	KREG 1500
San F'ncisco, Cal.	Alb'q'rque, N.M.	Denver, Colo.	II Santa Ana Cal
KEXD 1420	KGHF 1320	KMA 930	KRGV 1260
KFXD 1420 Nampa, Idaho	Pueblo, Colo.	KMA 930 Shenandoah, Ia.	Harlingen, Texas
KFXF 920 Denver, Colo.	KGHI 1200 Little Rock, Ark.	KMAC 1370 San Antonio, Tex.	KRLD 1040 Dallas, Texas
Denver, Colo.	Little Rock, Ark.	San Antonio, Tex.	Dallas, Texas
KFXJ 1310	KGHL 950 Billings, Mont.	KMBC 950	KRMD 1310
Edgewater, Colo.	KCIO 1220	Kan. City, Mo. KMED 1310	Shreveport, La. KROW 930 Oakland, Cal.
KFXM 1210 San Ber'd'no,Cal.	KGIQ 1320 Twin Falls, Ida.	Medford, Ore.	Oakland, Cal.
KFXR 1310	KGIR 1360	KMIC 1120	H KRSC: 1120
Oklahoma City	Butte, Mont.	Inglewood, Cal.	Seattle, Wash.
KFXY 1420 Flagstaff, Ariz.	KGIR 1360 Butte, Mont. KGIW 1420 Trinidad, Colo.	KMJ 1210	Seattle, Wash. KSAC 580 Manh'tt'n, Kans.
Clagstaff, Ariz.	Trinidad, Colo.	Fresno, Cal.	
AFYO 1420	KG1X 1420	Monroe I o	KSCJ 1330 Sioux City, Ia.
Abilene, Texas	Las Vegas, Nev.	KMM I 740	KSD 550
KFYR 550 Bismarck, N.D.	Grant City, Mo	KMLB 1200 Monroe, La. KMMJ 740 Clay Ctr., Nebr.	St. Louis, Mo.
KGA 1470	KGJF 890	KMO 860	KSEI 900
KGA 1470 Spokane, Wash.	KGIZ 1500 Grant City, Mo. KGJF 890 Little Rock, Ark.	KMO 860 Tacoma, Wash.	KSEI 900 Pocatello, Idaho
KGAR 1370	H KCKB 1500	[] KWIOX 1090	H KSL 1130
Tucson, Ariz.	Brownwood, Tex.	St. Louis, Mo.	Salt Lake City KSMR 1200
KGB 1330	KGKL 1370	KMPC 710 Los Angeles, Cal.	Santa Maria, Cal.
San Diego, Cal.	San Angelo, Tex. KGKO 570 Wichita Flls., Tex	KMTR 570	KSO 1380
KGBU 900 Ketchikan, Al'ka.	Wichita Flls., Tex	Los Angeles, Cal.	Clarinda, Iowa
KGBX 1310	H KGKX 1420	H KNX 1050 1	KSOO 1110 Sioux Falls, S.D.
KGBX 1310 St. Joseph, Mo.	Sand Point, Ida.	Los Angeles, Cal.	Sioux Falls, S.D.
KGBZ 930 York, Nebr. KGCA 1270	KGKY 1500	KOA 830 Denver, Colo.	KSTP 1460 St. Paul, Minn.
Ork, Nebr.	Scottsbluff, Nebr.	KOAC 550	KTAB 560
Decorah, Iowa	KGMB 1320 Honolulu, T. H.	Corvallis, Ore.	San F'ncisco, Cal.
KGCR 1210	KGMP 1210	KOB 1180	H KTAP 1420
Vatertown, S.D.	II Elk City, Okla,	KOB 1180 State Coll., N.M.	San Antonio, Tex. KTAR 620
Watertown, S.D KGCU 1200	II KGNF 1430		KTAR 620
Mandan N.D.	No. Platte, Neb. KGNO 1210	Chickasha, Okla.	II Phoenix, Ariz.
Volf P't, Mont. Volf P't, Mont. VGDA 1370 Mitchell, S. D.	KGNO 1210	KOH 1380 Reno, Nevada	Et Worth Toy
CDA 1270	Dodge City, Kans. KGO 790 San F'neisco, Cal. KGRS 1410	KOIL 1260	KTAT 1240 Ft. Worth, Tex. KTBI 1300
Mitchell, S. D	San Fineisco, Cal	KOIL 1260 Council Bluffs, Ia.	II Los Angeles, Cal.
GDE 1200	KGRS 1410	KOIN 940	II KTBK 1300
GDE 1200 Terg's F'lls, Minn	Amarillo, Texas	Portland, Ore.	Portland, Ore.
KGDM 1100	KGU 940	KOL 1270 Seattle, Wash.	KTBS 1450
tockton, Cal.	Honolulu, Hawaii	Seattle, Wash.	Shreveport, La.
GDY 1200 Iuron, S. D.	KGW 620	KOMO 920 Seattle, Wash.	KTHS 1040
Iuron, S. D. KGEF 1300	Portland, Ore.	KONO 1370	Hot Spgs., Ark.
os Angeles Cal	KGY 1200 Lacey, Wash. KHJ 900	San Antonio, Tex	KTLC 1310 Houston, Texas
KGEK 1200	KHJ 900	San Antonio, Tex KOOS 1370	KTM 780
GEK 1200 Yuma, Colo. KGER 1360	Los Angeles, Cal.	Marshfield, Ore.	KTM 780 Los Angeles, Cal.
KGEŔ 1360	KHO 590	KORE 1420	KTNT 1170
Long Beach, Cal.	Spokane, Wash.	Eugene, Ore.	Muscatine, Iowa
KGEW 1200	KICK 1420 Red Oak, Iowa.	KOY 1390	KTRH 1120 Houston, Texas
Ft. Morgan, Colo.	KID 1220	Phoenix, Ariz.	KTSA 1290
KGEZ 1310 Kalispell, Mont.	KID 1320 Idaho Falls, Ida.	KPCB 650 Seattle, Wash.	San Antonio, Tex.
Lanspen, Mont.	Tuano I ans, Iua.	Scarcic, Wash.	1 5511 111100110, 2011
			-
	81		11

KTSL 1310		WABC 860	WCAE 1220		WDEL 1120	1
Shreveport, La.		New York City WABI 1200	 Pittsburgh, Pa.		Wilmington, Del.	
KTSM 1310 El Paso, Texas	- 1	Bangor, Maine	WCAH 1430 Columbus, Ohio		WDGY 1180 Minneap., Minn.	
KTW 1270		WABO 1440	 WCAJ 590		WDIX 1500	
Seattle, Wash.		Rochester, N. Y.	 Lincoln, Nebr.		Tupelo, Miss.	
KUJ 1500	- 1	I WABZ 1200	WCAL 1250		WDOD 1280	
Longview, Wash. KUOA 1390		New Orleans, La. WACO 1240	 Northfield, Minn. WCAM 1280	_	Chattan'ga, Tenn WDRC 1330	i
Favetteville, Ark.		Waco, Texas	Camden, N. J.		N. Haven, Conn.	
KUSD 890		WADC 1320	WCAO 600		I WDSU 1250	
Vermillion, S. D. KUT 1500		Akron, Ohio WAGM 1310	 Baltimore, Md. WCAP 1280		New Orleans, La. WDWF 1210	
Austin, Texas		Royal Oak, Mich.	Asbury Pk., N. J.	1 1	Providence, R. I.	
KVI 760		WAIU 640	Asbury Pk., N. J. WCAT 1200		L WDZ 1070	
Tacoma, Wash.		Columbus, Ohio	 Rapid City, S. D.		Tuscola, Ill.	
KVL 1370 Seattle, Wash.	- 1	WALR 1210 Zanesville, Ohio	WCAU 1170 Philadelphia, Pa.		WEAF 660 New York City	
KVOA 1260		WAPI 1140	 WCAX 1200		WEAI 1270	
Tucson, Arizona		Birmingham, Ala.	Burlington, Vt.		Ithaca, N. Y.	
KVOO 1140		WASH 1270	WCAZ 1070		WEAN 780	
Tulsa, Okla KVOS 1200		Gr. Rapids, Mich. WBAA 1400	 Carthage, Iil. WCBA 1440		Providence, R. I. WEAO 570	
Bellingh'm, Wash. KWCR 1310		Lafayette, Ind.	Allentown, Pa.		Columbus, Ohio	
KWCR 1310		WBAK 1430	WCBD 1080		WEBC 1290	
Cedar Rapids, Ia. KWEA 1210		Harrisburg, Pa. WBAL 1060	 Zion, Ill. WCBM 1370		Superior, Wis. WEBQ 1210	
Shreveport, La. KWG 1200		Baltimore, Md.	Baltimore, Md.		Harrisburg, Ill.	
KWG 1200		WBAP 800	WCBS 1210		WEBR 1310	
Stockton, Cal. KWJJ 1060		Fort Worth, Tex. WBAX 1210	 Springfield, Ill. WCCO 810		Buffalo, N. Y.	
Portland, Ore.		Wilkes-Barre, Pa.	Minneap., Minn.		WEDC 1210 Chicago, Ill.	
KWK 1350		WBBC 1400	WCD A 1350		WEDH 1420	
St. Louis, Mo.		Brooklyn, N. Y.	 WCD 1 1350 New York City		Erie, Pa.	
KWKC 1370 Kansas City, Mo.	l	WBBL 1210	WCFL 970 Chicago, Ill.		WEEI 590 Boston, Mass.	
KWKH 850		Richmond, Va. WBBM 770	 WCGU 1400		WEHC 1200	
Shreveport, La.		Chicago III	 Brooklyn, N. Y.		WEHC 1200 Emory, Va. WEHS 1420	
KWLC 1270 Decorah, Iowa		WBBR 1300 Brooklyn, N. Y.	WCKY 1490 Covington, Ky.		WEHS 1420	
KWSC 1220		WBBZ 1200	WCLB 1500		Evanston, Ill. WELK 1370	
Pullman, Wash	0	Ponca City, Okla.	 Long Beach, N.Y.		Philadelphia, Pa.	
KWWG 1260	į,	I WBCM 1410	I WCLO 1200		WELL 1420	
Brownsville, Tex		Bay City, Mich.	 Janesville, Wis. WCLS 1310		BattleCreek, Mich WENR 870	
Seattle, Wash. KXL 1420		WBEN 900 Buffalo, N. Y.	Joliet, Ill.		Chicago, Ill.	
KXL 1420		WBGF 1370	WCMA 1400		I WEPS 1200	
Portland, Ore. KXO 1500		Glens Falls, N. Y. WBIS 1230	 Culver, Ind. WCOC 880		Worcester, Mass. WEVD 1300	
El Centro, Cal.		Boston, Mass.	Meridian, Miss.		New York City	
KARO 1310		WBMS 1450	WCOD 1200		WEW 760	
Aberdeen, Wash KXYZ 1420		Hackensack, N.J. WBNY 1350	 Harrisburg, Pa. WCOH 1210		St. Louis, Mo.	
Houston, Texas		New York City	WCOH 1210 Yonkers, N. Y.		WFAA 800 Dallas, Texas WFAN 610	
KYA 1230		WBOQ 860	I WCRW 1210		WFAN 610	
San F'ncisco, Cal.		New York City WBOW 1310	 Chicago, Ill. WCSC 1360		Dhiladalphia Pa	
KYW 1020 Chicago, Ill.	1	Terre Haute, Ind.	Charleston, S. C.		WFBC 1200 Knoxville, Tenn.	
K7M 1370		WBRC 930	WCSH 940			
Hayward, Cal.		Birmingham, Ala.	 Portland, Maine		Cincinnati, Ohio	
NAA 690 Arlington, Va.	- 1	WBRE 1310 Wilkes-Barro Pa	WCSO 1450 Springfield, Ohio		WFBG 1310 Altoona, Pa.	
		Wilkes-Barre, Pa. WBSO 920	WDAE 1220		WFBL 1360	
Ralboa C. Z.		Well'l'yH'ls,Mass	 Tampa, Fla.		Syracuse, N. Y.	
TIX 750 San Jose, C. R. VAS 690	1	WBT 1080 Charlotte, N. C.	WDÁF 610 Kansas City, Mo.		WFBM 1230 Indianapolis, Ind.	
VAS 690		WBTM 1370	 WDAG 1410		WFBR 1270	
Louisburg, N. S.		WBTM 1370 Danville, Va.	 Amerillo, Texas		Baltimore, Md.	
WAAF 920		I WBZ 990	WDAH 1310 El Paso, Texas		I WEDE 1310	
Chicago, Ill. WAAM 1250		Springfield, Mass. WBZA 990	 WDAY 940		Flint, Mich. WFDV 1370	
WAAM 1250 Newark, N. J.		Boston, Mass.	 Fargo, N. D.		Rome, Ga.	
		WCAC 600 Storrs, Conn.				
Jersey City, N. J. WAAW 660		Storrs, Conn. WCAD 1220	 Roanoke, Va. WDBO 1120			
Omaha, Nebr.		Canton, N. Y.	Orlando, Fla.			
,						
_						
		T	1			

					-		
WFDW 1420	TI II	WHDF 1370	1	WJBC 1200	- 11	WLBC 1310	
Talladega, Ala.	- 11	Calumet, Mich.		La Salle, Ill.		Muncie, Ind.	
WEI ECO		WHDH 830		WJBI 1210		WLBF 1420	
Philadelphia, Pa.	- li	Boston, Mass.		Red Bank, N. J.		Kansas City, Ks. WLBG 1200	
WF1W 940		WHDI 1180			- 1	WLBG 1200	
Hopkinsville, Ky.	=I	Minneap., Minn.		Detroit, Mich.		Ettrick, Va.	
WFJC 1450		WHDL 1420		WJBL 1200		WLBL 900 Stevens Pt., Wis.	
Akron,Ohio		TupperLake, N.Y.		Decatur, Ill.		WLBW 1260	
WFKD 1310		WHEC 1440	1	WJBO 1420	- 1	WLBW 1260 Oil City, Pa.	
Philadelphia, Pa.		Rochester, N. Y.		New Orleans, La. WJBT 770		WIDY 1500	
WFLA 620		WHFC 1420	- 1	Chicago, Ill.		WLBX 1500 L.I.City, N.Y.	
Clearwater, Fla. WGAL 1310		Cicero, Ill. WHIS 1420		WJBU 1210		WLBZ 620	
WGAL 1310	- 1	DI. 6-14 XX XI.		Lewisburg, Pa.	1	Bangor, Me.	
Lancaster, Pa. WGBB 1210		WHY 1390		WJBW 1200		WLCI 1210	
Freeport, N. Y.	1	WHK 1390 Cleveland, Ohio WHN 1010		New Orleans, La.	1	WLCI 1210 Ithaca, N. Y. WLEX 1410	
WGRC 1430		WHN 1010		WJBY 1210		WLEX 1410	
WGBC 1430 Memphis, Tenn.	- 11	New York City		Gadsden, Ala.		Lexington, Mass.	ll
WGBF 630		WHO 1000		WJDX 1270		Lexington, Mass. WLEY 1370	
Evansville, Ind.		Des Moines, Ia.		Jackson, Miss.		Lexington, Mass.	
WGBI 880		WHOM 1450		WJJD 1130		WLIB 720	
Scranton, Pa.		Jersey City, N. J.		Mooseheart, Ill.		Chicago, Ill.	
WGBS 600		WHP 1430		WJKS 1360		WLIT 560	
New York City WGCM 1210		Harrisburg, Pa.		Gary, Ind.		Philadelphia, Pa.	
WGCM 1210		WIAS 1420		WJR 750		WLOE 1500 Boston, Mass.	
Gulfport, Miss.		Ottumwa, Iowa		Detroit, Mich.		Boston, Mass.	
WGCP 1250		WIBA 1210 Madison, Wis.		WJSV 1460		WLS 870 Chicago, Ill.	
Newark, N. J.		Madison, Wis.		Alexandria, Va. WJW 1210		WLSI 1210	
WGES 1360 Chicago, Ill.		WIBG 930 Elkins Park, Pa.		Mansfield, Ohio		Providence R. I	
Unicago, III.		WIBM 1370		WIZ 760		WLTH 1400 Brooklyn, N. Y. WLVA 1370	
WGH 1310 Newp't News, Va. WGL 1370		Jackson, Mich.		WJZ 760 New York City	- 1	Brooklyn, N. Y.	
WCI 1370		WIBO 560		I WKAO 890		WLVA 1370	
Ft. Wayne, Ind.		Chicago, Ill.		San Juan, P. R.		Lynchburg, Va.	
WGM 840		WIBR 1420		I WKAR 1040		WLW 700	
Adamsburg, Pa.		Steubenville, O.		E Langing Mich		Cincinnati, Ohio	
WGMS 1250		WIBU 1310		WKAV 1310		I WI.WI. 1100	
St. Paul, Minn.		Poynette, Wis.		WKAV 1310 Laconia, N. H.		New York City WMAC 570 Cazenovia, N. Y.	
		WIBW 580 Topeka, Kansas				WMAC 570	
Chicago, Ill.		Topeka, Kansas		Joliet, Ill. WKBC 1310		WMAF 1410	
WGR 550 Buffalo, N. Y.		WIBX 1200 Utica, N. Y. WICC 1190		WKBC 1310		S. D'rtm'th, Mass.	
Buttalo, N. Y.		Utica, N. 1.		Birmingham, Ala. WKBF 1400		WMAL 630	
		Bridgeport, Conn.		Indianapolis Ind	- 1	Washington, D.C.	
Atlanta, Ga. WGY 790		WIL 1200		Indianapolis, Ind. WKBH 1380		WMAN 1210	
Sahonoa'd'y N V		St. Louis, Mo.		La Crosse, Wis.	1	Calumbua Ohio	
Schenec'd'y, N.Y. WHA 940		WILL 890		WKBI 1420	J	WMAQ 670 Chicago, Ill. WMAY 1200 St. Louis, Mo.	
Madison, Wis.	- 1	Urbana, Ill.		Chicago, Ill.		Chicago, Ill.	
WHAD 1120		WILM 1420		WKBN 570		WMAY 1200	
Milwankoe Wis		Wilmington, Del.		Youngstown, O.		St. Louis, Mo.	J
WHAM 1150 Rochester, N.Y. WHAP 1300		WIOD 1300		WKBO 1450	- 1	I WINIAL OUU	
Rochester, N.Y.		Miami Bch., Fla.		Jersey City, N. J.		Macon, Ga.	i
WHAP 1300		WIP 610		WKBQ 1350		WMBA 1500 Newport, R. I.	
New York City		Philadelphia, Pa.		New York City		Newport, N. 1.	
WHAS 820		WIS 1010		WKBS 1310		WMBC 1420 Detroit, Mich.	
Louisville, Ky.		Columbia, S. C. WISJ 780		Galesburg, Ill. WKBV 1500		WMBD 1440	
WHAT 1310 Philadelphia, Pa.		Madison, Wis.		Connersville, Ind.		Peoria Hghts., Ill.	
WHAZ 1300		I WISN 1120		WKBW 1480		WMBG 1210	
WHAZ 1300 Troy, N. Y. WHB 860		Milwaukee, Wis.		WKBW 1480 Buffalo, N. Y.		WMBG 1210 Richmond, Va.	
WHB 860		WJAC 1310		I MERS 1200		WMBH 1420	
Kansas City, Mo. WHBC 1200		Johnstown, Pa.		Ludington, Mich.		Joplin, Mo.	
WHBC 1200		WJAG 1060		WKJC 1200		WMBI 1080	
Canton, Ohio		Norfolk, Nebr.		Lancaster, Pa.		Chicago, Ill.	
WHBD 1370		WJAK 1310		WKRC 550		WMBJ 1500	
Mt. Orab, O.		Marion, Ind.		Cincinnati, O. WKY 900		Pittsburgh, Pa.	
WHBF 1210		WJAR 890				WMBO 1310 Auburn, N. Y.	
Rock Island, Ill.		Providence, R. I. WJAS 1290		Oklahoma City WKZO 590		WMRQ 1500	
WHBL 1410		Pittsburgh, Pa.		Be'n Spgs., Mich.		WMBQ 1500 Brooklyn, N. Y. WMBR 1370	
Sheboygan, Wis.		WJAX 900		WLAC 1470		WMBR 1370	
WHBQ 1370 Memphis, Tenn. WHBU 1210		Jacksonville, Fla.		Nashville, Tenn.		Tampa Fla	
WHRU 1210		WJAY 610		WLAP 1200		I WMC 780	
Anderson, Ind.		Cleveland, Ohio		Louisville, Ky.		Memphis, Tenn.	
WHBY 1200		WIAZ 1490		WLB 1250		WMCA 570 New York City	
Green Bay, Wis.		Chicago, Ill.		St. Paul, Minn.		New York City	
• /							1
-							
				11			1

WMMN 890	WO'RD 1490	WRHM 1250	WTNT 1470
Paismant W Va		Minneap., Minn.	Nochrille Tenn
Fairmont, W.Va.	Chicago, Ill.	Winneap., Winn.	Nashville, Tenn.
WMPC 1500	WOS 630	WRJN 1370	WTOC 1260
Lapeer, Mich. WMRJ 1210	Jeff's'n City, Mo. WOV 1130	Racine, Wis.	Savannah, Ga. WWAE 1200
WMRJ 1210	WOV 1130	WRNY 1010	WWAE 1200
Jamaica, N. Y.	II New York City	New York City	Hammond, Ind.
WMSG 1350	II WOW 590	WRR 1280	WWI 920
New York City	Omaha, Nebr. WOWO 1160	Dallas, Texas WRUF 830	Detroit, Mich.
WMT 600	WOWO 1160	WRUF 830	WWL 850
Waterloo, Iowa	Ft. Wayne, Ind.	Gainesville, Fla.	WWL 850 New Orleans, La.
WNAC 1230		WRVA 1110	WWNC 570 Asheville, N. C.
Boston, Mass.	Paducah, Ky.	Richmond, Va. WSAl 1330	Ashavilla N. C.
WNAD 1010	WPAP 1010	WEAT 1220	WWDY 1500
WNAD 1010		Cincinneti Ohio	WWRL 1500 Woodside, N. Y.
Norman, Okla.	New York City WPAW 1210	Cincinnati, Ohio	Woodside, N. Y.
WNAX 570 Yankton, S. D.	WPAW 1210	WSAJ 1310	WWVA 1160 Wheeling, W. Va.
Yankton, S. D.	Pawtucket, R. I.	Grove City, Pa. WSAN 1440	Wheeling, W. Va.
WNBF 1500	WPCC 560	WSAN 1440	I W X Y Z 1240
WNBF 1500 Bingh'mt'n, N.Y.	Chicago, Ill.	Allentown, Pa.	Detroit, Mich.
WNBH 1310	WPCH 810	WSAR 1450	XEA 1200
New B'df'd, Mass.	May Vork City	Fall River, Mass.	Guadalajara, Jal.
WND I 1210	WPDF 1200	WSAZ 580	VER 670
Knoxville, Tenn.	WPDF 1200 Flint, Mich. WPEN 1500	Hunt'gton, W.Va.	XEB 670 Mexico City
WAIDO 1900	Which 1500	WSB 740	VEC 1990
WNBO 1200	Ditt de la Da	MSB 140	XEC 1330
Washington, Pa.	Philadelphia, Pa.	Atlanta, Ga. WSBC 1210	Toluca, Mex. XED 770
WNBR 1430 Memphis, Tenn.	WPG 1100 Atl'ntic City, N.J.	WSBC 1210	XED _ 770
Memphis, Tenn.	Ati ntic City, N.J.	Chicago, Ill.	Reynosa, Tams.
WNBW 1200	H WPOE 1370	WSBT 1230	Reynosa, Tams. XEF 1130
Carbondale, Pa.	Patchogue, N. Y.	South Bend, Ind.	Uaxaca, Oax.
WNBX 1200	WEOK 180	WSFA 1410	XEH 960
Springfield, Vt. WNBZ 1290 SaranacL'ke, N.Y.	Norfolk, Va.	Montgomery.Ala.	Monterrey, N. L.
WNRZ 1290	WPSC 1230 State College, Pa.	WSGH 1400	XEI 1000
Saranaal 'ka N V	State College Pa	Brooklyn, N. Y.	XEI 1000 Morelia, Mich.
WNI 1450	WPTF 680 Raleigh, N. C.	WSIX 1210	XEJ 860
WNJ 1450 Newark, N. J.	Palaigh N C	Springfield, Tenn.	Tuesan Chib
Newalk, N. J.	Nateigh, N. C.	Springheid, Tenn.	Juarez, Chih.
		WSJS 1310	XEL 1090
Knoxville, Tenn. WNRC 1440	Miami, Fla.	WinstSal., N. C. WSM 650	Saltillo, Coah.
WNRC 1440	Miami, Fla. WQAN 880	WSM 650	XEM 840
Greensboro, N.C.	Il Scranton Pa.	Nashville, Tenn.	Tampico, Tams.
Greensboro, N.C. WNYC 570	WQAO 1010 New York City WQDM 1370	WSMB 1320	Saltillo, Coah. XEM 840 Tampico, Tams. XEN 730
New York City	New York City	New Orleans, La.	Mexico City
WOAI 1190	WODM 1370	WSMK 1380	Mexico City XEO 980
San Antonio, Tex.	St. Albans, Vt.	Dayton, Ohio	Mexico City
WOAN 600	WQDV 1500	WSPA 1420	XER 1070
Law'nceb'g, Tenn.	Tupelo, Miss.	Spartanburg, S.C.	Maxina City
WOAY 1990	WQDX 1210	WSPD 1340	Mexico City XES 890
WOAX 1280 Trenton, N. J. WOBT 1310 Union City, Tenn.	WQDA 1210		
Trenton, N. J.	Thomasville, Ga.	Toledo, Ohio	Tampico, Tamp.
MORT 1310	WRAF 1200	II WSSH 1410	XET 620
Union City, Tenn.	La Porte, Ind.	Boston, Mass.	Monterrey, N. L.
WOBU 580 Charlest'n, W.Va.	WRAK 1370	WSUI 880	I XEU 800
Charlest'n, W.Va.	Williamsport, Pa.	Iowa City, Ia.	Veracruz, Ver. XEW 780
	WRAW 1310	WSUN 620	XEW 780
Davenport, Iowa	Reading, Pa.	St. Petersb'g, Fla.	Mexico City
Davenport, Iowa WOCL 1210	W12 A V 1020	WSUN 620 St. Petersb'g, Fla. WSVS 1370 Buffalo, N. Y. WSYR 570	Mexico City XEX 920
Jamestown, N. Y.	Philadelphia, Pa.	Buffalo, N. Y.	Mexico City
WODA 1250	WRBJ 1370	WSYR 570	Mexico City XEY 550
WODA 1250 Paterson, N. J.	Haltieshurg Miss	Syracuse, N. Y.	Merida Vue
WODX 1410	Hattiesburg, Miss WRBL 1200	WTAD 1440	Merida, Yuc. XEZ 700
Mobile, Ala.	Columbus, Ga.	Quincy, Ill.	
WOI 640	WPRO 1210	WTAG 580	Mexico City XFA 540
Armon Tonic	WRBQ 1210	Worgester Mass	Mexico City XFC 630
Ames, Iowa	Greenville, Miss.	Worcester, Mass.	Wiexico City
WOKO 1440	WRBT 1370	WTAM 1070	XFC 630
P'ghkeepsie, N.Y.	Wilmington, N.C.	Cleveland, Ohio	Jalapa, Ver.
WOL 1310	WRBU 1210 Gastonia, N. C.	WTAQ 1330	XFC 630 Jalapa, Ver. XFE 920
Washington, D.C.	Gastonia, N. C.	Eau Claire, Wis. WTAR 780	I Villahermosa, Tabi
WOMT 1210 1	WRBX 1410	WTAR 780	XFF 920
Manitowoc, Wis. WOOD 1270	WRBX 1410 Roanoke, Va.	Norfolk Va. WTAW 1120	Chihuahua, Chih. XFG 640
WOOD 1270	WRC 950	WTAW 1120	XFG 640
Gr. Rapids, Mich.	Washington, D.C.	College Sta., Tex.	Mexico City
WOOP 840	WRDO 1370	College Sta., Tex. WTAX 1210	XFG 640 Mexico City XFI 590
Jeannette, Pa.	Augusta, Me.	Springfield, Ill.	Mexico City XFX 840
WOPI 1500	WRDW 1500	WTBO 1420	XFX 840
Bristol, Tenn.	Augusta, Ga.	Cumberland, Md.	Marian City
WOO 1200	WREC 600	WTEI 1450	Mexico City 8WMC 720
WOQ 1300 Kansas City, Mo.	Manahia Com	WTFI 1450	ON The N E
Kansas City, Mo.	Memphis, Tenn.	Toccoa, Ga.	St. Johns, N. F.
WOR 710 Newark, N. J.	WREN 1220	WTIC 1060	10BP 1200
Newark, N. J.	Lawrence, Kans.	Hartford, Conn.	Wingham, Ont.
WORC 1200	II	WTMJ 620	
Worcester, Mass.	-11	Milwaukee, Wis.	1
	H .		
	-		January and the second

The World Stations by Countries

					_		
Country and City	Call	Kcys.	Watts	Country and City	Call	Kcys.	Watts
OCEANIA	AND AF	RICA		HONG KONG			
AUSTRALIA				Victoria Peak INDIA	ZBW	857	1500
Adelaide	5CL	733	2500	Bombay	VUB	840	3000
	5DN 5KA	958 1199	250 500	Calcutta	VUC	810	3000
Bathurst	2MK	1153	125	JAPAN	,,,,,,,	7995	
Brisbane	4QG 7ZL	779	2500	Hirasio Hiroshima	JHBB JOFK	7995 849	10000
Hobart	7ZL	581	1500	Kumamoto	JOCK	789	10000
Melbourne	3AR 3DB	620 1176	2500 250	Nagoya	JOGK JOCK JOBK	810	10000
	3LO	9369	2500	Osaka	JOBK	750	10000
		808		Sapporo Sendai	JOIK JOHK	831 769	10000 10000
Perth	6WF 2BL	689 9225	2500 2500	Taihoku	JFAK	353	1000
Sydney	2DL	849	2300	Taipeh	JFAB	7590	77-75
	2FC	10520	2500	Tokyo KWANGTUNG	JOAK	869	10000
		665	4.500	Dairen	JQAK	759	5000
	2GB	949 1071	1500 750	NETHERLAND EAS		,,,	0000
	2KY 2ME	10520	/30	INDIES) 1		
	2ME 2UE	1023	125	Bandoeng	IBR	5170	1000
	2UW	1123	250	Batavia	PK1AA PK2AF	3998 5996	500
NEW ZEALAND Auckland	1YA	900	500	Djokjakarta Makassar	PK2AF PK6KZ	7313	500 500
Auckland	120	1188	300	Malabar	PLF	17640	
Christchurch	1ZQ 3YA	980	500	Palembang	PK4PA PK2AG	59964	240
	3ZC	5996	250	Semarang	PK2AG	6662	250
Dunedin	4YA	1199 648	500	Surabaya	PH3CH	2142	500 500
Gisborne	2ZM	1147	160				000
Palmerston	2ZF	1049	150		ERN EUR	OPE	
Wellington	2YA	718	5000	ALBANIA			300
ALGERIA	o DD	067	100	Tirana AUSTRIA			300
Algiers	8DB	967 823	12000	Graz		851	7000
CANARY ISLANDS		020		Innsbruck		1058	500
Las Palmas	EAR5	857	200	Klagenfurt Linz		662 1220	500 500
EGYPT				Vienna		581	15000
Cairo		869 909	~ ~ ~	FRANCE		062.1	400
KENYA		707		Agen	F2BD	963.1 9761	480
Nairobi	7LO	8950	2000	Angers		1091	250
MOROCCO		750		Beziers		1364.3	1500
Casablanca	AIN	5879		Biarritz		1515 1199.5	250 5000
Rabat		6877	2500	Bordeaux		986	1500
TUNISIA		724		Caen		1030	200
Carthage	TNU	162		Grenoble		914.1 1 21 9	1500 250
Constantine	8KR	7005		Juan les Pins Lille		1132.1	500
Tunis	TUA	240	500	Limoges		1022	500
UNION OF SOUTH AFRICA				Lyon	YN	644	3000
Cape Town	ZTC	800	1000		YR	1029.9 7462.7	500
Durban	ZTC ZTD ZTJ	789	1000	Marsan		750	250
Johannesburg	ZTJ	9369	15000	Marseilles		950	500
	ASIA	676		Montpellier		1049 19355	200
BRITISH MALAYA				Nancy Nice (see Juan le	s Pins)	19333	
Singapore	VSIAB	7260		Nimes		1250	500
Johore CEYLON	VS3AB	7055		Nogent-sur-bein	e F8AV	3750	15000
Colombo		375	1750	Paris	FL	9375 214.4	19000
CHINA			4000			113.2	
Canton Hangchow	CAB XGY_	689 895	1000 250		FPTT	671	1000
Harbin	COHB	674	1000		F8GC	825 4262.3	1500
Mukden	COMK	714	2000			905.2	500
Nanking	XGZ	606	500			174	13500
Peking Shanghai	COPK KRC	937 887	1000 250			967.8	2000
Shanghai Tientsin	CRC	1071	500	Rennes		7317.1 1103	1500
	COTN	625	500	Rheims		777.2	500
CHOSEN (KOREA)	JODK	714	1000	St. Etienne		1363.6	250
Heijo (Seoul) FRENCH INDO CH		/14	1000	Toulon Toulouse	MRD	1200 1175	500 1500
Haiphong	1117	3446	2500	10010036	IVIKID	770.2	8000

Country and City	Call	Kcys.	Watts	Country and City	Call	Keys.	Watts
	Out	1 (0)3.	*** ***********************************				1000
HUNGARY		545	20000	Norddeich		167	
Budapest		545	20000	Nuremburg		1254	1000
ITALY				Schaerbeck		1304	750
Bolzano	IBZ	662	200	Stettin		1059	
Genoa	IGE	<i>77</i> 9	1200	Stuttgart		833	4000
Milan	IMI	599	7000	IRISH FREE STAT	E		
Naples	INA	905.2	1500	Cork	6CK	1337	1000
Rome	IRO	680	3000	Dublin	2RN	940	1500
	IRAX	6666.7		LUXEMBURG			
PORTUGAL					LOAA	1344	10000
Lisbon	PIAA	983.6	500	Luxemburg	LOAA	1344	10000
				NETHERLANDS			
RUMANIA		758.9	12000	Hilversum	PFBI	280	7000
Bucharest		750.9	12000	Huizen	PHI	17778	40000
SPAIN					PH9	1006	6200
Almeria	EAJ18	1195.2	200			160	
Barcelona	EAJ1	855	75 00	Scheveningen	PCF	279	1500
	EAJ13	1119.4	10000	UNITED KINGDOM	4		
Madrid	EAJ2	750	750	Aberdeen	2BD	995	1000
	EAJ7	707.6	1500	Belfast	2BE	1238	1000
	EAM	9772			6BM	1040	
San Sebastian	EAJ5	809.2	1000	Bournemouth	ODIVI		1000
Seville	271,70	809.2		Cardiff	5WA	968	1000
		007.2		Daventry	5XX	193	25000
SWITZERLAND		205	250	ъ.	5GB	626	25000
Basel		297	250	Dundee	2DE	1040	130
Berne		743	1000	Edinburgh	2EH	1040	350
_		9375		Glasgow	5SC	752	1000
Geneva		395	250	Hull	6KH	1040	130
Lausanne		441	600	Leeds & Bradford	2LS	1500	130
Zurich	H9XD	3529.4				1040	
		9375		Liverpool	6LV	1040	130
		653	630	London	2LO	842	30000
YUGOSLAVIA						1150	
Belgrade		695	2500	Manchester	2ZY	79.7	1000
Lljubljana		527.3	3000	Newcastle	5NO	1148	1000
Zagreb		977	700	Plymouth	5PY	1040	130
		,,,		Sheffield	6FL	1040	130
WEOTE	DAL ETTO	NDE:		Stoke on Trent	6ST	1040	130
WESTE	RN EURC	PE		Swansea	5SX	1040	130
BELGIUM	ONLICE			Swarisea	JJA	1040	130
Brussels	ON4GT	1375	100	NORTH	DNI ELIDA	DE	
	ON4RB	589	3600		ERN EURO)PE	
Chatelineau	ON4RB ON4CE	589 1388	3600 200	CZECHOSLOVAKIA			
Chatelineau Ghent	ON4RB ON4CE ON4RG	589 1388 1219	3600 200 400	CZECHOSLOVAKIA Bratislava	OKR	1075	12500
Chatelineau	ON4RB ON4CE	589 1388	3600 200	CZECHOSLOVAKIA	OKR OKB	1075 877	2500
Chatelineau Ghent Liege	ON4RB ON4CE ON4RG	589 1388 1219	3600 200 400	CZECHOSLOVAKIA Bratislava	OKR	1075 877	
Chatelineau Ghent Liege DANZIG	ON4RB ON4CE ON4RG ON4RW	589 1388 1219 1219	3600 200 400 200	CZECHOSLOVAKIA Bratislava Brunn	OKR OKB OKK OKP	1075 877 1023 616	2500
Chatelineau Ghent Liege DANZIG Danzig	ON4RB ON4CE ON4RG	589 1388 1219	3600 200 400	CZECHOSLOVAKIA Bratislava Brunn Kosice	OKR OKB OKK	1075 877 1023 616	2500 2500 5000
Chatelineau Ghent Liege DANZIG Danzig GERMANY	ON4RB ON4CE ON4RG ON4RW	589 1388 1219 1219	3600 200 400 200 500	CZECHOSLOVAKIA Bratislava Brunn Kosice	OKR OKB OKK OKP	1075 877 1023	2500 2500 5000 5000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle	ON4RB ON4CE ON4RG ON4RW	589 1388 1219 1219 689	3600 200 400 200 500	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169	2500 2500 5000 5000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4RB ON4CE ON4RG ON4RW	589 1388 1219 1219 689 662 535	3600 200 400 200 500 700 700	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169	2500 2500 5000 5000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717	3600 200 400 200 500 700 700 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260	2500 2500 5000 5000 1000 7500
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552	3600 200 400 200 500 700 700	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300	2500 2500 5000 5000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231	3600 200 400 200 500 700 700 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488	2500 2500 5000 5000 1000 7500
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057	2500 2500 5000 5000 1000 7500 500
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059	3600 200 400 200 500 700 700 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488	2500 2500 5000 5000 1000 7500
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	2500 2500 5000 5000 1000 7500 500
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	2500 2500 5000 5000 1000 7500 500 2000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	2500 2500 5000 5000 1000 7500 500 2000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	2500 2500 5000 5000 1000 7500 500 2000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 84 41185 1321 4434	3600 200 400 200 500 700 700 4000 10000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 15300 9488 6057 3088 1013 250 735	2500 2500 5000 5000 1000 7500 500 2000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321	3600 200 400 200 500 700 4000 10000 2000 	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088	2500 2500 5000 5000 1000 7500 500 2000 10000 100 2200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 84 41185 1321 4434	3600 200 400 200 500 700 4000 10000 2000 4000 4000 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 15300 9488 6057 3088 1013 250 735	2500 2500 5000 5000 1000 7500 500 2000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059	3600 200 400 200 500 700 4000 10000 2000 4000 4000 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori)	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	2500 2500 5000 5000 1000 7500 500 2000 10000 100 2200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940	3600 200 400 200 500 700 4000 10000 2000 4000 4000 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735	2500 2500 5000 5000 1000 7500 500 2000 10000 100 2200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639	3600 200 400 200 500 700 700 4000 10000 2000 1500 750	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1357 1219	2500 2500 5000 5000 1000 7500 2000 10000 1000 2200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg	ON4RB ON4CE ON4RG ON4RW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1659 119 884 1185 1321 4434 7963 1059 940 639 1379	3600 200 400 200 500 700 4000 10000 2000 1500 750 750 750 1500	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Lyvaskyla	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1257 1219 1009	2500 2500 5000 5000 1000 7500 2000 10000 100 2200 1500 10000 750 200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769	3600 200 400 200 500 700 700 4000 10000 2000 1500 750 750 1500	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1357 1219	2500 2500 5000 5000 1000 7500 2000 10000 1200 2100 2100 750 200 4000 4000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 4434 7963 1059 940 639 1379 • 769 524	3600 200 400 200 500 700 4000 10000 2000 1500 750 1500 1500 1500	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166	2500 2500 5000 5000 1000 7500 2000 10000 1200 2100 2100 750 200 4000 4000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925	3600 200 400 200 500 700 700 4000 10000 2000 	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1257 1219 1009	2500 2500 5000 5000 1000 7500 2000 10000 100 2200 1500 10000 750 200
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806	3600 200 200 500 700 700 4000 10000 2000 1500 750 1500 1500 3000 4000	CZECHOSLOVAKIA Bratislava Brunn Kosice Prague DENMARK Copenhagen Kalundborg Lyngby Soro ESTONIA Tallinn Tartu FINLAND Abo Bjorenborg (Pori) Helsingfors Jakobstad Jyvaskyla Lahti Tammerfors Vipuri ICELAND	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166	2500 2500 5000 5000 1000 7500 2000 10000 1200 2100 2100 750 200 4000 4000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535	3600 200 400 200 500 700 700 4000 10000 2000 	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1257 1219 1257 1219 1357 1219 1357 1219 1357	2500 2500 5000 5000 1000 7500 2000 10000 1000 2200 1500 10000 750 200 40000 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern	ONARB ONACE ONARG ONARW PTB	589 1388 1319 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 • 769 524 925 806 535 1110	3600 200 200 400 200 500 700 4000 10000 2000 1500 750 1500 1500 1500 1500 1500 1500	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	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166	2500 2500 5000 5000 1000 7500 2000 10000 1200 2100 2100 750 200 4000 4000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535 1110	3600 200 200 500 700 4000 10000 2000 1500 4000 4000 1500 1500 3000 4000 4000 4000 4000 750 4000 4000 40	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1219 1219 1009 166 	2500 2500 5000 1000 7500 2000 10000 100 2200 1500 200 40000 750 200 40000 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535 1110 1219	3600 2000 400 200 500 700 700 4000 10000 2000 	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1257 1219 1257 1219 1357 1219 1357 1219 1357	2500 2500 5000 5000 1000 7500 2000 10000 1000 2200 1500 10000 750 200 40000 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535 1110 1219 1219 1219 1086	3600 200 200 200 500 700 700 4000 10000 2000 	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1219 1219 1009 166 	2500 2500 5000 1000 7500 2000 10000 100 2200 1500 200 40000 750 200 40000 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 925 806 539 1379 769 524 925 806 535 1110 1219 1086 634	3600 200 200 400 200 500 700 700 4000 10000 2000 1500 750 750 1500 1500 1500 4000 4000 4000 750 750 750 750 750 750 750 750 750	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	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030	2500 2500 5000 5000 1000 7500 2000 10000 2200 1500 10000 750 200 40000 750 200 10000 10000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig	ONARB ONACE ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 • 769 524 925 806 535 1110 1219 1086 634 1158	3600 200 200 200 500 700 700 4000 2000 2000 2000 2000 2000	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1219 1219 1009 166 	2500 2500 5000 1000 7500 2000 10000 100 2200 1500 200 40000 750 200 40000 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535 1110 1219 1086 634 1158 1158	3600 200 200 400 200 500 700 700 4000 10000 2000 1500 750 750 1500 1500 1500 4000 4000 4000 750 750 750 750 750 750 750 750 750	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1219 1357 1219 1009 166 1030 1560 8995 571 155	2500 2500 5000 5000 1000 7500 2000 10000 1000 2200 1500 10000 750 200 40000 750 10000 7000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven Magdeburg	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 9769 524 925 806 535 1110 1219 1086 634 1158 1471 1059	3600 2000 2000 2000 5000 7000 40000 100000 20000 15000 7500 15000 15000 15000 15000 7500 15000 15000 15000 40000 7500 15000 15	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	OKR OKB OKK OKP OK1MPI	1075 877 1023 616 5169 1067 260 15300 9488 6057 3088 1013 250 735 1219 1219 1009 166 	2500 2500 5000 1000 7500 2000 10000 10000 1200 2200 1500 40000 750 200 40000 750 10000 750 10000 750 350
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Ludwigshaven Magdeburg Muenster	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 1185 1321 4434 7963 1059 940 639 1379 7524 925 806 535 1110 1219 1219 1219 1086 634 1158 1471 1059 1281	3600 200 200 200 500 700 700 4000 10000 2000 	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	OKR OKB OKK OKP OKIMPI	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1219 1219 1219 1357 1219 166 	2500 2500 5000 5000 1000 7500 2000 10000 1000 2200 1500 10000 750 200 40000 750 10000 7000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven Magdeburg Muenster Munich	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 5769 524 925 806 535 1110 1219 1086 634 1158 1471 1059 1281 563	3600 200 200 400 200 500 700 700 4000 10000 2000 	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	G2SH	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030 1560 8995 571 155 671 824 8994	2500 25000 5000 10000 75000 2000 10000 10000 2200 2200 750 2000 40000 750 2000 7000 750 10000 7000 350 10000
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Ludwigshaven Magdeburg Muenster	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1319 1219 689 662 535 717 5552 231 1059 119 884 1185 1321 4434 7963 1059 940 639 1379 769 524 925 806 535 1110 1219 1086 634 1158 1471 1086 634 1158 1471 1086 634 1158 1471 1086 634 1158 1471 1086 634 1158 1471 1086 634 1158 1471	3600 200 200 200 500 700 700 4000 10000 2000 	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	GZSH	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1357 1219 1357 1219 1357 1219 1357 1219 1560 8995 571 155 671 824 9999	2500 25000 5000 1000 7500 2000 10000 1000 2200 1500 2000 40000 750 200 40000 750 200 40000 700 750 200 10000 750 750
Chatelineau Ghent Liege DANZIG Danzig GERMANY Aix la Chapelle Augsburg Berlin Bremen Breslau Cologne Doberitz Dortmund Dresden Elberfield Flensburg Frankfort on Mair Freiburg Gleiwitz Hamburg Hanover Kaiserslautern Kassel Kiel Konigsberg Langenburg Leipzig Ludwigshaven Magdeburg Muenster Munich	ONARB ONACE ONARG ONARG ONARW PTB	589 1388 1219 1219 689 662 535 717 5552 231 1635 1059 119 884 1185 1321 4434 7963 1059 940 639 5769 524 925 806 535 1110 1219 1086 634 1158 1471 1059 1281 563	3600 200 200 400 200 500 700 700 4000 10000 2000 	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	G2SH	1075 877 1023 616 5169 1067 260 9488 6057 3088 1013 250 735 1219 1219 1357 1219 1009 166 1030 1560 8995 571 155 671 824 8994	2500 25000 5000 10000 75000 2000 10000 10000 2200 2200 750 2000 40000 750 2000 7000 750 10000 7000 350 10000

Country and City	Call	Kcys.	Watts	Country and City	Call	Kcys.	Watts
Oslo	LKO	608	60000	Pernambuco	PRAP	967	300
Porsbrund	LKP	662	700	Porto Alegre	PRAG	1199	500
Rjukan	LKR	671	1000	Rio de Janeiro	PRAA	750	1000
Trondhjem		1229	1000		PRAB	937	500
POLAND					PRAC PRAD	1153 857	500 500
Katowice		734	10000	Sao Paulo	PRAE	833	1000
Krakow		959	1500		PRAO	1330	1000
Poznan Warsaw		896 202,5	1500 12000		PRAR	1071	500
Wilna		779	500	Sorocaba		<i>7</i> 06	
		,,,	000	CHILE			
SWEDEN Boden	SBE	250	600	Santiago	CMAB	625	1000
Boras	SCA	1309	150		CMAC CMAO CMAQ	804	1000
Eskilstuna	SCA SCB	1219	200		CMAO	1016	250
Falun	SCC	931	500	Valparaiso	CMAU	1224 1034	100 100
Gavle	SCD	1470	200	•	CIVIA	1034	100
Goteborg	SBB	931	10000	COLOMBIA			
Halmstad	SCE SCG	1390	200 200	Bogota	HJN	706	550
Helsingborg Horby	SBH	1298 1167	10000	PERU Lima	OAX	789	1500
Hudiksvall	SCF	1110	150		OAA	709	1300
Jonkoping	SCH	1484	250	URUGUAY			
Kalmar	SCI	1219	200	Montevideo	CWOA	700	1000
Karlsborg	SAS	11760	===		CWON	1169	200 500
Karlskrona	SCJ	1530	250		CWON CWOR CWOS	857 789	500
Karlstad	SCJ SCK SCL	1375 1219	250 200	•	cwow	600	300
Kiruna Kristineham n	SCM	1481	250		0	000	
Malmberget	SCN	6877	250				
Malmo	SBC	1298	600	RUSSIA	AND TUR	KEY	
Motala	SBG	222	30000	Country and City	Call	Meters	Watts
Norrkoping	SCO SCV SCW	1110	250		Q	111200.0	
Orebro Ormskoeldsvik	SCV	1265 1375	200 200	RUSSIA Armavir	RA47	720	200
Ostersund	SBF	400	600	Artemovsk	RA56	790	1200
Saffle	SCP	1219	400	Astrakhan	RA26	700	1000
Stockholm	SBA	688	1000	Baku	RA45	750	4000
Sundsvall	SBD	553	600	Bogorodsk	RA8	750 525	700
Trollhattan	SCQ SCS	1129	250	Dneipropetrovsk	RA30	525	1000
Umea Uppsala	SCT	1298 662	200 150	Erivan Gomel	RA49 RA39	1050 925	1200 1200
Varberg	ŠČŪ	1059	300	Irkutsk	RA57	1100	500
				Ivanovo-			
SOUT	H AMERI	CA		Vosnesensk	RA7	800	180
ARGENTINA	II AMERI	CA		Kharkov	RA43	477 1700	4000
Azul	E4	882	350	Kiev	RA5	755	1200
Bahia Blanca	D5	1050		Kourak	RA34	755 575	1000
Buenos Aires	LR1	789	500	Krasnodar	RA38	513	1000
	LR2	870	3000	Leningrad	RA42	1000	10000
	LR3 LR4	949 990	1000 2000	30.1	RA51	150	350 1200
	LR5	828	2000	Minsk Moscow	RA18 RA1	860 1450	40000
	LR6	909	1000	Moscow	RA2	450	500
	LR7	750	1250		RA4	450	300
	LR8	1149	1500	Malchik	RA67	1075	1200
	LR9 LS1	1030 706	2000 5000	Nizhni-Novgorod	RA13	840	1800
	LS1 LS2	1190	1000	Novorossisk Odessa	RA33 RA40	1117 975	4000 1200
	LS3	1270	1000	Orenburg	RA25	640	1000
	LS3 LS4	1112	1000	Petrozovodsk	RA46	765	2000
	LS5	1076	1000	Rostov-on-Don	RA14	820	4000
	LS6	1428	1000	Samara	RA22	900	1200
C	LS7	1351	1000	Saratov	RA32	420	200
Concordia LaPlata	J2 LT2	1330 685	400 1000	Sevastopol	RA9 RA72	800 150	250 800
Mar del Plata	D4 2	1410	100	Smolensk Stalino	RA77	730	1200
Mendoza	LT4	760	500	Stavropol	RA20	550	1200
Rafaela	G4	1287	560	Sverdlovak	RA15	1050	500
Rosario	LT3	1090	1500	Tashkent	RA27	715	2000
Tucuman	K4 G5	956 840	250 250	Tiflis	RA11	870	4000
Venado Tuerto	Go	840	230	Tomsk	RA21 RA44	300 690	150 1200
BOLIVIA				Tver Vel Ustjuk	RA16	650	1200
LaPaz	OPX	1000	1000	Ver Ostjuk Vladivostok	RA17	480	1500
BRAZIL				Vologda	RA41	875	1200
Bahia	SQBE	12490		Voronezh	RA12	950	1200
Juiz de Fora	PRAJ	789	200	m mizev			
Manaos		2998	1500	TURKEY		1600	5000
Para Pelotas	PRAD	8818		Angora Osmanie		1200	6000
reiotas	FIAD			031114.116			

FAVORITE PROGRAMS

ne Station	Dials Feature	Time Station Dials Featur
	DAILY	WEDNESDAY
	SUNDAY	THURSDAY
		· · · · · · · · · · · · · · · · · · ·
J	MONDAY	FRIDAY
1	MONDAT	FRIDAT
	TUESDAY	SATURDAY
i i		

RADEX RADIO MAP OF NORTH AMERICA

Twelve times the size of this page with all states and provinces accurately shown and all cities which contain broadcasting stations plainly lettered. Guide lines with key to correspond with that given in Index by States and Cities. Time zones correctly marked. Simple method of measuring distance between any two cities. Just the thing you have been looking for.

Price 25 cents

Radio Trouble Shooting

By E. R. HAAN

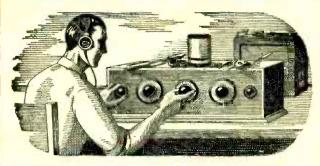
364 pages 5x9 inches. High-grade paper with flexible cover. Here is a book that every radio-owner should have. Written in simple, understandable language, it strips radio of confusing theories and goes directly into the matter of what to do when something goes wrong with a radio set. Over 300 illustrations and diagrams.

Price \$3.00

MONEY SAVING COMBINATIONS

ed find \$ for which send me postpaid my choice of yoow: io Map of North America	ur offers a
io Map of North America	
	25
y of the next RADEX	25
oscription, next five issues of RADEX	\$1.00
's subscription to RADEX, 10 issues, and Radio Map free	1.7
scriptions to RADEX with one leatherette cover and Radio Map, both	
tte Cover	50
7 "Radio Trouble Shooting," by E. R. Haan	3.00
Write Name Plainly	
Street and Number	

Please mention RADEX



If all the Radio sets I've "fooled" with in my time were piled on top of each other. they'd reach about half way to The trouble with me was 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

I Thought Radio Was a 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 that big would have been the height of my ambition.

Twelve months ago I was skimping along on starvation wages, just barely making both ends meet. It was the

If you'd told me a year ago that in twelve months' time 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 year ago because I was kidding myself, that's all—not

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 suddenly 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, fast-growing 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

stayen nome in the evenings after work, necause I don'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 the opportunities in the Kanio line and now 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 At Irist, of Course, I state in as a interproposition of the side, under the guidance of the National Radio Institute. 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 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 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. OL52, Washington, D. C.

J. E. SMITH, Pr		
National Radio	Dept.	OL52

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
Fown
State