THE DECEMBER 1930

RADEX INDEX

The Magazine that Doubles the Pleasure of Radio



(25°)

To

A Very Merry Christmas and A Nappy New Jear

From

No. 44

HOW TO ADD A TONE CONTROL

N. S. E.

Give RADEX for Christmas

E can't think of a thing that would give your friends so much pleasure for so little money as any one of the items listed below.

The December RADEX will have a Christmas and New Year greeting right on the front cover—just fill in your own and your friend's names and there is the finest kind of a holiday card and one that will give pleasure for months.



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For 25 Cents:

The Christmas number of RADEX, or The Radio Map of North America.

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A leatherette cover for RADEX or Map.

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For 1.75:

Next five issues of RADEX, Map and Cover, or Next ten issues of RADEX and Map.

For \$3.50:

Two subscriptions of 10 issues (or one subscription of 20 issues) with Cover and two Maps.

Use the subscription blank on Page 18.

In the January issue: How to Add a Short Wave
Adaptor to Your Set

THE DECEMBER 1930



RAD IO INDEX



REG. U. S. PATENT OFFICE

FRED CLAYTON BUTLER

Editor and Publisher

SEVENTH YEAR	Contents	NUMBER 44
Frontispiece I Who has App	Mary Nolan, Famous Motion Pictur peared Several Times on the Radio	e Actress
Adding Your Own The Why and	Tone Control, by J. B. Smithd How of It	2
Wave Trap Increa	ases Selectivity, by Carrol C. Foltz. he Volume	4
Collecting Radio The Hobby of	Verifications of Many Readers	6
Diagnosis by	rong With My Set the Technical Editor	
Our Readers Wri And Things	te to the Editor They Learn	10
	or Our Puzzlersto Crack	
Broadcasting Rela A List of Sho	ay Stations rrt Wave Transmitters	26
Key to Chain Star Ready Refere	tionsence Table for Dial Numbers	27
What's On the Ai	r Tonight? rr Index to Chain Programs	
Cross-Indexe	by Frequencies. d by Dial Numbers and Wave Len	gths
With Key to	by States and Cities Location of Station on Broadcastir	ng Map
A Complete Index A Log for 750	by Call Letters	56
Principal Broadca	sting Stations of the World	61
	ed Monthly Excepting July and A	
36	ee ourscription blank on page 18	

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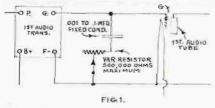
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ADDING Your Own TONE CONTROL

NE of the latest gadgets to put on your radio set, or have installed by a competent service man, is a tone control. Do not confuse this with a volume control, because it isn't such a thing, although it does reduce the volume of the higher tones. A tone control is just what its name implies, that is a control of the tone quality of a receiver. It would, however, be decidedly foolish to imagine that a tone control will improve reception to such a marked degree that one can make a good set out of a poor one. No such miracle is suggested. "Well," you ask, "what does a tone control do and is it a worthwhile improvement?" To be sure a tone control is desirable; it improves reception by taking the harsh edge off a raspy tenor, the shrillness from a loud soprano, it softens the blatant effect of a blary, brass band and changes the pitch of a speaker who has a decidedly irritating nasal quality of voice.

How It Works

The tone control consists of a fixed condenser, of from .001 to .1-mfd. capacity, and a variable resistor having a maximum resistance of 500,000 ohms, the latter being installed on the panel of the receiver so that it is always accessible. Usually the connections are as shown in Fig. 1. One side of the fixed condenser is connected to the G-terminal



of the first audio transformer, that is the one following the detector stage. The other side of the condenser goes to the fixed side of the resistor, while the variable side of the resistor is connected to the F-terminal of the same audio transformer. Thus the condenser and resistor are connected in series while the whole arrangement is merely shunted across

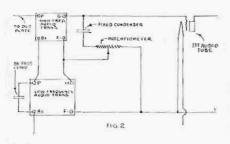
The Why and the How of It

the secondary winding of the first audio transformer. When the resistor is set so that all of its resistance is in the circuit, the reproduction is practically the same as it was before making the above-mentioned change in the wiring. But when the resistance is cut out by moving the resistor arm in the opposite direction, the higher frequencies passing through the secondary winding of the transformer and from there to the grid of the first audio tube, are partly bypassed through the fixed condenser so that a portion of their strength is absorbed.

In reality, a tone control merely suppresses the higher frequencies, these being more easily passed through the condenser than through the first audio tube when the resistance in the tonecontrol circuit is reduced to a point where it is less than that of the grid circuit of the first audio stage, and as you know, an electric current always follows the path of least resistance, as many of us do ourselves. A tone control will not actually deepen the bass notes nor lower the frequency range of the first audio transformer, but when the higher frequencies are suppressed, that is, reduced in volume, while the lower frequencies still retain their original values, the latter will seem comparatively louder than otherwise.

A Clever Arrangement

One radio manufacturer has incorporated a delightfully clever idea that really does permit the user to emphasize either the high or the low notes along any desired graduation. He uses two audio transformers for the first stage, one designed to pass the higher frequencies and the other the lower frequencies. The circuit is shown in Fig. 2. The tone-control unit or resistor, which in this case happens to be a potentiometer, is cut in the circuit in a somewhat similar manner as that already described. The transformers are



hooked up in series, that is, the primary of one is connected in series with the primary of the other, and the same is true of the secondaries. When the resistor arm is set halfway, a normal tone quality is obtained, both transformers being in action. Turning the resistor toward one side cuts down the higher tones and then most of the load is carried by the lower-frequency transformer, resulting in emphasis of the low tones. Turning the resistor in the opposite direction cuts the load off this transformer, transferring it to the one designed for higher frequencies with the result that high tones are emphasized.

It has been questioned whether a tone control is necessary or advisable in case where tone, as actually produced before the microphone, is already of a superior quality. Naturally it would be useless to attempt improvement of something that is already perfect, or nearly so. On such cases, one would immediately discourage the use of a tone control. But there are a few factors that must be taken into consideration, even when dealing with really good tone. In the first place radio engineers claim that in order to have perfect reproduction of tone at the receiving end, the volume should be exactly the same strength as the signal when picked up by the microphone at the studio. However, in the average home this is usually out of the question, Imagine having a 50-piece band playing full strength in a small 9 by 12 living room. For comfort then the volume must be greatly reduced. When this is done the low notes of the musical scale, to which the human ear is least sensitive, are lost, while the higher ones are retained, thereby throwing the tone quality entirely out of balance. This is true whether the music being broadcast is perfect in respect to tone quality. Obviously, to restore the proper balance at the receiving end the higher tones should be reduced in volume in the same proportion as the low notes, which can be accomplished by the installation of a tone control. The distorted effect due to incorrect location of microphones can also be corrected to a great extent by using a tone control. Another reason why a tone control is a good gadget is that as long as radio broadcasting exists there will be screechy sopranos, squalking tenors and others (Continued on page 16)



Salt and Peanuts of WLW. Frank Salt and "Peanuts" sing old songs, new songs, blue songs, love songs, trick songs, kick songs and all sorts of songs.

WAVE TRAP Increases SELECTIVITY

And Gives Greater Volume

TERE is a simple wave trap, which anyone, who likes to experiment a little, can readily make. The necessary parts for its construction are a .0005-mfd. variable condenser, a bakelite or cardboard tube four inches in diameter and three inches long, some No. 18 d. c. c. wire for the primary winding and some No. 22 d. c. c. wire for the secondary winding. A small snap switch and a piece of bakelite, large enough to hold the condenser, will also be found very handy. Wrap from 40 to 45 turns of No. 22 wire on the tube, this winding being the one which is connected at both ends to the variable condenser. On top of this winding, wrap 10 turns of No. 18 wire. The latter winding is connected between the antenna and the antenna post of the receiver. You will find it handy to connect a snap switch across this winding so that the wave trap may be shorted out when not in use. With a long antenna, fewer turns are used on the primary winding. On a 100-foot antenna only five turns of primary are needed. Mount the condenser and the switch on the bakelite panel and fasten the tube holding the coil to the frame of the condenser.

I am using a Crosley Gembox A. C. receiver. My antenna is located in the attic of a 11/2-story house. It is about 35 feet in length and runs north and south. with the lead-in taken from the south end. My ground lead is about eight feet long and it is soldered directly to the city water mains. I find that my wave trap increases the signal strength from 75 to 100 per cent. I had often read the advertisements of certain manufacturers who claimed that the use of a wave trap increased signal strength, but this was rather difficult for me to believe. However, you can imagine my surprise, when after fixing up the wave trap described above, not only was interference cut down, but I actually found

that the wave trap increased the volume to a considerable extent.

Another Type

A slightly different wave trap, which I have also found highly satisfactory, makes use of low-loss form to hold the windings. The number of turns of the windings, and also the capacity of the variable condenser differ from the preceding wave trap. Get a bakelite tube four inches in diameter and 21/2 inches in length. With a scriber carefully make a mark entirely around the tube about one-half inch from each end. Then lay off four sections about one-quarter inch wide running across the tube lengthwise. These sections should be equidistant. Then take a drill and make a hole which will enable you to insert a small metalcutting blade of a scroll saw, and cut out the pieces between the sections laid off. The result will be a ring at each end connected by four one-quarter-inch crosspieces. Keep the cutouts as they must be used when winding the coil, or else the wire will stretch directly from one crosspiece to another and the resulting coil will be square, which is, of course, not desired. Get a smaller coil that fits snugly inside of the four-inch coil, even if you have to build the diameter up by several layers of paper. After the smaller coil is put in place the cutout pieces are put back in their original positions and the wire is wound on the outside. Apply a liberal coating of collodion to the wire so that it will be practically self-supporting when dry, at which time the inner tube can be removed and also the cutouts.

In this case the secondary winding consisted of 30 turns of No. 18 d. c. c. wire. The primary winding, consisting of 10 turns of No. 14 d. c. c. wire, is then wound on a 3½-inch tube, and collodion is again applied. When dry, slip the winding off the tube and mount it inside of the secondary winding. Sometimes difficulty is experienced in removing a collidion-treated coil from a tube. One

(Continued on page 25)

MEET FREDDIE RICH



THIS is the story of a career and a personality, productive, gracious and surprising. To introduce so elaborately such an unassuming young man as Freddie Rich is incongruous, but imperative. Behind his smooth-shaven face, kindly eyes and smile is a determination intransigent. The will of a fighter who, not yet thirty, has established himself in this highly competitive world as a director extraordinary, a successful composer of popular music and a picturesque bon vivant.

He comes from the East Side and frankly admits it. His experiences recall those of the boy in "Haunch, Paunch and Jowl." He fraternized with peddlers, policemen and street musicians; felt the raw edges of poverty; battled with gangs. He stole away from school to swim in the East River, but nevertheless found time to practice daily at the piano. But unwillingly—unwillingly, that is, until one day his father, to punish him, stopped his lessons and locked up the instrument.

Then Freddie's need for forbidden music grew so urgent that he became a steadfast disciple and practiced faithfully hour after hour until he was proficient. Soon he was reaching out with the mysterious facility of the true artist into harmony and composition.

At twelve he had a job on Second

Avenue in an old-fashioned "nickelodion." Tired fingers, poor ventilation, strain. Ten hours straight playing a day, with time off only to meet the requirements of the Board of Education, and \$13 a week for his services, \$12.50 going to his family and 50 cents for himself.

A hiatus here. A transitional period, with Freddie finally in the Damrosch Conservatory of Music, happy, and substantially laying the foundation for his future musical life.

The rest is a record of definite achievement. In 1922 at the Hotel Astor he was one of the first dance orchestra directors to conduct a program over the radio. In 1923 he was a recording artist and was composing numbers like "Animal Crackers." He was also gathering in dollars for his brilliant arrangement of the "Parade of the Wooden Soldiers."

Now as one of the principal conductors for the Columbia Broadcasting System, he does as many as sixteen different programs a week.

At rehearsals he is affable, winning, mild and resourceful.

"Come on, boys," he calls, and immediately his musicians respond with the best they have. He does not use a baton, but directs with hands and fingers superlatively plastic. He edits quickly: "Back eight measures as you'd actually play it," he orders. Then he stamps his feet, hard—so hard that they have to put felt on the stand to preserve it for other directors.

"Cnce more from the beginning," he shouts. "Give me the last eight bars that you are actually going to play. . . . 'Dum, dum, dum' alla breve. . . ." And finally, when the grueling hours of rehearsal are over, he dismisses his men with—"Thank you very much, boys."

How to Add a Short Wave Adaptor Will be Found in the January RADEX

Collecting RADIO VERIFICATIONS

A NUMBER of inquiries come to us regarding verification cards and asking for information as to securing them. It is necessary only to listen to a program long enough to ascertain the title of the feature and the time at which it was received. Send this in a letter to the station which you heard with a 2-cent stamp and they will advise you whether or not it agrees with their records. Stations as a rule will not give verifications on chain programs, as these are known to every one and do not constitute a proper basis for verification.

Station Stamps

New readers unfamiliar with DX stamps write to ask us what the asterisk means in the Index by Frequencies. This indicates that the station so marked has notified us that upon receipt of 10 cents and the correct report of a program received from their station, they will send as verification an adhesive stamp. Many listeners are making a collection of these stamps, as proof of the stations which they have received. Most of the stations furnish a stamp issued by the Ekko Company, although a few stations have put out an individual stamp of their own.

Recently collectors have begun to gather these radio stamps in the same way that philatelists have been collecting postage stamps for many years. This has given rise to a controversy which has been raging pro and con in the last several issues of this magazine.

Several readers have taken violent objection to the claims of DX reception published in our columns. Karl Halpern, 1435 Coney Island Ave., Brooklyn, N. Y., believes that some of these criticisms are aimed at him and therefore sends to us letters and cards he has received from foreign stations which indicate beyond a doubt that he heard their stations correctly. Two of these verifications were from JOBK, Japan, and EAJ19, Spain. Those of us who have never been able to tune in a single station from across the water do find it difficult to realize that one located in such a large city as

The Hobby of Many Readers

Brooklyn can bring in a number of them. But Mr. Halpern submits evidence proving that he has done so.

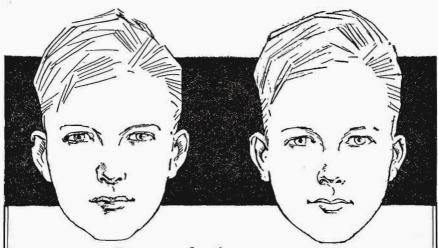
Another correspondent, Leon V. Garland, 216 West Franklin St., El Segundo, Calif., writes that he knows that his was the name referred to as heading the list of members of one of the stamp exchanges, but he says, "Although I have a number of Ekko stamps and have sold a number to parties wanting them, I have yet to find one person who is collecting them as proof of reception." Mr. Garland says that as proof of reception stamps are quite worthless, as he knows a number of stations that will send them just for the asking and 10 cents, and that he has known cases where proof cards from one station were sent to the stamp company with a request for a certain stamp of another station and the request was honored. Under such circumstances, of course, the possession of stamps constitutes in no way a proof of reception.

A second letter from Leonard L. Hoffman, 618 No. McBride St., Syracuse, N. Y., and a letter from J. W. Brauner, 17 E. Spring St., Williamsville, N. Y., seem to object more to the publicity given DXers than to their claims. As we have stated before if a person desires to claim unfounded reception he can do so without possessing a stamp. There are throughout the United States DXers who are making remarkable records in bringing in distant stations, including those across both the Atlantic and Pacific.

More Verifications

And Joseph Baskys, 1610 South Union Ave., Chicago, writes that his total of 978 stations were all verified by letter only and although he too sells stamps to collectors, he bases his count only on those verified by letter. He states further that he has shown all of his letters of foreign verification to Mr. Gilchrist,

(Continued on page 22)



One of these Boys Will Fail - IF

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

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

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

STAMMERING

ITS CAUSE AND CURE

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

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

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

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

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HERE'S What's Wrong with MY SET

Diagnosis by the Technical Editor

Are you able to give me definite information regarding the following: Is there a short-wave receiver manufactured that can be used by plugging into a Radiola superheterodyne set using UV 199 tubes? If so, please send me the name of the manufacturer or dealer so that I may get

further information.

Short-wave adapters of the usual kind consist of a short-wave tuner, which is connected ahead of the detector tube, the r. f. stages of the receiver being entirely disconnected. Another method of adaption is to substitute short-wave coils for the regular coils used in the r. f. stages, both sets of coils being interchangeable. In the case of a superheterodyne, of which the intermediatestage coils or transformers are not interchangeable, and the oscillator coil is especially designed for the broadcast waveband, the use of an adapter becomes more complicated and is not really satisfactory. About the only method that could be used is a short-wave adapter connected ahead of the second detector, the output of the intermediate stages being disconnected. Such a tuner would, of course, have no r. f. amplification, and consequently the range of the receiver would not be very great. If you are interested in such a tuner write to the Aero Products Co., Ravenswood and Wilson Avenues, Chicago, Ill., requesting them for their their short-wave catalogue. If you wish good short-wave reception, it is best to build a separate receiver especially designed for shortwave reception.

Reducing Hum

When I bought a Radiola No. 60 superheterodyne about two years ago, I found that it had a very decided hum, I reduced this about ninety per cent by shunting a 2500-mfd., 9-volt filter condenser across the rectifier of my Magnavox dynamic loudspeaker. Recently, while having the set overhauled for necessary minor adjustments of the intermediate transformers, trimmer condensers, and regeneration control, I had the radiotrician change the wiring to permit the use of 245 tube in the audio stage. Since this was done I find the operation of the set very satisfactory in regard to tone, volume, distance and selectivity. However, the former bad hum is back again and the condenser across the rectifier apparently has no effect at all. I am sure it is not the fault of the condenser, because I had it tested and I also tried a new one of the same type. I find that the hum is now in the set instead of in the speaker, which I proved by disconnecting the speaker and using phones. I have called the same man who worked on it before but he does not seem to be able to find the cause of the hum. I would like to ask if you can suggest where to look for the trouble and the method of correcting it.

The power unit of your receiver is not designed to supply power to a 245 tube, which requires from 180 to 250 volts of plate potential. Besides a 2.5-volt filament voltage the C-bias requirements are also different, and the 245 tube passes more plate current than the 171A. When used in conjunction with a power unit not intended for it, there are possibilities of overloading the unit, which invariably results in a. c. hum. According to manufacturer's data, the 245 tube is not interchangeable with the 171A tube or any other power tube, and it can only be used with apparatus especially built for it, The difference in tone quality obtained by using a 245 tube instead of a 171A, is so slight that it does not pay to make the change, and when you have complications, such as the introduction of the a. c. hum, I would certainly change right back again to the use of a 171A tube, which was the original arrangement and operated satisfactorily. Let well enough alone.

Probably Tube Trouble

I have a Kolster 6D battery-operated receiver and have gotten excellent results until recently. At present I am unable to get any stations other than the locals. I think that the fault lies in the tuning condensers, as I had to put a piece of metal next to one of them to get any volume even from locals. Kindly advise me how to remedy this fault.

It is impossible to completely diagnose your trouble merely from the fact that a piece of metal placed next to one of the tuning condensers increases the volume of your receiver. It is, however, evident from this fact that your r. f. tubes are not delivering their normal supply, and the pickup is poor. Get new tubes, inspect your aerial, insure a good ground, be certain that your batteries are up to their normal voltage, and you will have no more trouble.

Fitting Tubes to Set

I have a Franklin Consolette six-tube battery-operated set and would like to know what tubes would work best in it. I have three Rextrons, which have no numbers on them at all. I have a Radiotron UX201A, Cunningham CX301A, and one Airline GX200A, which is a detector tube and works better than any I have had. When I got the set it had a 200A Sonotron detector, but this wasn't good and I got a UX200A Radiotron and burned

it out the first time I put it into the socket. Can you give me any advice?

Use a UX200A tube in the detector stage and 201A tubes in all other stages unless the last audio stage is designed for the use of a power tube and in that case use a power tube in this stage. providing the correct plate voltage and grid-bias voltage. First try a 201A in the power stage and if this is not satisfactory use a 112A tube, increasing the C-bias to nine volts and using 135 volts of plate potential on the last stage only. If the maximum B-voltage on your set is 90, you may be reasonably certain that the last tube should be a 201A. If it is a resistance-coupled set you may have to supply 135 volts of plate potential on the audio tubes and still use the 201A type.

Voltage Control

I have a Silvertone seven-tube screengrid receiver, that is a very good performer with the exception that it fades badly. I have noticed that your advice to readers having this same trouble is to use a voltage control between the source of house-lighting supply and the receiver. Believing that my trouble has been due to fluctuating house current, I have approached several radio

(Continued on page 20)



Norman Brokenshire, one of Radio's most popular masters-of-ceremonies, tunes in to a trio which introduced the new popular song, "Sing Something Simple" from the "Second Little Show." Left to right, Arline Judge, Ruth Tester and Fay Brady

Our Readers WRITE to the EDITOR

About Things They Learn

ANY letters of commendation have been received regarding the new RADEX Radio Map of North America, Our Canadian readers have been especially interested in securing a map showing the location of the U. S. stations as well as those in their own country. "It is indeed a splendid map and a worthy companion to RADEX," says Hedley Simmons, 22 Clyde St., Hamilton, Ont. "Certainly up to the high standard that you maintain for your publication," is the comment of Carroll C. Foltz, 303 Central Ave., No. Baltimore, Ohio. "I am very well pleased with the map. I put a circle around the cities I have heard and in this way I can see at a glance the ones I have and have not received," explains Jack Roberts, 211 Harvard Ave., Collingswood, N. J. "I have mounted the map on heavy cardboard and bound the edges with red tape. I use Moore map pins to mark the cities I have received. A blue-headed pin for those received but not verified and a red pin for those verified," is the method of use described by Thos. Van Buren, 32 Fourth Ave., Gloversville, N. Y.

"A word of praise for the RADEX radio map," says Tom Lovell, P. O. Box 209, Belton, Texas. "Anyone interested and caring to know what distance their radio is reaching out should have this map. For my own convenience, starting with my town as the center, I have made 100-mile circles covering the map. I can thus tell at a glance how far any broadcasting station is from me."

WCHI and KMAC

We still receive conflicting reports in regard to this Chicago station, but it seems to be pretty well agreed that it is now broadcasting over WORD, although D. E. Cosgrave, Hotel Strand, Chicago, believes they resumed broadcasting on Saturday, October 25th. Mr. Cosgrave says Chicago publications show WCHI

at 823 Tower Court, while WORD is at 2150 Lincoln Park West.

LeRoy House, P. O. Box 57, Plant City, Fla., a beginner in DXing, has now 56 stations verified and letters to 14 more outstanding. "WHAS writes me," says Mr. House, "that they have issued a set of five stamps for verification. WTIC, Hartford, uses their own station stamp as well as a nice letter in verifying my reception."

2LO Schedule

"A friend in England writes me," says George Lilley, 227 W. Bernard St., West Chester, Pa., "that 2LO broadcasts between 10 and 10:30 a.m. and 11:00 and 11:30 a.m., that is 5:00 to 5:30 and 6:00 to 6:30 EST. Tell your Eastern readers," adds Mr. Lilley, "to try for KGFJ, 100 watts, Los Angeles. They are on the air 24 hours a day. I received them quite a few times this fall around 5:00 a.m. Also logged KGAR, Tucson, Ariz., 100 watts, November 2nd, at 4:40 a.m., with a two-tube receiver."

"Have logged from one to 36 stations from all the states except Maine and New Hampshire, so far I have never heard them," says O. C. Arnold, RFD 4,

North Topeka, Kansas.

"Recently I purchased a Majestic 52, a wonderful little set, and in eight nights I have logged 65 stations on 50 channels, including CMC and CMK, Cuba, and KFI, KGO, and KNX, California," writes Everett N. Daniel, 3235 Hackberry St., Cincinnati, Ohio. "This is fairly good in view of the fact that I am located almost next door to a street carbarn and I surely do know it when a car goes past or when they start a motor." Mr. Daniel complains that WKBU, the Cincinnati police station, supposed to be operated on 720 kcys. spoils everything for him around 1370.

"I can't DX like some of the readers of RADEX," admits W. E. Evans, 2 Woodland Road, Sewickley, Pa., "but I get a great kick out of trying. Four weeks ago I bought a Kylectron and in that time I have logged 184 stations on

(Continued on page 12)

"How can I get into Aviation?"



To 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 remarkable 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.

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was pilot of the famous 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 erack 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.

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Please mention RADEX

Opportunity of

Readers Write the Editor

(Continued from page 10)

every wave except 540, 880, 1030. I haven't enough stations to be classed a real DXer, but in any event I am not a radio liar and don't think that any of your readers who write you of their DX work are either."

"I have noticed some queer reception with Florida stations," says F. E. Wilkes, Ossining, N. Y. "For instance, I have had every Florida station except one, WJAX comes in as early as 6:00 p.m., and when WQAM was on 1240 they came in at 5:30 p.m., which is rather good reception, is it not? My set tunes down through the marine frequencies from 1500 to 1600 kcys., and through the experimental station frequencies down as far as the amateur band." Mr. Wilkes lists a number of the shortwave stations he has heard with his set.

The German Stations

The following interesting letter is from H. Walter Fricke, 560 30th St., No. Bergen, N. J.:

"In my June letter to you I stated that I was going to write to the German short-wave transmitter in Koenigs Wusterhausen requesting them to intersperse announcements in English. The reason for this was that one of your readers, Mr. P. J. Soper, 256 Burroughs Terrace, Union, N. J., had complained in your midsummer edition that the aforementioned German station never announces in English.

"Well, today I received a letter from the 'Program Committee of the German Broadcasting Companies' which, in translation, reads something like this:

"Your letter, addressed to the main transmitter, Koenigs Wusterhausen, has been referred to us. Your detailed information on broadcasting conditions in your country has had our fullest attention, and we wish to thank you for the interest you are showing in the German shortwave transmitters. We regret that, at this time, we are unable to comply with your wish that the programs of the German short wave transmitter be announced in English, the reason for this being that this transmitter does not

send out its own program but picks up its features only from the regular German broadcasters. We would like to mention, however, that those special features which are sent out only by the shortwave transmitter are announced in English, too. We hope that, in the meantime, you have acquired a short-wave receiver, and that you are having good reception. We would be grateful to you for reports on reception, and hoping to hear from you again, we are —'."

"I noticed in the November RADEX that you have deleted KMAC," writes D. M. Patterson, 1502 No. Robinson St., Cleburne, Texas, "I am sending you a clipping from the Fort Worth paper which indicates that this station is still on the air." The clipping referred to describes the death of the radio technician of Station KMAC atop the Blue Bonnet Hotel during the broadcast of a program.

"KMAC should not have been deleted as they were on the air as late as October 10th, broadcasting from the Blue Bonnet Hotel in San Antonio," writes Donald Hill, Broken Bow, Neb. "I know this is so as I received them for several nights straight. As for WCHI, all the announcements I have heard were as follows: 'WORD broadcasting a program for the WCHI Broadcasting Corporation,' which think explains that controversy. WBOQ has been on the air nearly every night for the past week or two, testing for several hours with WHK, Cleveland, on 860. I notice that you still list WGGF as being at Picher, Okla. They have been at Coffeyville, Kans., for sometime, operated by the Coffeyville Journal."

Those Time Schedules

We have given the idea of compiling the hours on the air for all stations much thought, but have not as yet found a plan that would give this information in convenient form without occupying too great a bulk. Raymond N. Flood, 9 Chase St., Brattleboro, Vermont, suggests that we add an eight-page section and make it a part of RADEX. Many have written in to say that they would gladly purchase this information at 10 cents a copy or even 25 or 50 cents. To arrange this information so that reading

downwards the stations on the air at any certain hour of the day or night would be indicated, while reading from left to right would show the hours that any particular station was on the air, would require a total of 126,000 hourly designations. As the most we have been able to figure to a page is 2720 such designations, this would require a book of 46 pages in order to convey this information in the most helpful way. This could, of course, be condensed if we were to make it read only one way, but the question is whether our readers would prefer to know what stations are on the air at any particular hour, or whether they would prefer to know the hours for any particular station. If any of our readers have any suggestion for the arrangement of this data we would be glad to hear from them.

Some Puzzling Stations

"I and others have been hearing a station giving the call letters WRDA on 560 kcys., but they do not give their location. I last heard this station on October 8th at 3 a.m." This is the report of Geo. H. Snyder, Jr., P. O. Box 202, Ridgewood. N. J. The only record we have of WRDA is that this call was given to the Buffalo Evening News and later changed to WBEN.

WNRC recently changed its call letters to WBAM, but several readers report hearing them give the call letters WBIG. Have they changed their call again?

A number of readers object to our deletion of WBOQ and state that they have recently heard this station testing after midnight with WHK, Cleveland. WHK has been carrying on experiments in synchronization with the key station of the Columbia System and evidently WABC has resurrected the old WBOQ call to be used while testing.

Martin Savitsky, 17 Liberty St., Shelton, Conn., asks for information about WRDS which was broadcasting police information; and Nicholas J. Hock, 20 Burnet St., Newark, N. J., wants data on WCF and WRBE. None of these stations is a broadcasting station, and no list is published so far as we know giving commercial calls alphabetically. As there are many thousands of

commercial stations it is out of the question to identify them without knowing their frequencies.

"WDBJ is listed in RADEX at 250 watts," says Jack Bachman, 204 No. 34th St., Philadelphia, Pa., "but the way they come in it hardly seems possible that they broadcast on such low power. I get them as loud and clear as some of the local thousand-watters."

"CNRL-CHNS broadcast on 910 kcys., but you always log them on 930," comments Geo. S. Buckman, Hillside and College Ave., So. Nyack, N. Y. These stations are listed correctly in accordance with data furnished us by the Dominion Government. But they may be testing a different frequency. Perhaps some of our Canadian readers can enlighten us.

"It seems since KMOX got its strong wave we will have trouble out this way," writes Chas. M. Konn, 4310 Seeboldt Ave., Detroit, Mich. "Sharp as my 12tube set tunes I get a heterodyne from KMOX on WTAM's wave with lots of squealing, for which it seems that KMOX is to blame." We know of locations within a hundred miles of Cleveland in which KMOX now drowns out WTAM entirely. Both of these station are on 50,000 watts experimental. Certainly the situation in this vicinity would be cleared by reducing KMOX to 25,000 watts, and it is possible that WTAM may interfere with KMOX in other sections.

We understand that the Federal Radio Commission has instituted legal proceedings against the so-called outlaw stations WGM and WOOP. Guy B. Welsh, Reynoldsville, Pa., reports hearing WGM nearly every day between noon and six o'clock. They state they are located in Jeanette, so he says, although a letter received from this station sometime ago gave their location as Adamsburg. In view of the fact that the Commission has at last taken action we are deleting these two unlicensed stations in this issue.

"You show WEAF as having 50,000 watts and WJZ 30,000," says an unsigned letter from Fox Chase, Pa., "I get WJZ loud at any time, but WEAF is hard to receive and never comes in clear. It cannot be the set as other people

around here have the same trouble." Reception is no indication of power, as sometimes, due to peculiarity of location, a small-powered station is received with greater clarity and even with more volume than one with much greater power no further away.

"I noticed a paragraph in which you tell of Iowa listeners who get interference between WBBM and KFAB. There is little or no interference between these two stations in the daytime here in Nebraska, but in the past few weeks WBBM has been getting louder and louder until there is a slight growl at almost any time of the day," comments Donald Hill, Broken Bow, Neb.

"Why doesn't the Federal Radio Commission do something about WBBM and KFAB on 770 kcys.?" asks Greer Mc-Crory, 606 So. 2nd St., W., Cedar Rapids, Iowa. "Practically all of the time they are on the air simultaneously and sometimes WJBT comes on and adds to the chaos. Listening to a football game from WBBM I hear music and advertising all jumbled together with the game. Please do see if something can't be done. Cedar Rapids police, like the police in Chicago, have radio-equipped cars, so they can get orders from headquarters and whenever the police station KGOZ broadcasts I can hear it above all other stations any place between 1300 and 1500 keys. Why is this? I have been told that this station broadcasts on 120 meters and I don't see why I can hear it on 200 to 215 meters. It is possible to hear these police orders any time they are broadcast." It is possible that the police broadcasting station is manned by amateurs. or rather beginners, and has not yet developed a technique that permits them to keep on their proper wave. Or you may be hearing a harmonic. In either case, it would seem that a complaint to the police authorities would lead them to correct the situation, for undoubtedly they do not desire to have the public hear their orders to cruising

"I wonder if anyone has a record like this," asks Guy B. Welsh, Reynoldsville, Pa. "At 6:30 p.m. on October 26th I was listening in on the 1370 channel. Between 6:30 and 6:31 I dialed three new sta-

tions, WBGF, Glens Falls, N. Y., WBTM, Danville, Va., and WJBK, Detroit, Mich. In the same minute I heard the announcements of WLVA, Lynchburg, Va., and WCBM, Baltimore, Md. This seems impossible, but I have my family and several friends to prove it. Early Monday morning, I brought in KXO, a 100-watt station in California, and KGMB, a 500-watter in Honolulu." Mr. Welsh adds that his set is not working as well as formerly, but from these records we cannot see how anything serious can be wrong with it.

Improving RADEX

Quite a number of readers have written in to commend us for publishing the month's changes by themselves and we will try to maintain this feature. It will not always be practical, however, for the reason that the body of the magazine goes to press first and the data is held until the last possible moment for the latest corrections. Ralph Caldwell, Route 1, Clarksville, Pa., would like to have us include the requests for more power and different wave lengths. Aside from the fact that there are hundreds of these every month, most of which come to naught, we feel that this information would merely be confusing, as a mere request means nothing.

In the November issue we asked our readers to decide for themselves what the improvement was we were making that month. Only a few discovered that we are now arranging the stations alphabetically under the weekly programs, something that has long been requested by our readers, but something which makes a vast amount of work for the editors.

"Why not insert a few Canadian programs?" asks T. Crawford, 9-205 Alexander Ave., Winnipeg, Man. "And make the best book still better." Lack of space prevents our publishing individual station programs. If there are now any Canadian chains regularly broadcasting over several stations, we would be glad to learn of them.

"Would it be possible to include some of the powerful trans-Pacific stations in the regular index, as you do the Cuban stations," asks Don Turner, Box 655, Taft, Calif. "We distance-hounds on the Pacific coast pick them up quite regularly. I have had JOFK, JOGK, JCCK, JOBK, JOIK, JOHK, JOAK, 2YA, and 2FC several times." These stations will now be found in the Index of World Stations which is arranged by frequencies with space for dial numbers, which we feel sure will answer the purpose.

Some Inquiries

From Joseph Cabus, R. F. D. 3, Poughkeepsie, N. Y. "I and others up here are troubled at times with fading, and I wondered if the ground you recently mentioned as having been tested by the U.S. Bureau of Standards would aid my reception and help to check the fading." If the fading is due to natural phenomena, we doubt if anything can check it, but sometimes the action of a poor ground, loose connections, faulty power supply, poor tubes, etc., are taken for fading. Certainly every set should have a good ground and we know of no line of experiment which it will better pay to follow than that of various grounds.

"Could you tell me if aerials are made gold-plated and if they are on the market. I understand they are used on ship work. Would they be better than lacquered aerials?" asks M. E. Williams, Box 121, Timmins, Ont. Aside from such aerials being very expensive, we doubt if they would have any greater value than the enameled aerial. An enameled aerial is very much better than a bare wire, as the copper is protected from the action of soot. Some devices must be extremely well protected at sea because of the action of the salt water and salt air, causing corrosion.

"I recently heard the announcer at Springfield, Mass., give the call letters WBZ, WBZA, and a third set which I could not catch," states a reader from Helena, Mont. "I don't know of any other station belonging to Westinghouse on that wave length. Do you know anything about this or was I hearing things?" We do not know what the third station could have been unless it was W1XAZ, the short-wave relay station of the Westinghouse.

Set Servicing, Short Wave, Television, Sound Projection, Automobile Radio, Airplane Radio, Construction of Test Laboratories, Cause and Cure of Interference, Latest in Radio, Money-Saving Kinks-these and many other subjects are understandably described each month in RADIO-CRAFT. The magazine is edited by men outstanding in the radio profession.

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A question which has puzzled many is presented by Tom Lovell, previously quoted. "The frequencies measured in kilocycles are all the same distance apart, but the difference between meters is not the same. Stations on the higher frequencies from 1400 to 1500 are harder to separate on the dial than is the case in the lower frequencies. Is this because the difference between the meters is less?"

The fault is not with the meters, but with the condensers in the set. In order to accommodate the great number of stations on the air, the broadcasting band has been made wider than engineers have so far been able to devise condensers to cover. The average condenser will separate stations well only for about 75 of 100 points and these are usually in the center. To give perfect reception and separation of all stations with condensers as at present developed we ought to use broadcast frequencies of say 600 to 1400, but these 80 channels would not be sufficient for our American stations.

A New Chain

We have received publicity regarding the formation of a new chain on the Pacific coast, the United Broadcasting Company, whose first program was scheduled for November 1st. Headquarters of the chain are in Los Angeles. The nine stations which will comprise the new network are said to be the following: KXA, Seattle; KVOS, Bellingham; KMED, Medford; KXL, Portland; KORE, Eugene; KTAB, San Francisco, KFWB, Los Angeles; KTM, Los Angeles; KGB, San Diego.

"In the last issue someone reported hearing KMJ on the Columbia chain," says Richard Bogart, 1416 Linden St., Allentown, Pa. "I think I can solve this as KMJ carries KHJ's programs, almost every night, and KHJ is on the Columbia chain." This is verified by Leon V. Garland, El Segundo, Calif., who says, "KMJ is a member of the Don Lee System, and they are on the Columbia. Here are several other hundred-watters that are broadcasting chain programs, KFBK, KZM, KOH."

Station Information

"You will be interested to know that beginning Saturday, November 15th,

the NBC programs which have been heard over WGR will be transferred to WBEN," is reported by Valentine Sadowski, 188 Miller Ave., Buffalo, N. Y.," and the Columbia programs will be heard over WKBW and WGR. Radio station WMAK will broadcast local programs."

"If you haven't received notice already," writes Kenneth J. Louden, P. O. Box 533, Orangeville, Ont., "CJGC, of London, Ont., is starting broadcasting this week with a new transmitter of 1000 watts power."

"I have not heard radio station WCLB listed in RADEX on 1500 kcys. for the last ten months," says Gordon C. Hamilton, 142 E. 18th St., New York City, "although I frequently listen to other stations on that wave. Are you sure it has not been deleted?" It has not been deleted, but is it still on the air?

"How many of your readers have noticed that there are only two stations in Manitoba?" asks Richard W. Herzer, 338 Kingsway, Winnipeg, "and they are both owned by the Provincial Government. Manitoba as far as I know is the only place in North America where the broadcasting is entirely in the hands of the Government. How they can do this legally is more than I can see."

"In September, 1930, I received WJAX on 1260 kcys. Their letterhead and RADEX both show them on 900 kcys., but I heard them on 1260," says James L. Cavanagh, Jr., 101 No. Spring Ave., La Grange, Ill.

Adding Your Own Tone Control

(Continued from page 3)

who, unfortunately, cannot adjust their voice to the likes and dislikes of listeners and therefore it becomes a dire necessity for the listeners to either tune them out or use a tone control to sweeten them.

Anyone who can carefully trace the wiring of his receiver, can readily install the condenser and resistor constituting a tone control. These two parts are comparatively cheap and can be obtained at almost any radio shop. A radio service man will also be willing to make the necessary changes at a nominal figure.

A NEW PROBLEM for our PUZZLERS

A NUMBER of solutions to the October puzzle were received after the deadline date set for the 28th and consequently could not be considered Readers should bear in mind that we are now mailing the new RADEX to subscribers on the 25th of each month and therefore they must mail their answers before the 23rd in order to have them count.

In the October puzzle there was one call, 9-33 vertical, which could be filled with either KGIW or KGIX and either of these solutions was considered as correct. "The puzzles surely are interesting to work and a person learns a lot about the different stations while working them," comments Paul W. Douds, R. D. 1, Toronto, Ohio. "I enjoy all the puzzles which do not require recourse to the ancient history of radio for solution," savs L. S. Miller, 5909 32nd St., N. W., Washington, D. C. "I think this is the easiest puzzle you have had for some time." comments Billy McQuade, 6617 Leland Way, Hollywood, Calif., but the joke is on Billy for he had 14-40 vertical wrong. On the other hand, Walter Kolojay, 5031 Northcote Ave., East Chicago, Ind., says he found this puzzle very hard but he got it right. "As soon as I get my RADEX," writes Walter, "I turn to the

They Wanted a Hard One

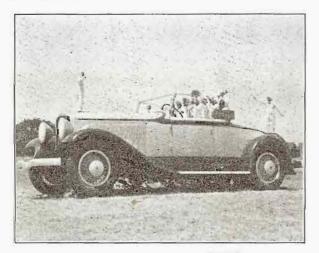
puzzle page, for I find it very interesting I enjoy not only the puzzles but all the articles written about radio. These articles are educational and useful and I would like to see more of them published. The arrangement of the Radio Index is the best I have ever seen."

"I presume the September edition was used in making up the October puzzle for the October issue has no frequency with thirty-one 100-watters," points out George W. Kuehnle, 1469 York Street, Windsor, Ont. Readers should remember in working these puzzles, always to use the previous month's issue, for it is impossible to use the data of the edition in which the puzzle appears.

Those who sent in solutions in November and did not receive a copy of the December issue as a premium will undoubtedly find the reason why in this

correct solution:

CKX WWL KJR
KMED C WGAL
YBMCRKWJKSD
CMW Y WLW
W W OAC W W
WGCMC KFKXO
J S WWG B C
WHB O WOW
KFSDWKYRBTK
WSAK O CMBZ
KGW WHO WOM



Here are Jean Goldkette's "Studebaker Champions" in a brand new President Roadster. But what's wrong with this picture? The car is a "prop" used in filming "Wild Flowers" a talking picture. It's 15½ times bigger than the regular model

CR CA CD CE X C CI CS C CT CH CE C
\square W \square E \square B \square S \square T \square E \square R \square S \square
\square U \square N \square A \square B \square R \square I \square D \square G \square E \square D \square
\square 0 \square F \square \square R \square A \square D \square I \square 0 \square

"Each issue your puzzles become more and more easy," thinks Clayton Huff, Martinsville, Ind. "I wish that you would get some good hard puzzle." We think it is not so much that the puzzles are getting easier as it is that our puzzlers are getting better! A number have written in to ask, however, for harder puzzles, so we have, through much lucubration (that's a hard one, anyway), brought forth the following. If you find it too hard, don't blame us.

So sure are we that you will find this a hard nut to crack that we are going to send for correct solutions your choice of either the radio map or the January RADEX.

The puzzle is to fill in letters in the squares so that from beginning to end

we will have the calls for the following stations:

In the capital of the Confederacy. The fishermen's station.

A memorial to a great socialist. (Reverse.) Increased its power in October to 5000 watts. One of 32 100-watters on this wave. In U-13 on the new map. Independence Broadcasting. (Reverse.) Ought to belong to the BPOE. Named for a great Quaker On a canal whose east end is west of the west end. 850 miles south of Minneapolis on the new map. (Reverse.) On 1500. (This one is jumbled.) Last three letters initials of railroad owner. (Reverse.) In a state capital, Tune at noon. Purdue. (Reverse.) Columbia outlet municipally owned. First on the last. One of three 250 watters in its state. (Reverse.)

Shares time with 20-kilowatter in another state. In Thomasville. (Reverse.)
On the Mississippi.
The Queen's University.
On 1210. (Reverse.)
In Ohio. (Jumbled.)
On zero. (Reverse.)

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December Changes

Power:

KFYR 550—Bismarck, N. D. 1000 to 500.

VAS 690—Louisburg, N. S. 500 to 10000.

CMK 730—Havana, Cuba. 3000 to 2000.

CJGC 910-London, Ont. 500 to 1000.

CMCQ 950—Havana, Cuba. 500 to 1000.

CMBZ 1010—Havana, Cuba. 100 to 150.

WTAX 1210—Springfield, Ill. 50 to 100.

KWSC 1220—Pullman, Wash. 500 to 1000.

Frequencies:

CMW -Havana, Cuba. 600 to 588.

XET -Monterrey, Mex. 620 to 630.

VAS —Louisburg, N. S. 690 to 685.

XEN —Mexico City. 731 to 720.

XED —Reynosa, Mex. 770 to 960. XFX —Mexico City. 840 to 860.

CMBC—Havana, Cuba. 1220 to 1130.

CMQ —Havana, Cuba. 1220 to 1130.

Ownership

WJZ 760—New York City. To National Broadcasting Co., Inc.

WRC 950—Washington, D. C. To National Broadcasting Co., Inc.

KGGF 1010—Coffeyville, Kans. To Coffeyville Journal.

WRAX 1020—Philadelphia, Pa. To WRAX Broadcasting Co.

WTAM 1070—Cleveland, Ohio. To National Broadcasting Co., Inc.

WBNY 1350—New York City. To Pillar of Fire.

WIBM 1370—Jackson, Mich. To WIBM, Inc.

Deleted:

WGM 840—Adamsburg, Pa. WOOP 840—Jeannette, Pa.

Locations:

KGGF 1010—Picher, Okla. To Coffeyville, Kansas.

Reinstated:

KMAC 1370-San Antonio, Texas.

New:

Rutland, Vt., 100 watts—Seward & Weiss Music Co.

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

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Name	
Address	
City	State

What's Wrong with My Set?

(Continued from page 9)

dealers in this city asking about voltage controls and they state that they have a device that will keep voltage from passing above 110 volts, but it will not build up the voltage in case the house-lighting current drops below that point. If there is a voltage control on the market that will keep voltage on an even basis as outlined in your section. I will appreciate very much your furnishing me with the trade name together with the manufacturer's name.

The Radial Co., 50 Franklin Street, New York City, claim that their automatic voltage regulator provides a constant 110-volt potential regardless of slight line fluctuations. Write to this concern for particulars. If your fading is very pronounced it may not be due to fluctuating line voltage. Have a local electrician test the house-lighting circuit under a load at night, to see whether or not the voltage falls below par. Severe fading is often caused by one or more defective screen-grid tubes. Check for this condition before purchasing a voltage regulator.

Substituting Tubes

I have a set equipped with 224 r. f. tubes. Could these be replaced with a. c. Pentodes? I noticed that the voltage is very similar in these two tubes.

Never substitute tubes of any other value than those that are supposed to be used in the receiver. The voltage of tubes is not the only factor in comparing them. There are many other factors, such as C-bias, plate voltage, plate current and filament current, etc. Unless tubes agree in all such factors it is decidedly unwise to substitute one kind for another.

Replacing Transformers

I have a Steinite No. 40C receiver, purchased last December and in it there are eight transformers, including those for the push-pull audio-frequency amplifier. There are no transformers of this type available here for use on the Steinite receiver. Will you recommend other transformers that can be substituted?

The most advisable thing to do in your case is to write to the manufacturers of your receiver, explaining the trouble to

them and they will be glad to send you the necessary transformers to replace the defective ones in your set, at the regular rates. The name and address of this concern is The Steinite Labs., Radio Building, Atchison, Kansas.

Burst of Noises

I am the owner of the Federal Model E 45-60 radio receiver, powered by a Raytheon power pack. When I have the set turned on and am receiving a fairly clear program, a burst of line noises and static comes in and cuts the volume down that the station can barely be heard. When it does this I pull the detector tube out of the socket and push it back again, after which the program is all right for some time. I have replaced the volume control, a three-point 50,000-ohm potentiometer, and I have also replaced several detectors and other tubes, all to no avail. Could you possibly tell me where I could locate the trouble?

Noises of the kind you have experienced are often traced to one or more of several causes, namely, (1) internal short circuits of the intermittent kind inside of the tubes. Usually only one tube is the offender, Replace the tubes one by one until the defective one has been found. (2) If you have already done so and the trouble still continues, try a new rectifier in your power pack. (3) A leaky grid condenser may have to be replaced. (4) Look over every socket prong and see that the tube tips make good electrical connection with the socket prongs. Corrosion at these points may be responsible. (5) Also examine the wiring for a poorly soldered or a loose connection. (6) If you are accustomed to turning the volume control over to nearly its maximum volume, your set may be breaking into oscillation. In this case adjust the power pack so that it will deliver slightly less B-voltage. This will permit the volume control to be turned to the extreme right-hand position without causing the set to break into oscillation.

Reception Varies

I have a five-tube Hammerlund-Roberts receiver and it worked all right for me last winter, but ever since I installed eliminators for A and B supply, it has not been satisfactory. Sometimes it will pick up stations all right and other times I can't get anything outside of locals, which always come in when wanted. At one time stations of higher wave lengths come in much better than those of lower wave lengths. The length of my aerial is sixty feet, including the lead-in. I have tried a longer aerial but this does not seem to help. I am using a Knight B-eliminator and an Abox A-eliminator, both of which seem to be in good working condition. Can you kindly advise me where to look for trouble?

Variations in line voltage may be responsible for the varying degrees of efficiency you are experiencing with your receiver. This would be more pronounced in case your tubes are rather old. Therefore, it would be a good idea to have them tested and the old ones replaced. Another cause for your inability to get distant stations regularly is a purely natural one, being due to atmospheric

conditions. It is a well-known fact that weather conditions vary so much that greater distance is possible on one night than on another.

Balancing Condensers

Will you kindly tell me how to balance a Lyric radio receiver?

Balancing the variable condensers of a radio receiver is a task that requires some degree of skill and accuracy. If a radio service man is not available who can do this work for you, get a copy of the May, 1930, issue of RADEX, which gives complete instructions for balancing t. r. f.

Volume Control Trouble

I have a Kolster K-20 receiver which seems to operate satisfactorily on local stations, but when tuning in out-of-town stations it is necessary to turn the volume control as high as possible. I also find that the least reduction of volume cuts the stations out completely, which would seem to indicate that the volume control was



It's a pity but they're all a bit cuckoo as they're from the "Cuckoo Hour" of the NBC. From the well-known "left to right" we have Ambrosia Weems (Virginia Gardiner); Mrs. Pennyfeather (Mrs. Adelina Thomason); Prof. Weems (Ray Knight); Fellock Soumes (Eustace Wyatt); Dolly Gray (Gladys Shaw Erskine); and sitting on the foreground, Ivan Firth and Arthur Campbell

completely bypassed. In other words, I have absolutely no volume control on out-of-town stations. New tubes do not remedy the fault. Please advise the probable causes of this trouble and the remedy.

It seems that the power-supply unit does not provide the maximum amount of voltage necessary for the operation of your set. This usually makes it necessary to turn the volume control up entirely as in your case. By increasing the plate voltage a trifle by adjusting the power pack this trouble can be overcome. If this does not help a new volume control of exactly the same resistance as the old one should be installed.

Street Railway Noises

I wonder if you would send me the necessary information how to reduce the interference caused by an electric railway. From the time a car approaches a point one-half mile from our house the trouble commences and it continues until it gets about the same distance beyond. Can you recommend anything to eliminate this noise?

Radio interference from external sources, which is picked up by the aerial of a receiver, cannot be eliminated at the receiver, but must be trapped at its source. Shielding the room containing your receiver will not prevent the aerial, which is outside, from picking up the undesired signals. Shielding the room containing the high-frequency apparatus which causes the trouble, is effective, provided, of course, the shield is grounded. Electric railways cause interference that is really beyond your control. The best method of minimizing your pickup of these interfering signals is to use an underground antenna such as the "Subantenna." Also use lead-sheathed cable for grounding your receiver instead of ordinary bare wire, which is usually used for the purpose. A wave trap could be used for trapping certain signals of a constant wave length, but in your case the signals are of all sorts of wave lengths and come in over the entire dial.

Attaching Phones

I have a Majestic Model No. 71 and it is not possible to use a pair of headphones with it in order to get distant reception. Can a change be made in the wiring to accommodate a phone plug?

The installation of a jack to permit the use of headphones on a receiver not already wired for earphone reception, involves some rewiring and it is best to take the set to a reliable radio dealer or serviceman to have these changes made. The B-positive and plate leads of the second audio tubes are led to the jack, which should automatically cut out the rest of the audio amplifier when the plug is pushed in. There are several methods of making such an installation, but in any case it is best to let your local radio dealer take care of it for you. For fuller information in regard to this problem, see the article in No. 38 RADEX for April, 1930.

Collecting Verifications

(Continued from page 6)

Radio Editor of the Chicago Daily News DX Club. Mr. Baskys uses headphones only in making records and does not try to bring stations in with loudspeaker volume. Then too, he uses a loop and has often been able to tune in three different stations on the same frequency by turning the loop in their direction. He lists a number of foreign stations as having been received recently and offers to send his letters of verification from them. Among these are Auckland and Christchurch, New Zealand, Lima, Peru, and Manila, P. I.

To our controversy, Wm. James, 308 Pacific St., Brooklyn, N. Y., contributes the following: "It is no wonder that some folks have written in questioning various DX catches. Some of the yarns rank with the best fish stories. There must be a limit to what a radio set will do and I honesty believe some of these claims go too far. Don't think this is written by a sorehead who has no DX catches for I have plenty. But my log is nothing like some that have been printed. At the present writing my log is 484 verified catches but not one is off the North American continent. As to daylight reception, about the best I can do is Philadelphia and I have a good set. It may be that I have never been looking for these extraordinary catches at just the right time."

"Here is a little ancient history." goes on Mr. James, "that may throw a little light on this subject. Last year the Newark News Radio Club arranged with CJOC at Lethbridge, Alberta, for that station to put on a late program so that the DXers would have a chance to get this station. Well, the great night came and CJOC got letters telling how good they came in. Verifications were asked for by persons that 'heard' their program and one bozo even went so far as to say he listened to them for a full hour and heard the whole program. Now comes the joke: On the night in question CJOC had broken down and didn't go on the air at all."

Thos. Van Buren, 32 Fourth Ave., Gloversville, N. Y., summarizes the situation by saying "Keep up the DX department in RADEX; don't stop it, rather enlarge it for I agree with you most of these DXers tell the truth and just because a certain reception seems impossible this does not make it so, for, under the same conditions, other things being equal, anybody may receive these stations your DXers state they receive. So keep up the good work, publish all etters received and let the readers decide for themselves the truth thereof."

Some Inquiries

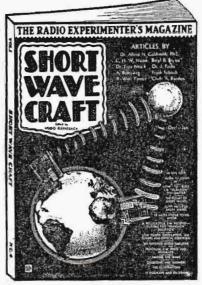
"I would like to know what distance to expect in the daytime," writes Richard W. Herzer, 338 Kingsway, Winnipeg, Man. "Here in Winnipeg the farthest we get with volume enough for programs, is Fargo, N. D., and Bismarck, 200 and 250 miles away, respectively. The farthest I have picked up with headphones is Yankton, S. D., 400 miles away. This distance seems to me to be very poor in comparison with other reports. About what distance is considered normal daytime reception?"

This is a pretty hard question to answer. Mr. Baskys, above quoted, states that two years ago he received KGU, Honolulu, at 4:30 p.m., while Mr. James stated that Brooklyn to Philadelphia was his best daylight reception. Daytime reception is very freaky and occasionally a distant station will be

The Radio Experimenter's MAGAZINE

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Among the contributors to SHORT WAVE CRAFT, we find Lee de Forest, F. H. Schnell, "Bob" Hertzberg, C. W. Palmer, H. W. Secor, Clyde Fitch, R. Wm. Tanner, Dr. Alfred N. Goldsmith, Beryl B. Bryant, C. W. H. Nason and others.

Regular Departments in SHORT WAVE CRAFT Photographic Section—Pictures of latest short wave sets and stations. Transmitters for Short Waves—How to Build Them. Short Wave Receivers—Construction data for all types and kinds. The Short Wave Experimenter. Television on Short Waves. Short Waves for the Broadcast Listener. Ultra Short Waves. How to Build Short Wave Aerials. The Short Wave Beginner. Aircraft Short Wave Sets. Short Wave Question Box.

Published on the 15th of Every Other Month

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As per your special offer I enclose \$1.80, for which please enter my subscription for one year to SHORT WAVE CRAFT and send me also the first and second issues gratis. I understand that SHORT WAVE CRAFT is published on the 15th of every other month. (Regular yearly subscription—\$3.00.)

Name	
City	State

brought in in daylight which constant tuning will never bring in thereafter. We believe that consistent daylight reception over 300 miles cannot be expected although we know some of our readers will not agree with this statement.

Miss "Anonymous," of Helena, Mont., who "has a horror of publicity so please don't use my name," writes: "On 1110 kcvs. I have been getting a foreign station. We have a 1931 Radiola, nine tubes, and every bit of power has to be used to take that station in. I hear everything, even the station's call letters, but because I want to understand them so badly, I can't! They sound like KPI but, of course, that's not rightthe only thing I feel sure about is the I. Spanish (I guess) is spoken and it sounds like it might be a Cuban station. Can you help me?" CMHI, Santa Clara, Cuba, is on 1110 and CMKD, Santiago, is on 1100, but it hardly seems possible it could be either of these as they are rated to use but 15 and 40 watts respectively. Has anyone else heard this station?

Cuban Stations

"Can you tell me the official wave of CMCH, Havana? Had them near 1200 kcys." writes Jack B. Schneider, Garwood, N. J. We have no record of CMCH; could it have been CMCA, 100 watts on 1225?

Several readers report hearing a station that announces in Spanish on 780 kcys. The nearest station of which we have any record which might be Spanish speaking is CMHC, Tuinucu, Cuba, which is supposed to use 791 kcys.

"I wonder if you know that the Cuban stations have made quite a general change in frequencies this month," asks Carroll C. Foltz, 303 Central Ave., No. Baltimore, Ohio. "About all of the larger stations seem to have increased power and changed waves. There is one on 780 which interferes with WMC and I believe it is CMC, although I am not sure."

Roger D. Causse, P.O. Box 6688, Lester, Pa., Radio Operator on SS. Thermo, from Puerto, Padre, Cuba, and sends us a list of Cuban stations which was furnished to him by Station CMCQ. Karl Halpern, Brooklyn, N. Y., also sends a list of Cuban stations and the Department of Commerce at Washington has just completed a check of the Island stations. From these lists our Cuban data is being corrected in this month's issue.

"On October 26th I heard a station on 1180 kcys. speaking what I am sure was Spanish. I thought perhaps it was Cuba or Mexico, but there is no station listed on or near that frequency," writes O. W. Desmond, 407 E. John St., Maumee, Ohio. "The program was some sort of a convention in a large hall with lots of speaking. They shut down about 11:20 p.m. Can anyone identify this station?"

A very small station, CMGB, Mantanzas, Cuba, with only 7.5 watts is rated as using 1185 kcys. This seems to be the only Cuban possibility. Our latest Mexican data gives no station nearer than 1200 kcys., XEA, Guadalajara, with 100 watts. Mr. Desmond has one of the new nine-tube Graybar Superhets, on which he logged 106 stations in about three weeks.

Mexican Stations

"XET, Monterrey, Mexico, is on 630 kcys. and not 620," says Jack P. Schneider, "XEN, Mexico City, comes in on 720 kcys.," says Miss Anonymous, "interfering greatly with WGN. Occasionally CKWX, at Vancouver, takes the stage and CMK is only a squeal."

"A few corrections on the Mexican stations, XEN, which you have on 730 is on 720. It heterodynes squarely on top of WGN every night. It evidently changed waves to prevent interference with CMK," writes Wm. E. Kessel, 411 No. 8th St., Temple, Texas. "XEM, which you have on 840 is on 765. I receive it practically every night. XFX, which you have on 840 is on 860. I heard its call letters clearly there."

"I logged Station XEW, Mexico City, sometime ago," states D. M. Patterson, 1502 N. Robinson St., Cleburne, Texas, "and wrote them regarding the program. I received a very nice letter in reply. They said they would like to hear from listeners in the U. S. A. and would answer all letters received by them.

"Will you please take notice that our radio station XED, located in Reynosa, Mexico, is to be inaugurated on November 8, 1930," writes A. D. Martinez, Station Manager. "We will operate on a frequency of 960 keys, with a rating of 10,000 watts. We will appreciate your making corrections in your station list." The slogan of the new station is the "Voice of Two Republics," and the invitation to the opening gives as one of the motives of the new station the cementing more firmly the already amicable relations enjoyed between the United States and Mexico. RADEX takes this opportunity on behalf of its many thousands of readers of extending its congratulations to the new station and trusts that it will be heard frequently in many homes throughout the United States



Building a Wave Trap

(Continued from page 4)

method of overcoming this trouble is to wrap a layer of thin paper around the tube and then wind the wire over it. The tube can readily be slipped out of the paper wrapping as there is no adhesive holding these two together. Then the paper can carefully be peeled off. In this case the condenser used was originally one of .001-mfd. capacity. but I cut out some of the stator plates in order to broaden the distance between the stations on the lower end of the dial. After these alterations the capacity of the condenser is about .00075-mfd. I find that the above-described coil and condenser covers the entire broadcast range satisfactorily.

I have found it convenient to fasten the wave trap to the underside of the table which holds the radio set. Angle brackets are used for the purpose, being attached to the panel holding the condenser and also to the table.

Daylight Stations

A NUMBER of readers have written us that they have heard during the evening hours some of the stations which we list as daylight stations. There are certain stations which are limited entirely to the daylight hours; there are others which the Radio Commission terms "Limited Time Stations," which are regularly on daylight hours, but which under certain circumstances, as outlined in General Order No. 48 of the Commission, may operate during the evening.

General Order No. 48 reads as follows:

"A limited time broadcasting station is hereby defined as a station which, under its license from this Commission, is permitted to operate during hours allowed daytime broadcasting stations as specified in General Order No. 41, and in addition during certain time temporarily not used by the unrestricted station or stations on the same frequency. An example is the use of late evening hours by a limited time broadcasting station in the West after the

closing of an Eastern station on the same frequency.

"A limited time broadcasting station desiring to operate after sunset shall so notify the Commission, which will ascertain what hours the use of which is not desired by the unrestricted station or stations on the same frequency, and will thereafter authorize the operation of the limited time station accordingly, subject however, to the right of said unrestricted station or stations to reclaim the use of such hours upon reasonable notice to the Commission and to the limited time broadcasting station.

"A limited time broadcasting station

will not be permitted to operate at any time when its operation will cause heterodyne interference with other broadcasting stations assigned to the same frequency."

The Commission lists the following stations as having been granted the "Limited Time" privileges. We are indicating these stations by "Dn." KPCB, 650; WPTF, 680; KMPC, 710; KMMJ, 740; KVI, 760; WRUF, 830; KMO, 860; WCFL, 970; KFVD, 1000; WMAK, 1040; KFKB, 1050; WJAG, 1060; KWJJ, 1060; WCBD, 1080; WMBI, 1080; KSOO, 1110; WJJD, 1130; KTNT, 1170; WDGY, 1180; WHDI, 1180.

BROADCASTING RELAY STATIONS

A List of the Short Wave Transmitters

Location of Transmitter California	Call Signal	Frequency in Kilocycles (Meters in Parenthesis)	Power (Watts in Antenna)	
	W6XAF	2,938 (112.1), 5,870 (51.11)	500	State Dept. of Agri- culture (Calif.)
Westminster (Near)	W6XAL	6,080 (49.34), 15,250 (19.672), 21,500 (13.953)	15,000	Pacific-Western Bdct. Federation
Colorado Denver	W9XA	830 (361)	12,500	General Electric Co.
Illinois Addison Chicago	W9XAQ W9XAA	6,040 (49.67) 6,080 (49.34), 11,840 (25.34), 17,780 (16.873)		Chicago Daily News Chicago Fed. of Labor
Downers Grove	W9XF	6,020 (49,83), 11,800 (25.42), 21,500 (13.953)	5,000	Gt. Lakes Radio Bdct. Co., 72 W.Adams St., Chicago, Ill.
Iowa Council Bluffs	W9XU	6,060 (49.5)	500	Mona Motor Oil Co.
Massachusetts East Springfield	W1XAZ	9,570 (31.35), 2,398 (125.1)	10,000	West'g'e Elec&Mfg.Co.
New Jersey Bound Brook Coytesville	W3XAL W2XAL	6,100 (49.18) 6,040 (49.67), 11,800 (25.42), 15,250 (19.672), 21,460 (13.979)		Nat'l Broadcasting Co. Aviation Radio Sta.
Kearny	W2XCX	6,080 (49.34)	500	L. Bamberger & Co.
•	W2XE W2XBR W2XAD W2XAF	610 (491.5) 11,840 (25.34), 15,280 (19.634) 6,020 (49.83) 15,340 (19.557) 9,530 (31.48) 50 (545), 660 (455), 790 (380), 1,150 (260.9), 1,500 (200)	20,000 1,000 25,000 40,000	Nat'l Broadcasting Co. Atlantic Bdct. Corp. Baruchrome Corp. Gen. Electric Co. Gen. Electric Co. Gen. Electric Co.
Ohio Mason	W8XAL	6,060 (49.5)	250	Crosley Radio Corp., 1325 Arlington St., Cincinnati, Ohio
Pennsylvania East Pittsburgh	W8XK	6,140 (48.86), 9,570 (31.35), 11,880 (25.25), 15,210 (19.724), 17,780 (16.873), 21,540 (13.928)	40,000	Westinghouse Elec. & Mfg. Co.
•	W3XAU	6,060 (49.5), 9,590 (31.28)	500	Universal Brdc. Co., 1940 Market St.
Canada Middlechurch, Man	CJRX	11,720 (25.6)	2000	James Richardson & Sons, Ltd.

KEY TO CHAIN STATIONS

C-Columbia

CFRB	KOL	WBEN	WFAA	MJDX	II WOW
960 C	1270 C	900 N	800 N	1270 N	590 N
CKAC	комо	WBRC	WFAN	MIID	wowo
730 C	920 N	930 C	610 C	1090 C	1160 C
CKGW	KPO	WBT	WFBL	WJR	WPG
690 N	680 N	1080 C	1360 C	750 N	1100C
KDKA	KPRC	WBZ	WFBM	WJZ	WPTF
980 N	920 N	990 N	1230 C	760 N	680 N
DYL	KRLD	WBZA	WFI	WKBN	WQAM
1290 C	1040 C	990 N	560 N	570 C	560 C
KECA	KSCJ	WCAE	WFIW	WKBW	WRC
1430 N	1330 C	1220 N	940 C	1480 C	950 N
KFAB	KSD	WCAH	WFJC	WKRC	WREC
770 N	550 N	1430 C	1450 N	550 C	600 C
KFH	KSL	WCAO	WFLA	WKY	WREN
1300 C	1130 N	600 C	620 N	900 N	1220 N
KF1	KSTP	WCAU	WGN	WLAC	WRR
640 N	1460 N	1170 C	720 N	1470 C	1280 C
KFJF	KTAR	wcco	WGR	WLBW	WRVA
1480 C	620 N	810 C	550 C	1260 C	1110 N
KFKX	KTHS	WCFL	WGST	WLBZ	WSAI
1020 N	1040 N	970 N	890 C	620 C	1330 N
KFPY	KTRH	WCKY	WGY	WLIB	WSB
1340 C	1120 C ——	1490 N	790 N	720 N	740 N
KFRC	KTSA	WCSH	WHAM	WLIT	WSM
610C	1290 C	940 N	1150 N	560 N	650 N
KFSD	KVI	WDAE	WHAS	WLS	WSMB
600 N	760 C	1220 C	820 N	870 N	1320 N
KGO	KVOO	WDAF	WHEC	WLW	WSPD
790 N	1140 N	610 N	1440 C	700 N	1340 C
KGW	KWK	WDAY	WHK	WMAK	WSUN
620 N-	1350 N	940 C	1390 C	900 C	620 N
KHJ	KYW	WDBJ	WHO	WMAL	WTAG
900 C	1020 N	930 C	1000 N	630 C	580 N
KHQ	WABC	WDBO	WHP	WMAQ	WTAM
590 N	860 C	1120 C	1430 C	670 C ———	1070 N
KLRA	WADC	WDOD	WIBO	WMC	WTAR
1390 C	1320 C	1280 C	560 N	780 N	780 C
KLZ	WAIU	WDSU	WIBW	WMT	WTIC
560 C	640 C	1250 C	580 C	600 C	1060 N
KMBC	WAPI	WEAF	WIOD	WNAC	WTMJ
950 C	1140 N	660 N	1300 N	1230 C	620 N
KMOX	WBAL	WEAN	WISN	WNAX	WTOC
1090 C	1060 N	780 C	1120 C	570 C	1260 C
KOA	WBAP	WEBC	WJAR	WOAI	WWJ
830 N	800 N	1290 N	890 N	1190 N	920 N
KOIL	WBBM	WEEL	WJAS	WOC	WWNC
1260 C	770 C	590 N	1290 C	1000 N	570 C
KOIN	WBCM	WENR	WJAX	WORC	WXYZ
940 C	1410 C	870 N	900 N	1200 C	1240 C

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 or Pacific time, three hours.

Programs of the National Broadcasting Company begin with WEAF and WJZ; those of the Columbia Broadcasting System with WABC. Other stations are in alphabetical order.

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

Daily (Except Saturday and Sunday)	2:30-3:00 Columbia Educational Features WABC KDYL KFH KFJF KFPY KFRC
6:45-8:00 Tower Health Exercises WEAF CKGW WCAE WEEI WFI WBEN	KLZ KMBC KSCJ KVI WADC WAIU WBCM WBRC WCAO WCAU WCCO WDAY
WGY WRC 8:15-8:30 Morning Devotions	WDBJ WDOD WEAN WFBM WHK WHP WIBW WISN WJAS WKBN WKRC WLAC
	WIBW WISN WJAS WKBN WKRC WLAC WLBZ WMAL WMT WNAC WOWO WPG
WEAF WAPI WCAE WCKY WCSH WFI WFLA WBEN WGY WHAS WIOD WJAR	WREC WSPD WTAR WWNC WXYZ
WJAX WJDX WLS WOW WPTF WRC	3:00-3:30 Columbia Salon Orchestra
WRVA WSUN WTAG WWJ	WABC KFJF KFPY KLZ KMBC KOL
8:30-9:00 Cheerio	KRLD KSCJ KVI WADC WAIU WBCM
WEAF CKGW KPRC KSTP WAPI WCAE	WBRC WCAO WCAU WDAY WDBJ WDOD
WEAF CKGW KPRC KSTP WAPI WCAE WCKY WCSH WDAF WEEI WFI WFLA	WEAN WFBM WGR WHEC WHP WIBW WISN WKBN WKRC WLAC WLBZ WMAL
WBEN WGY WHAS WIBO WIOD WJAR	WMT WNAC WORC WPG WREC WSPD
WJAX WJDX WMC WOAI WOW WPTF	WTAR WWNC WXYZ
WRC WRVA WSB WSM WSUN WTAG	5:00-5:30 The Lady Next Door
WTAM WWJ	WEAF KSD WBEN WFAA WHAS WRC
9:00-9:15 The Quaker Man	WSM WTAG
KPRC KSD KSTP KTHS KVOO WAPI WDAF WEBC WFAA WHAS WHO WJDX	6:05-6:45 Black and Gold Room Orchestra WEAF WCAE WCSH WFAA WGY WHO
WDAF WEBC WFAA WHAS WHO WJDX WKY WLS WMC WOAI WOC WOW	WEAF WCAE WCSH WFAA WGY WHO WJAR WOC WRC WTAG WWJ
WSB WSM WSMB WTMJ	6:45-7:00 Uncle Abe and David
9:00-9:30 Something For Everyone	WEAF KSD WAPI WCAE WCSH WDAF
WABC KDYL KFH KFJF KMBC KMOX	WEBC WEEL WENR WFL WFJC WGY
KSCJ WADC WBCM WBRC WDBJ WDOD	WHAS WHO WJAR WJDX WMC WOC
WHP WJAS WLAC WMAQ WMT WPG	WOW WRC WSAI WSB WSM WSMB
WREC WSPD WWNC WXYZ	WTAG WTAM WTMJ WWJ
9:00-10:00 Morning Melodies	6:45-7:00 Literary Digest Topics WJZ KDKA WBAL WBZ WBZA WFLA
WEAF WAPI WGY WBEN WHAS WOW	WHAM WIOD WJAX WLW WPTF WRVA
WRC WRVA WSM WTAM WWJ	WSUN
11:15-11-30 Radio Household Institute	7:00-7:15 Amos 'n' Andy
WEAF KFKX KPRC KSD KSTP KTHS	WJZ CKGW KDKA WBZ WBZA WCKY
KVOO WAPI WCAE WCSH WEBC WEEI	WFLA WHAM WIOD WJAX WJR WLW
WBEN WGY WHAS WJAR WKY WLIT WMC WOAI WRC WSAI WSB WSM	WPTF WRC WRVA WSUN
WMC WOAI WRC WSAI WSB WSM WSMB WTAG WTAM WTMJ WWJ	7:30-7:45 Phil Cook, Quaker Man WJZ KDKA KECA KFSD KGO KGW
12:00-12:30 Manhattan Tower Orchestra	KHQ KOA KOMO KSL KTAR KWK
WABC KDYL KFH KFJF KFPY KMBC	WBZ WBZA WEBC WHAM WRC WREN
KSCJ WADC WAIU WBCM WBRC WCAO	WTMJ
WDAY WDOD WEAN WHP WIBW WISN	11:15-11:30 Columbia's Radio Column
WJAS WKRC WLAC WLBW WLBZ WMAL	WABC KFH KFJF KFPY KLZ KMBC
WMT WORC WOWO WPG WREC WSPD WTAR WXYZ	KOL KSCJ WBCM WBRC WCAO WCAU WCCO WDAY WDBJ WDOD WEAN WFBM
12:30-1:00 Columbia Revue	WIRW WISN WIRW WIRZ WMAI WMT
WABC KFJF KFPY KFRC KMBC KOL	WNAC WNAX WORC WPG WREC WTAR
KSCJ KVI WADC WBRC WCAO WCAU	WWNC WXYZ
WDAY WDBJ WDOD WHEC WHP WIBW	11:00-11:15 Amos 'n' Andy
WISN WJAS WKBN WLBW WLBZ WMAL	KFAB KOA KPRC KSTP KTHS KWK
WMT WORC WOWO WPG WREC WSPD WTAR WWNC WXYZ WGR	WBAP WDAF WEBC WHAS WJDX WMAQ WMC WOAI WREN WSB WSM WSMB
12:30-1:30 National Farm and Home Hour	WTMJ
WJZ KDKA KFAB KFKX KOA KPRC	11:30-11:45 Amos 'n' Andy
KSTP KTHS KVOO WAPI WBAL WBZ	KECA KFSD KGO KGW KHQ KOMO
WBZA WDAF WEBC WFAA WFLA WHAM	KSL
WHAS WHO WIOD WJAX WJDX WJR	12 2
WKY WLW WMC WOAI WOC WOW	Sunday
WPTF WRC WREN WRVA WSB WSM WSMB WSUN	1:30-145 Echoes of the Orient
1:30-2:00 Harold Stern and Ambassador Orchestra	WJZ CKGW KFAB WBAL WLW WRC
WABC KFKJ KFPY WADC WAIU WBCM	WREN
WBRC WCAO WDBJ WDOD WEAN WFAN	1:30-2:00 Neapolitan Nights
WGR WHEC WJAS WKRC WLAC WLBZ	WEAF KGO KSD KSL WCAE WDAF
WMAL WORC WOWO WSPD WTAR WWNC	WHAS WHO WIBO WOC WOW WTAM
WXYZ	WWJ

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

WMAL WNAC WORC WPG WSPD WTAR WXYZ	WDAF WFJC WFLA WHAS WHO WIOD WJAR WJAX WJDX WKY WOAI WOC WOW WPTF WRC WSAI WSMB WSUN
WXYZ 10:30-11:00 Lew White, Organist WJZ CKGW KDKA KWK WBZ WBZA WHAM WJAX WJDX WJR WREN WRVA 10:45-11:15 Sunday at Seth Parker's WEAF CKGW KFSD KGO KGW KHQ KOA KOMO KPRC KSTP KTAR KYW	WOW WPTF WRC WSAI WSMB WSUN
WHAM WJAX WJDX WJR WREN WRVA	8:15-8:30 Mardi Gras WABC KDYL KFPY KFRC KMBC KRLD
WEAF CKGW KFSD KGO KGW KHQ KOA KOMO KPRC KSTP KTAR KYW	KSCJ WADC WBCM WCCO WDAY WDBJ
KOA KOMO KPRC KSTP KTAR KYW WCAE WCSH WDAF WEBC WEEI WFI WFJC WBEN WGY WHAS WHO WIOD	WDOD WEAN WGR WIBW WISN WJAS WKRC WLAC WLBW WLBZ WMAL WMAQ WNAC WNAX WORC WTAR WWNC WXYZ
WFJC WBEN WGY WHAS WHO WIOD WJAX WJDX WKY WMC WOC WOW	8:30-9:00 Ingram Shavers
WRC WSB WSM WTAM WTMJ WWJ 11:00-11:30 Kaffee Hag Slumber Music	
11:00-11:30 Kaffee Hag Slumber Music WJZ KDKA KWK WBZ WBZA WENR WHAM WJR WLW WREN	WEBC WEAR WELA WHAS WIOD WJAX WJR WKY WLW WMC WOAI WREN
11:00-12:00 Back Home Hour	8:30-9:00 Arabesque
WABC KFH KFJF KFPY KHJ KMBC KMOX KRLD WCCO WDAY WDBJ WDOD WFBM WHEC WIBW WISN WKBN WKRC	WABC KFJF KFPY KLRA KMOX KOIL KRLD WBCM WCCO WDAY WDBJ WDOD
WMAL WMT WNAX WPG WREC WTAR WXYZ	WEAN WERL WOD WIAS WEDC WIRW
11:03-12:00 Russian Cathedral Choir	WREC WWNC WXYZ
11:03-12:00 Russian Cathedral Choir WEAF CKGW KOA KSTP WBAP WEBC WFJC WBEN WGY WHAS WIOD WOW	WEAF KSD WCAE WCSH WDAF WEEL
WRC WSB WTAM WWJ	WGN WBEN WGY WHO WJAR WLIT WOC WOW WRC WSAI WTAG WTAM WTIC WWJ
Monday	WTIC WWJ 9:00-9:30 Maytag Orchestra
3:00-3:30 Phil Napleon and His Band WJZ KDKA KPRC KWK WBAL WBZ	9:00-9:30 Maylag Orchestra WJZ KDKA KECA KGO KGW KHQ KOA KOMO KPRC KSL KSTP KTHS KVOO KWK KVW WPZ WPZA WCKY
WBZA WHAM WREN WSB WSM 3:30-4:00 Sixteen Singers	WERC WHAM WIDY WIR WKY WMC
WEAF CKGW KSD KSTP WBEN WFJC WHO WOC WRC WTAM	WUAL WEEN WOR WOM WOMB
4:00-4:30 Hetel Cosmopolitan Orchestra	9:00-9:30 Minneapolis-Honeywell Symphony Hour WABC KMBC KMOX KOIL WADC WBBM WBT WCAO WCAU WCCO WEAN WFBL
KYW WAPI WBAL WFAA WHAM WJAX	WHK WISN WJAS WKBW WKRC WLBW
WJR WLW WREN WSB WSM WTMJ 4:00-4:30 Ballad Hour	5:30-10:00 Chesebrough Real Folks
WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOL KRLD KSCJ KVI WADC WAIU WBCM WBRC WCAO WCAU WCCO WDAY WDBJ WDOD WEAN	WISZA WHAM WIR WIW WREN
KVI WADC WAIU WBCM WBRC WCAO WCAU WCCO WDAY WDBJ WDOD WEAN	9:30-10:00 Bourjois—Evening in Paris WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOIL KOIN KOL
	KLZ KMBC KMOX KOIL KOIN KOL KRLD WADC WBBM WBT WCAO WCAU
WLBZ WMAL WMT WNAC WORC WPG WREC WSPD WTAR WWNC WXYZ 4:30-5:00 Wardman Park Hotel Orchestra	WCCO WDSU WEAN WFBL WGST WHK
WABC KDYL KFJF KFPY KFRC KLZ KMBC KMOX KOL KRLD KSCJ KVI	WOWO WPG WSPD WXYZ 9:30-10:00 General Motors Family Party WEAF KECA KFI KGO KGW KHQ
WADC WAIU WBCM WBRC WCAO WCCO WDAY WDBJ WDOD WEAN WFAN WGR	WEAF KECA KFI KGO KGW KHQ KOA KOMO KPRC KSD KSL KSTP
WHP WIBW WISN WLAC WLBZ WMAL	WCAE WCSH WDAF WEEL WFAA WGN
WIAR WWING WAIL	WBEN WGY WHAS WHO WJAR WJAX WKY WLIT WMC WOAI WOC WOW WRC WSAI WSB WSM WTAG WTAM
6:00-6:30 Mormon Tabernacle Choir WJZ CKGW KDKA KFAB KFSD KGO	WTIC WTMI WWI
KĞW KOA KOMO KPO KSL KSTP KTAR KWK WAPI WBAL WHAS WLW	10:00-10:30 Robert Burns Panatela Program WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOIL KOIN KOL
	KLZ KMBC KMOX KOIL KOIN KOL KRLD KTRH KTSA KVI WADC WBT
WABC KFJF KFPY KFRC KLRA KLZ KOL KRLD WAIU WBBM WBCM WBRC	WCAO WCAU WCCO WEAN WFBL WFBM WHK WJAS WKBW WKRC WLBW WMAL WMAQ WNAC WOWO WPG WSPD WXYZ
WABC KPJF KPPY KFRC KLRA KLZ KOL KRLD WAIU WBBM WBCM WBRC WCCO WDAY WDBJ WDOD WFAN WFBL WHP WKBW WLBW WMAL WMT WREC	WMAQ WNAC WOWO WPG WSPD WXYZ 10:00-10:30 Stromberg-Carlson Program
WSPD WTAR WWNC 7:00-7:15 Current Events	10:00-10:30 Stromberg-Carlson Program WJZ KDKA KFI KFSD KGO KGW KHQ KOA KOMO KPRC KTAR KWK
WABC KFH KFJF KFPY KFRC KLZ KOL KSCJ KVI WBCM WCAU WDAY	KHQ KOA KOMO KPRC KTAR KWK KYW WAPI WBZ WBZA WCKY WEBC WFLA WHAM WHAS WIOD WJAX WJDX
WORL WOOD WERN WHEC WHE WIRW	WJR WKY WMC WOAI WREN WRVA WSB W8M WSMB WSUN
WORC WREC WSPD WTAR WWNC WXYZ	10:00-10:30 Adventures of Sherlock Holmes WEAF WCAE WCSH WEEL WGN WJAR
7:30-8:00 Colonial Beaconlights WEAF WBEN WCSH WEEI WGY WJAR WTAG	WLIT WRC WSAI WTAG WTAM WWJ 10:30-11:00 Empire Builders
7-45-8-00 Aphensey-Rusch Program	WJZ KDKA KECA KFSD KGO KGW
KFJF KLRA KMBC KMOX KOIL KRLD KTRH WAIU WDOD WDSU WFBM WHK WMAQ WMT WREC WSPD WXYZ	KHQ KOA KOMO KPRC KSL KSTP KTAR KWK KYW WBAP WBZ WBZA WEBC WHAM WJR WKY WLW WOAI
WMAQ WMT WREC WSPD WXYZ 7:45-8:30 Roxy's Gang Program	WREN WTMJ
7:45-8:30 Rozy's Gang Program WJZ CKGW KFAB KGO KGW KWK WBZ WBZA WHAM WIBO WSB WSM	10:30-11:00 American Maize Program KDYL KFPY KFRC KHJ KLZ KNX
8:00-8:30 Half Hour in Nation's Capital WEAF KECA KFSD KGO KGW KOA	KOIL KOL KSCJ WADC WBBM WCAH
KOMO KPRC KSD KVOO KYW WCAE	WKBN WKRC WLBW WMT WNAX WSPD

10:30-11:00 Symphonic Rhythr WEAF WCAE WCSH WJDX WMC WOW WTAM WWI WREN	n Makers		WRVA WTAG	WSAI	WSB	WSM	WSMB	WSUN
WEAF WCAE WCSH	WDAF WEEL	WJAR	WTAG	WWJ	energe con			
WJDX WMC WOW	WRC WSB	WTAG	8:45-9:00 Pre	emier Sa	lad Dress	sers	Y/ T7 T	T/T //
WTAM WWJ WBEN	Uis Ossberter		WABC KMBC	KMOY	KFPY I	KOIN	KHJ KOL	KLZ KTRH
11:00-11:15 Will Osborne and WABC KDYL KFH	KFJF KFPY	KLZ	KVI	WADC	WBT	WCAO	WCAU	WCCO
KMBC KOL KSCJ	WBCM WBRC	WCAO	WDAE	WDBO	WDSU	WEAN	WFBL	WGST
WCCO WDAY WDBJ	WDOD WFBM	WIBW	WHK	WJAS	WKBW	WKRC	WLAC	WLBW
WISN WLBW WLBZ	WMAL WMT	WNAX	WMAL	WMAQ	WNAC	MOMO	WPG	WQAM
WORC WPG WREC	WTAR WWNC	WXYZ		WTOC	WXYZ			
11:00-11:30 Hal Kemp's Orche	WCAR WDAR	WEBC	9:00-9:30 Te	k Music	WDW	TENNET	******	
WENR WGY WJDX	WMC WOW	WRC	TITO (CKGW WBZA	KOKA	KWK WHAM	KYW	WBAL
WSAI WSB WSMB	WTMJ WWJ		WBZ	WBLA	WCKI	WHAM	WREN	
WEAF KSD KSTP WENR WGY WJDX WSAI WSB WSMB 11:30-12:00 Bernie Cummins a	nd His Orchestra		9:00-9:30 He WABC WBBM	UPU Geo	KMRC	VMOV	KOII	WADO
WEAR ROD ROLF	WDAF WHO	WOC	WRBM	WCAO	WCALL	WCCO	WEAN	WADC
WOW WRC WWJ	ad His Ossbestes		WFBM	WHK	WHP	WISN	WJAS	WKBW
11:30-12:00 Sammy Watkins a WABC KDYL KFH	KFJF KFPY	KLZ	WKRC	WLBW	WMAL	WNAC	WOWO	
KMBC KOL KSCI	WRCM WBRC	KLZ WCAO	9:00-9:30 Eve WEAF	WBEN				
WCCO WDAY WDBJ	WDOD WFBM	WHK	9:00-9:30 Ev	eready P	rogram	****		
WIBW WISN WKRC	WLBZ WMAL	WMT	WEAF	KGO	KGW	KHQ WCSH	KOA	KOMO
WNAX WORC WPG	WREC WTAR	WWNC	VOD	LOL		WGY	WEBC	WEEI
WXYZ	lie Orchastra		WFI WJAR	WFJC WJDX	WGN WMC	WOC	WOW	WRC
12:00-1:00 Phil Spitalny and H WEAF KSD KSTP	KYW WDAF	WFJC				TITCLETO	WTAM	WWJ
WHO WKY WOC	WRC WSM	WTAM	9:30-10:00 H	appy Wo	nder Bak	ers		
WWJ	20		9:30-10:00 H WEAF KOMO	KECA	KGO	KGW	KHQ KSTP	KOA KVOO
Tues	day			KPRC WCAE	KSD WCSH		KSTP	KVOO
10:15-10:30 Through the Look WJZ CKGW KDKA KVOO KWK WBZ WKY WLW WOAI	ing Class		WFI	WFJC	WBEN	WDAF WGY	WEBC	WEEI
W.JZ CKGW KDKA	KEAR KEKX	KPRC	WIBO	WJAR	WJDX	WKV	WMC	WOC
KVOO KWK WBZ	WBZA WHAM	WJR	WOW	WRC	WRVA	WSAI	WSB	WSMB
KVOO KWK WBZ WKY WLW WOAI	WREN		WTAG	WTAM	WTMJ	wwi		
3:30-4:00 Golden Gems	WEEL WEIG	TILYAT A	9:30-10:00 P	hilco Syr	nphony C	oncert	EMPA	IZMON.
WEAF KSD KSTP WJAX WOW WSUN	WEEI WFJC WTAG WTAM	WFLA	WABC KOIL	CFRB KRLD	KFH	KFJF KTSA	KMBC WADC	KMOX WBRC
WJAX WOW WSUN 4:00-4:30 Italian Idyll	WIAG WIAM	WIIC	WBT	WCAO	WCAII	WCCO	WDOD	WDSU
WABC KDYL KFJF	KFPY KFRC	KLZ	WEAN	WFBL	WCAU WFBM	WGST	WHEC	WHK
KMBC KMOX KRLD	KSCJ KVI	WADC	WEAN WISN	WJAS	WKBW	WKRC WNAC	WLAC	WLBW
WABC KDYL KFJF KMBC KMOX KRLD WAIU WBCM WBRC	WCAO WCAU	WCCO	WMAL	WMAQ	WMT	WNAC	WOWO	WPG
WDBJ WDOD WEAN	WHK WIBW	WISN	WREC	WSPD	WTAR	WXYZ		
WKRC WLAC WLBZ WORC WOWO WPG	WMAL WMT WREC WTAR	WNAC WWNC	10:00-10:15 E WEAF	KSD Jet	WCAF	WCSH	WDAF	WEEI
WXYZ WGR	WILEO WIAIL	11 11 110	WFI	WEJC	WCAE	WGY	WHO	WIBO
4:00-5:00 Pacific Vagabonds			WJAR	WFJC WOC	WOW	WRC	WSAI	WTAG
WJZ KFAB KFSD	KGO KOA WJR WLW	KSTP	WTAM	33/33/ I				
WAPI WHAM WJAX	WJR WLW	WSM	10:00-10:15 C	Graybar'	Mr. an	d Mrs.	KFPY	KFRC
5:00-5:15 Rhythm Kings WABC KDYL KFH	KFJF KLZ	KMBC	KHJ	KLRA	KLZ	KFJF KMBC		KOIL
WABC KDYL KFH KMOX KRLD KSCJ WCAO WCCO WDOD	WALL WECM	WBRC	KOIN	KOL	KRLD	KTRH	KTSA	KVI
WCAO WCCO WDOD	WFBM WHP	WISN	KOIN WADC	KOL WAIU	WBBM	KTRH WBRC	WBT	WCAO
WKRN WIRZ WMAL	WMT WREC	WTAR	WCAU WFBM	WCCO	WDBJ	WDSU	WEAN	WFBL
WWNC WXYZ WGR	201-00		WFBM	WGST	WHEC	WHK	WISN	WJAS
7:15-7:45 Musical Aviators Ord KFH KFJF KFPY	KFRC KLRA	KI 7	WKBN	MOMO	WKRC WPG	WLAC	WLBW	WMAL WTAR
KOIL KRLD KSCJ	WAIU WBRC	WCCO	WWNC	WXYZ	III G	MILEO	11 01 1	HIAIL
WDAY WDBJ WDOD	WFBL WGR	WHEC	10:00-10:30 \	Westingh	ouse Sale	ute		
WHP WIBW WISN	WJAS WKRC	WLAC	10:00-10:30 W WJZ	KDKA	KECA	KFSD	KGO	KGW
	WREC WTAR	WWNC	KHQ KWK	KOMO	KPRC	KSL	KSTP	KTAR
WXYZ 7:30-8:00 Seconyland Sketches			WCKY	KYW WEBC	WAPI	WBAL WHAM	WBZ	WBZA
7:30-8:00 Soconyland Sketches WEAF WBEN WCSH	WEEI WGY	WJAR	WCKY WJAX	WJR	WKY	WMC	WOAI	WREN
WTAG			WRVA	WSB	WSM	WEMB	WSUN	WTMJ
8:00-8:15 Troika Bells	wer woo	WOLT.	10:15-11:00 F	aramou	nt Publix	Radio Pl	ayhouse	ZEDN
WEAF WDAF WEEL	WFI WRC	WSAI	WABC	CFRB KHJ	KLRA	KFH KLZ	KFJF KMX	KFPY KMOX
8-00-8-30 Pure Oil Orchestra			KOIL	KOIN	KOL	KSCJ	KTRH	KTSA
WJZ KDKA KFAB	KSTP KWK	KYW	WADC	WBBM	WRCM	WNRC	WBT	WCAO
WBAL WEBC WHAM	WHAS WJAX	WJDX	WADC WCAU WDOD	WCCO	WDAE	WDAY	WDBJ	WCAO WDBO
WLW WMC WPTF	WREN WRVA	WSB	WDOD	WDSU	WEAN	WFBL	WFBM	WGST
WSM WTMJ			WHEC	WHK	WHP	WIBW	WISN	WJAS WLBZ
8:00-8:30 Blackstone Program WABC KMBC KMOX	KOIL WADC	WAIU	WMAL	WMT	WKRC WNAC	WNAX	WOWO	WPG
WBT WCAH WCAO	WCAU WCCO	WEAN	WOAM	WREC	WRR	WSPD	WTAR	WTOC
WERL WHEC WHK	WHP WJAS WMAQ WMT	WKBW	WQAM WWNC	WXYZ				
WLBW WLBZ WMAL	WMAQ WMT	WNAC	10:15-11:00 I WEAF	ucky St	rike Orch	estra	77.0177	YZIIO
WORC WPG WSPD	WXYZ		WEAF	KECA	KESD	KGO KTAR	KGW WCAE	KHQ WCSH
B:30-9:00 Florsheim Frolic WEAF KOA KPRC	KSD KSL	KSTP	WDAE	KOMO WEBC	KSD WEEI	WFI	WFJC	WFLA
WEAF KOA KPRC KTHS KVOO WBAP	WCAE WCSH	WDAF	WBEN	WHAS	WHO	WIBO	WIOD	WJAR
WEBC WFI WFLA	WGN WBEN	WGY	WJAX	WJDX	WKY	WMC	WOAI	WOC
WHAS WHO WIOD	WJAR WJAX WOC WOW	WJDX	WRC	WRVA	WSAI	WSB	WSM	WSMB
WKY WMC WOAI	WOC WOW	WRC	WSUN	WTAG	WTMJ	WWJ		

10:30-11:00 Cuckoo WJZ WREN WREN 11:00-11:30 Will Os WABC KFH KOIL WBCS WFBL WGR WLBW WMT WTAR WWN 11:00-11:30 Duke E WEAF KOA WFI WFJC WOW WSAI 11:30-12:00 Vincent WEAF CKGW WJDX WOC 11:30-12:00 The Re WJZ KFAB	WBZ	WBZA	WCKY	WJR	WHK	WJAS WNAC	WKBW	WKRC	WLAP	WMAL
WREN 11:00-11:30 Will Os	borne and	His Orch	estra		7:45-8:00 Fil WJZ	th Avenu KDKA	e Knight KYW	wbz	WBZA	WHAM
WABC KFH	A WCAO	WDAY	WDBJ	WDOD	8:00-8:30 Ea	KGO Can	KGW	WCAE	WDAE	WEEL
WFBL WGR	WHEC	WHP	WIBW	WISN	WIOD	WJAR	WJDX	WOW	WRC	WTAG
WLBW WMT	WNAX	WORC	WREC	WSPD	8.00 8.30 V	ant Foom				
11:00-11:30 Duke E	llington ar	d His Or	chestra		WJZ	KDKA	KFAB	KSTP	KWK	KYW
WEAF KOA	KSD	KSTP	WCAE	WDAF	WBZ	WBZA	WEBC	WHAM	WJR	WREN
WOW WSAI	WSB	WSM	WTMJ	WWJ	WABC	KFH	KFJF	KFPY	KFRC	KLRA
11:30-12:00 Vincent	Lopez and	His Orc	hestra	WHO	KMBC	KMOX	KRLD	KSCJ	WADC	WBCM
WIDX WOC	WOW	WRC	WFI	WHO	WFBL	WGR	WIBW	WISN	WJAS	WLAC
11:30-12:00 The Re WJZ KFAB WJZ KFAB WJZ KFAB WSM 12:00-12:15 Elgin P WEAF CKGV KYW WAPI WEEI WFJC WJAR WJAX WOAI WOC 3:00-3:30 Matinee 6 WHAM WJAX 3:30-4:00 Syncopate WABC KDYI KKCJ KVI WCAO WGAU WGR WHEE WKBN WKR WORC WFG 3:30-4:00 Evening 5 WEAF CKGV KSL KSTP WBEN WCAI WGAO WHEE WKBN WKR WORC WFG 3:30-4:00 Evening 5 WEAF CKGV KSL KSTP WBEN WCAI WFLA WGY WJDX WKY WSDN WTAR WSDN WTAR WSCJ WAIU WDAY WDOJ WISN WLBV WTAR WWN 6:15-6:25 Bernie Cu WJZ KFAB KTAR WSM 7:00-7:15 Crockett I WABC KFAB KSCJ WAIU WDAY WDOJ WISN WLBV WTAR WWN 6:15-6:25 Bernie Cu WTAR WSN 6:15-6:25 Bernie Cu WTAR WSN 6:15-6:25 Bernie Cu WTAR WSN 7:00-7:15 Crockett I WABC KFAB KTAR WSM WTAR WSD WTAR WSD WTAR WSD WTAR WSD WTAR WSD	17. 1.				WMAL	WMT	WNAX	WORC	WREC	WSPD
** ** ** ** **	wean	esday			8:30-9:00 B	ırbig's Sy	ncopated	History	**************************************	
11:30-12:00 The Re	KOA	KWK	WBAL	WHAM	WABC	KEH	WADC	WECM	KFRC	WDRI
WSM				11.000000	WDOD	WEAN	WFBL	WFBM	WGR	WHEC
12:00-12:15 Elgin P	rogram	Man	TEMPTO	KNOO	WIBW	WISN	WJAS	WLAC	WMAL	WMAQ
KYW WAPI	WCAE	WCSH	WDAF	WEBC	WSPD	WTAR	WWNC	WXYZ	11 1	WILLY
WEEL WEJC	WFLA	WHAS	WHO	WIOD	8:30-9:00 Lu	den Bala	laika Orc	hestra	EVW	WDZ
WOAL WOC	WPTF	WRC	WEVA	WSAI	WBZA	WHAM	WREN	KWK	KIW	WDZ
WSB WSMI	WSUN	WTAG	WWJ	9	8:30-9:00 M	obiloil Co	ncert	Man	IZCT	KVOO
W.IZ KDK	KWK	WBAL	WBZ	WBZA	WCAE	WCSH	WDAF	WEBC	WEEI	WFAA
WHAM WJAX	WJDX	WREN	WRVA	2011	WFJC	WGN	WBEN	WGY	WHO	WJAR
3:30-4:00 Syncopate	d Silhouet	KFPY	KLZ	KMBC	WSAI	WTAG	WTAM	WTIC	WWJ	WIC
KSCJ KVI	WADC	WAIU	WBCM	WBRC	9:00-9:30 H	alsey, Stu	art Progr	am VCO	KOW	KHO
WCAO WCAU	WCCO	WHP	WIRW	WISN	KOA	KOMO	KPRC	KSD	KSL	KSTP
WKBN WKR	WLAC	WLBZ	WMAL	WMT	KVOO	KYW	WCAE	WCSH	WEEL	WLIT
WORC WPG	WREC	WTAR	WWNC	WXYZ	WMC	WOAI	WOC	WOW	WRC	WTMJ
WEAF CKGY	KGO	KOA	KPRC	KSD	WSAI	WSB	WSM	WSMB	WTAG	
WREN WCAR	WEBC	WEEL	WAPI	WEIC	9:30-10:00	old Med	al Fast Fr	eight		
WFLA WGY	WHAS	WHO	WIOD	WJAX	WABC	KDYL	KFBK	KFH	KFJF	KFPY
WDC WRY	WMC	WOAI	WOC	WPTF	KOIN	KOL	KRLD	KSCJ	WADC	WBBM
WSUN WTAC	WTAM	WWJ	11 10 101	Womb	WBT	WCAO	WCAU	WCCO	WDBJ	WEAN
5:00-5:30 Asbury Pa	rk Casino	Orchestr.	a KLZ	KRLD	WKRC	WLAC	WLAP	WLBW	WMAL	WNAC
KSCJ WAIU	WBCM	WBRC	WCAO	WCCO	WOWO	WPG	WREC	WSPD	WTAR	WXYZ
WDAY WDOI	WFAN	WFBL	WREC	WHP	WJZ	KDKA	KWK	KYW	WBZ	WBZA
WTAR WWN	CWXYZ	.,	T. ILLIO	WOL D	WHAM	WJR	WLW	WREN	WRVA	WSJS
6:15-6:25 Bernie Cu	mmins an	d His Ore	KOA	KSTP	9:30-10:30 P	KECA	KGO	KGW	KHQ	KOA
KTAR WSM		25 (111		*****	KOMO	KPRC	KSD	KSL	KSTP	KVOO
7:00-7:15 Crockett I	Mountaine KFPY	ers KFRC	KHJ	KLZ	WGN	WBEN	WGY	WHAS	WHO	WJAR
KOL KSCJ	KVI	WAIU	WBCM	WBRC	WJAX	WLIT	WMC	IAOW	WOC	WOW
WIBW WISN	WJAS	WKRC	WLBW	WLBZ	WTIC	WTMJ	WWJ	WON	WOME	HIAG
WMAL WMT	WNAC	WORC	WREC	WSPD	10:00-10:30	La Palina	Smoker	KOII.	WADO	WRRM
7:15-7:30 Rhythm R	amblers				WBT	WCAO	WCAU	WCCO	WEAN	WFBL
KEJF KEPY	KFRC	KLRA	KLZ	KSCJ	WHK	WISN	WJAS	WKBW	WKRC	WLBW
WIBW WISN	WJAS	WKBW	WLBW	WMAL	WXYZ	WINAC	110110	W.C.	HILLO	WOLD.
WMT WNAC	WORC	WTAR	ILILYC.	WXYZ	10:30-11:00	Detroit S	ymphony	Orchestr	KLRA	WMRC
WABC CFRB	KFJF	KLRA	KMBC	KMOX	KOIL	KSCJ	WADC	WBCM	WBRC	WCAO
KOIL KTRI	WADC	WAIU	WBRC	WBT	WCAU	WCCO	WDAY	WDBJ	WDOD	WEAN
WEAN WEBI	WFBM	WGST	WHEC	WHK	WJAS	WKBW	WKRC	WLAC	WMAL	WMAQ
WISN WKB	WKRC	WLAC	WLBW	WMAL	WMT	WNAC	WWAX	WXYZ	WPG	WREC
WIBW WISN WMAL WMT WTAR WWN 7:15-7:30 Rhythm R KFIF KFPY WAIU WBCN WIBW WISN WMT WNAC 7:30-7:45 Evangelin WABC CFRB KOIL KTRE WCAO WCAI WEAN WFBI WISN WKB' WMAQ WNAC WWNC WXY 7:45-8:00 Back of th WEAF KRCA KOMO KSD WFJC WGY WOW WRC 7:45-8:00 Eskime P WABC CKAC WBT WCAC	WREC	WILL	WOFD	MIMIL	10:30-11:00	Coca Col	Program	n	****	T CHY
7:45-8:00 Back of th	e News in	Washing	KGW	KOA	WEAF	KOA	KOMO	KPRC	KSD	KSL
KOMO KSD	KSL	WAPI	WCAE	WDAF	KSTP	KTHS	KVOO	KYW	WAPI	WCAE
WFJC WGY	WHO	WIBO	WKY	WOC	WHAS	WHO	MIOD	WEEL	WJAX	WJDX
7:45-8:00 Eskimo P	e Program	1	A OW	WING.	WKY	WLIT	WMC	WOAL	WOC	WOW
WABC CKAC	WCALL	WCCO	WGST	WHEC	WRC	WTIC	WWJ	WSB	WSMB	WIAG
MDI WOME	WOAU	., 000	" dot	TIDO	11 1111		.,			

WFJC WFLA WGY W	is Orchestra STP WCAE HAS WHO OC WOW		WKBW WKRC WLBW WMAL WNAC WOWO WSPD WXYZ 9:00-9:30 Van Heusen Program WABC KMBC KMOX KOIL KRLD WADC
	SMB WSUN	WTAM	WABC KMBC KMOX KOLL KRLD WADC WBBM WBT WCAO WCAU WCCO WDSU WEAN WFBL WGST WHEC WHK WHP WJAS WKBW WKRC WLBW WMAL WNAC WOWO WPG WSPD WXYZ
WBCM WBRC WCAO W WEAN WFBM WHEC W WKBN WKRC WLBW W WNAX WORC WREC W	CCO WDBJ HK WIBW MAL WMT TAR WWNC	WDOD WISN WNAC	9:00-9:30 Arco Birthday Party WEAF CKGW KECA KGO KGW KHQ KOA KOMO KSD KSL KSTP KYW WAPI WBAP WCAE WCSH WDAF WEBC WEEI WFI WFJC WBEN WGY WHO
Thursd 9:45-10:00 Our Daily Food WEAF CKGW KPRC K			WOAI WOC WOW WPTF WRC WRVA WSAI WSB WSM WSMB WTAG WTMJ
WBAP WBEN WCAE W WFLA WGY WHAS W WJDX WKY WLW W WPTF WRC WRVA W	SD KVOO CSH WDAF HO WIOD MC WOAI SAI WSB TAM WTMJ	WEBC WJAR WOC WSM	WWJ 9:00-9:30 Knox-Dunlap Orchestra WJZ KDKA KWK WBAL WBZ WBZA WCKY WHAM WIBO WREN
16:00-10:15 Ceresota Program	BEN WCAE		9:30-10:00 Jack Frost's Melody Moments WEAF WCAE WCSH WFI WBEN WGY WIBO WJAR WRC WSAI WTAG WTAM WWJ
10:45-11:00 The Manhatters WJZ KDKA KFAB KV WLW WREN WSMB 4:30-5:00 Melody Magic	WK WHAM		WJZ KDKA KECA KGO KGW KHQ KOA KOMO KPRC KSL KSTP KWK KYW WAPI WBAL WBAP WBZA WEBC WHAM WHOD WJAX WJR WKY WLW WMC WOAI WPTF WREN
WADC WAID WBCM WI WDAY WDBJ WDOD WI WIBW WISN WLAC WI	RLD KSCJ	KVI WCCO WHP WNAC	WRVA WSB WSM WSMB WTMJ 9:30-10:00 Detective Story Magazine WABC KMBC KMOX KOIL WADC WBBM WCAO WCAU WEAN WFBL WHK WJAS WKBW WKRC WLBW WMAL WNAC WOWO
4:45-5:30 In the Spotlight WEAF KFSD KGO KC KTAR WCAE WBEN W WKY WOC WRC WS WTAG WTAM WTIC	DA KOMO HAS WHO SAI WSM	KSD 19 WJAR WSMB	WSPD WXYZ 10:00-10:30 Lutheran Laymen League Program WABC KDYL KFPY KFRC KHJ KLZ KMOX KOIL KOIN KOL KRLD WADC WBBM WCAO WCAU WCCO WDSU WEAN
	YW WCAE GY WJAR TIC WWJ	WITT	WMAL WMT WNAC WOWO WSPD WXYZ
7:00-7:30 Mid-Week Federation F WEAF KOA WHAS W	Tymn Sing	WJAR	10:00-11:00 Victor Herbert Opera Series WJZ CKGW KDKA KWK WBAL WBZ WBZA WHAM WREN
WMC WOC WWJ 7:30-8:00 Ward's Tip Top Club WABC KMOX WCAO W WHK WJAS WKBN W	CAU WEAN NAC WXYZ	WFBL	10:00-11:00 RCA Hour WEAF CKGW KFI KGO KGW KHQ KOA KOMO KPRC KSD KSL KSTP KTHS KYW WAPI WCAE WCSH WDAF WEBC WEEI WFAA WFI WFJC WFJA
WDAF WEBC WEEL W	GO KGW SD KSL BAP WCAE FI WFJC	KHQ KSTP WCSH WGN	WJEN WGY WHAS WIOD WJAR WJAX WJDX WKY WMC WOAI WOW WRC WRVA WSAI WSB WSM WSMB WSUN WTAG WTAM WTMJ WWJ
WJAX WJDX WKY WI WOW WPTF WRC WI WSM WSMB WTAG W' 8:00-9:00 Lucky Strike Orchestra		WOC WSB WWJ	10:30-11:00 Paul Whiteman and His Orchestra WABC KFPY KLRA KMBC KMOX KOIL KSCJ WADC WBCM WBRC WCCO WDAY WDBJ WDOD WEAN WFAN WFBL WGR WHEC WHP WIBW WJSN WJAS WKRC WLAU WLBW WMAL WMT WNAC WNAX
WJZ KDKA KFAB KV WHAM WJR WREN 8:15-8:30 Voice of Columbia		WBAL	WORC WREC WSPD WTAR WWNC WXYZ
WSCI WADC WBCM WI WDBJ WDOD WFBL WI WIRW WISN WIAS WI	FBM WGR	WDAY WHEC WLBW	KSD KSTP WBEN WCAE WFI WHO WJDX WOC WOW WRO WSAI WSM WSMB WWJ
WMAL WMT WNAK W WSPD WTAR WWNC W: 8:30-8:45 Kaltenborn Edits the Ne WABC KMBC KMOX KC WCAO WCAU WCCO W WKBW WKRC WLBW WY	WS DIL WADC EAN WFBL MAL WMAQ	WRT	11:30-12:00 Ted Fiorito and His Orchestra WABC KFH KFPY KLRA KMBC KMOX KOH, KOL WBCM WBRC WCAO WCCO WDAY WDBJ WDOD WEAN WFBL WFBM WHEC WHP WIBW WISN WKRC WLBW WMAL WMT WNAC WNAX WORC WPG WREC WSPD WTAR WWNC WXYZ
WOWO WPG WSPD WX 8:45-9:00 The Hamilton Watchma WABC KMBC KMOX KC WCAU WEAN WFBL WI	NYZ n DIL WADC		11:30-11:45Duke Ellington and His Orchestra WEAF CKGW KSD KSTP WDAF WFI WFJC WJDX WOW WRC WWJ

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11:00-12:00	NBC Mu	sic Appre	ciation H	our	
WEAF	WJZ	CKGW	KDKA	KFAB	KOA
KPRC	KSD	KSL	KSTP	KVOO	KWK
KYW	WAPI	WBAL	WBZ	WBZA	WCAE
WCSH	WDAF	WEBC	WEEI	WENR	WFAA
WFLA	WGN	WWJ	WGY	WHAM	WHAS
WHO	WIBO	WIOD	WJAR	WJAX	WJDX
WJR	WKY	WLIT	WLW	WMC	WOAI
WOC	WOW	WPTF	WRC	WREN	WRVA
WSAI	WSB	WSM	WSMB	WSUN	WTAG
WTAM	WTMJ				

1:00-2:00 Palais d'Or Orchestra WEAF KSD KYW WGY WHO WOC WRC WTAM WTMJ

7:15-7:30 Ozzie Nelson and His Orchestra
KFJF KFPY KFRC KLRA KSCJ WBCM
WBRC WCCO WDBJ WDDD WEAN WFBM
WGR WHP WISN WJAS WLBW WMT
WORC WSPD WTAR WWNC WXYZ

7:45-8:00 Brownbilt Footlites
WJZ KDKA KFAB KOA KSL KWK
WAPI WBZ WBZA WEBC WFLA WHAS
WIBO WIOD WJAX WJDX WMC WOAI
WPTF WREN WRVA WSB WSM WSMB

8:00-8:30 Nestle's Program
WJZ KDKA KFAB KWK WBZ WBZA
WHAM WIBO WJR WI.W W:(EN

 8:00-9:00 Cities Service Concert Orchestra

 WEAF CKGW KECA KGO
 KGW
 KHQ

 KOA KOMO KPRC KSD
 KSL
 KSTP

 KYW
 WCAE
 WCSH
 WDAF
 WEBC
 WEEI

 WFAA
 WBEN
 WHO
 WJAR
 KY
 WLIT

 WOAI
 WOC
 WOW
 WRC
 WSAI
 WTAG

 WTAM
 WTIC
 WTMJ
 WWJ

8:15-8:30 Grand Opera Miniature
WABC KDYL KFH KFJF KFPY KFRC
KHJ KLZ KMBC KRLD KSCJ KVI
WADC WAIU WBCM WDAY WDBJ WDOD
WHEC WHP WII W WISN WJAS WKRC
WLAC WLBW WLBZ WMAL WMAQ WMT
WNAX WORC WREC WSPD WTAR WWNC

8:30-9:00 Weed Tire Chain Program
WABC KFJF KMBC KMOX KOIL KRLD
WADC WCAO WCAU WCCO WEAN WFBL
WAS WKBW WKRC WLBW WMAL WMAQ
WNAC WOWO WSPD WXYZ

8:45-9:00 Natural Bridge Revue
WJZ KDKA KFAB KWK WBZ WBZA
WFLA WHAM WIBO WIOD WJAX WLW
WREN WRVA WSUN

9:00-9:30 Interwoven Pair CKGW KDKA KECA KHQ KOA KOMO KFSD KGO W.IZ KGW KOMO KPRC KSL KHQ KTAR KWK KYW
WCKY WEBC WFA
WJAX WJR WKY
WREN WRVA WSB KSTP KYW WAPI WRZ. WHAM WHAS WFAA WRZA WLW WMC WIOD WKY WOAL WSM WSMB

9:00-9:30 Cliquot Club Eskimos
WEAF KSD WCAE WCSH WDAF WEEI
WBEN WGY WHO WIBO WJAR WLIT
WOC WOW WRC WSAI WTAG WTIC
WWJ

9:00-10:00 True Story Hour
WABC KMBC KMOX KOIL WADC WCAO
WCAU WEAN WFBL WHK WJAS WKBW
WKRC WLBW WMAL WMAQ WNAC WOWO
WSPD WXYZ

9:30-10:00 Del Lampe's Eversharp Orchestra
WEAF KSD WCAE WCSH WDAF WEEI
WFJC WGN WBEN WGY WHO WJAR
WLIT WOC WOW WRC WSAI WTAG

9:30-10:00 Armour Program WJZ KDKA KFI KGO KGW KYW KOA KOMO KSL KSTP KWK WBZA WEBC WFAA WHAM WAPI WBZ WHAS WIOD WJAX WJDX WJR WLW WMC WOAI WPTF WRE WKY WREN WRVA WSMB WTMJ WSM

10:00-10:30 Crime Prevention Program
WEAF KSD WCAE WCSH WJAR WRC
WTAG

10:00-10:30 Armstrong Quakers

WJZ KDKA KFI KGO KGW KHQ

KOA KOMO KPRC KSL KSTP KWK

KYW WBAP WBZ WBZA WCKY WEBC

WHAM WHAS WJR WKY WMC WOAI

WREN WSB WSMB WTMJ

10:30-11:00 RKO Theatre of the Air WEAF KFI KFSD KGO KOA KOMO KSD KSL WCAE WCSH WDAF WEEI KGW KHO KTAR KTHS WFLA WFJC WBEN WGY WHO WIOD WJAR WIBO WJDX WKY WLIT WOC WOW WRC WLW WJAX WLIT WMC WRVA WSAI WOAI WSB WSMB WSUN WTAG WTAM WWJ

10:45-11:00 Phoenix Hosiery Program
WABC KDYL KFPY KFRC KLZ KMBC
KMOX KMX KOIL KOIN KOL WBBM
WCAO WCCO WDSU WEAN WGST WHK
WJAS WKBW WKRC WLAC WNAC WRR

11:00-11:30 Will Osborne and His Orchestra
WABC KDYL KFH KFJF KFPY KLZ
KMBC KOL WBCM WBRC WCAO WDAY
WDBJ WDOD WIBW WISN WLBW WLBZ
WMAL WMT WNAX WORC WREC WSPD
WTAR WWNC WXYZ

11:00-12:00 Vincent Lopez and His Orchestra
WEAF CKGW KOA KSD KSTP WCAE
WDAF WFJC WGY WHAS WHO WJDX
WLIT WMC WOC WOW WRC WSB
WSM WSMB WTIC WWJ

11:30-12:00 Romanelli and His Orchestra
WABC KDYL KFH KFJF KFPY KLZ
KMBC KMOX KOL WBCM WBRC WCAO
WCCO WDAY WDBJ WDOD WEAN WHK
WHSW WISN WKRC WLBW WLBZ WMAL
WMT WNAC WNAX WORC WREC WSPD

Saturday

10:30-11:00 New World Salon Orchestra
WABC KDYL KFJF KMBC KRLD KSCJ
WADC WAIU WBCM WCAO WCAU WDAY
WDBJ WDOD WEAN WFBM WHEC WHK
WISN WJAS WKBN WLAC WLBZ WMAL
WMT WNAC WREC WWNC WXYZ

1:30-2:00 Savoy Plaza Orchestra

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

4:30-5:00 The Marionettes KOA KTAR WBEN WCAE WEAF KGO WGY WRC WXYZ 9:00-9:30 Carborundum Hour WABC KMOX WCAU WHK WKBW WMAQ WNAC WXYZ 5:00-5:45 Warwick Hotel Orchestra WABC KFH KFY KLRA KLZ KMBC
KMOX KSCJ WAIU WBCM WBCC WCAO
WCCO WDAY WDOD WFAN WFBL WGR
WHP WISN WJAS WLBW WMAL WMT
WPG WREC WSPD WTAR WWNC WXYZ 9:00-10:00 General Electric Hour WEAF KFI KFSD KGO KHO WEAF KFI KFSD RGO RGW KHQ
KOA KOMO KPRC KSD KSL KSTP
KTAR WAPI WBAP WCAE WCSH WDAF
WEBC WEEI WFI WBEN WHAS WHO
WIBO WJAR WJAX WKY WMC WOAI
WSMB WTAG WTAM WTMJ WWJ 5:30-6:00 Blue Aces WJZ KWK WHAM WHAS WMC WSB WSMB 6:00-6:15 The Jameses WEAF CKGW KGO KGW KOA KSD KTAR WCAE WFI WGY WHAS WJAR WMC WOW WRC WWJ 9:30-10:00 Dutch Masters Minstrels
WJZ KDKA KWK KYW WBAL WBZ
WBZA WHAM WJR WLW WREN 9:30-10:00 Columbia Educational Features WABC KFH KFJF KFPY KHJ KLRA
KLZ KMBC KOIL KOL KSCJ WADC
WBCM WCAO WCAU WCCO WDDJ WDOD
WEAN WFBL WFBM WHP WIBW WISN
WJAS WKBW WKRC WLAC WLBW WMAL
WMAQ WMT WNAC WNAX WORC WSPD 6:15-6:40 Smith Ballew and His Orchestra WJZ KFAB KWK WBZ WBZA 7:05-7:30 Whyte's Orchestra WEAF KGO KGW KOA WGY WJAR WTIC WWJ KSD WFI 10:00-11:00 Lucky Strike Orchestra U-11:00 Lucky Strike Orchestra
WEAF KFI KFSD KGO KGW
KOA KOMO KPRC KSD KSL F
KTAR KVOO WAPI WCAE
WESC WEEL WFAA WFI
WGN WBEN WGY WHAS WHO KGW KHQ KSL KSTP 7:15-7:30 Tastyeast Jesters WJZ KDKA WBAL WBZ WBZA WCKY WHAM WREN WDAF WFLA WIOD WJAR WJAX WJDX WKY WMC
WOC WOW WRC WRVA WSAI
WSMB WSUN WTAG WTMJ WWJ 7:30-8:00 Necco Surprise Party
WABC WEAN WFBL WHEC WKBW WLBZ
WNAC WORC WOAL WSB 7:30-8:00 Silver Flute 10:00-11:00 Hank Simmons' Show Boat WEAF CKGW KSD KSTP WCSH WDAF WEBC WEEI WFI WBEN WHO WJAR WOC WOW WRC WSAI WTAG WWJ 7:45-8:00 Pickard Family
WJZ CKGW KDKA KFAB KWK KYW
WBZ WBZA WHAM WLW WREN 8:00-8:15 Dixies Circus WJZ KDKA KPRC KSTP KVOO KYW WBAL WBZ WBZA WHAM WKY WLW 10:00-11:00 Chicago Civic Opera WJZ KDKA WBAL WBZ WBZA WHAM WOAI WEAF KSD WCAE WCSH WDAF WEEI
WFI WBEN WGY WHO WIOD WJAR
WJAX WOC WOW WRC WSAI WSMB
WTAG WWJ 11:00-11:15 Troubadour of the Moon 8:00-8:30 Salon Singers WEAF KSTP WDAF WFI WJDX WOC WOW WRC WHO WIOD WSAI WTAM 11:00-11:30 Jack Denny and His Orchestra
WABC KDYL KFJF KFPY KFRC KLZ
KMBC KOL KRLD KSCJ WBCM WBRC
WCAO WDAY WDBJ WDOD WEAN WFAN
WFBM WHEC WHK WHP WIBW WISN
WORC WPG WREC WSPD WTAR WWNC 8:15-8:30 Rin-Tin-Tin Thriller
WJZ KDKA KFAB KWK KYW WBAL
WBZ WBZA WHAM WLW WREN 8:15-8:30 Dixie Echoes 5-5:30 Divite Echoes
WABC KOYL KFH
KMBC KSCJ WADC WBCM WCAO
WDAY
WDBJ WDOD WFAN WHK
WJAS
WJAS WKBN WKRC WLAC WLBW WLB/
WMAL WMT WNAX
WSPD WTAR WWNC WXYZ
WGR WXYZ | 11:15-12:00 Bernie Cummins and His Orchestra | WEAF CKGW KOA KSD KSTP WCAE WDAF WFI WFJC WGY WHO WJDX WMC WOC WOW WRC WSB WSMB 8:30-8:45 Dancing Yesterdays
WABC KFH KFJF KFPY KFRC KLRA
KMBC KOIL KSCJ WADC WBCM WCAO
WCAU WDBJ WDOD WEAN WFBL WGR
WIBW WISN WJAS WKRC WLAC WLBW
WMAL WMT WNAC WNAX WORC WPG WTAM WTMJ WWJ | 11:30-12:00 | Cuy Lombardo and His Orchestra | WABC | KFJF | KFPY | KFRC | KLZ | KMBC | KROX | KOLL | KSCJ | WBCM | WBRC | WCCO | WDAY | WDBJ | WDDD | WFBM | WHEC | WHK | WHP | WIBW | WISN | WNAC | WNAX | WORG | WPG | WREC | WSPD | WTAR | WNAC | WXYZ | WALS | 8:30-9:00 Fuller Man WJZ CKGW KDKA KECA KFAB KGO
KGW KHQ KOA KOMO KPRC KWK
WBAL WBZ WBZA WHAM WIBO WJR
WKY WLW WREN 12:00-1:00 Rudy Vallee and his Orchestra WEAF KOA KSD KSTP WDAF WFJC WJDX WRC WSB WWJ 8:45-9:00 Wallace Silversmiths WABC KMBC KMOX WBT WCAU WCCO

WDSU WJAS WMAL WMAQ WNAC WRR

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KEY

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

540 kilocycles 555.6 meters

CKX † 500 ... 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. KFDY 500 $\frac{1}{2} + \frac{1}{2} + \frac{1}$ KFUO 500 KFYR Ş 500 1+Syracuse, Ore. St. Louis, Mo. Buffalo, N. Y. Cincinnati, Ohio KOAC 1000 2N KSD 500 * WGR 1000 C WKRC 1000 547 XEY 105 Merida, Yucatan

Sria, de Agricultura y Fomento

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

560 kilocycles 535.4 meters

500 **KFDM** $_{\rm C}^{\rm X+}$ Beaumont, Texas KLZ 1000 Denver, Colo. KTAB WF1 1000 San Francisco, Cal. 1N+ 500 Philadelphia, Pa. 3+N 1N WIBO 1000 Chicago, III. WLIT Philadelphia, Pa. 500 WNOX 1000 X+ 3S Knoxville, Tenn Chicago, Ill. Miami, Fla. WPCC 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

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

Wichita Fal	ls Broadcasti	ng Co.	
KMTR Rad	io Corp.		
American R	ladio Tel. Co.		
Ohio State			
W. P. Willia	mson, Jr.		
Clive B. Me	redith		
Knickerboc	ker Broadcast	ting Co., Inc	
Gurney See	d & Nursery	Co.	
Dept. of Pla	nts and Stru	ctures	
Clive B. Me	redith		
Citizano Bro	andanating Co	Inc	

580 kilocycles 516.9 meters

CFCL Toronto, Ont. 250 43 CHMA Edmonton, Alta. CKCL 500 Toronto, Ont. Toronto, Ont. 34 500 **CKUA** 500 Edmonton, Alta. KGFX 200 D Pierre, S. D. KSAC Manhattan, Kans. 500 2+ Topeka, Kansas Charleston, W. WIBW 500 2+C WOBU 250 Huntington, W. Va. Worcester, Mass. WSAZ 250 250 WTAG

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.

	- DINETIONEERO	
590 kilocycles 508.2 meters		KCYS.
CMW 1000 588 Havana, Cuba KHQ 1000 +N WCAJ * 500 1 Lincoln, Nebr. WKZO 1000 N Boston, Mass. WKZO 1000 D Berrier Springs, Mich. WOW * 1000 1N Omaha, Nebr. XFI 1000 591 Mexico City 500 CP Lynchburg, Va.	Columbus Commercial & Radio Co. Louis Wasmer, Inc. Nebraska Wesleyan University Edison Elec. Illuminating Co. WKZO, Inc. Woodmen of the World Sria. de Industria, Commercio y Trabajo Abe Cohen	670 MTRS. 447.
600 kilocycles 499.7 meters [·
CECH 250 3 Iroquois Falls Ont	Abitibi Power & Paper Co.	
CJRM 500 4 Moose Jaw, Sask. CJRW 500 4 Fleming, Sask. CNRO 500 3 Ottawa, Ont. KFSD * 500 +N San Diego, Cal. WCAC 250 2+ Storrs, Conn. WCAC * 250 C Baltimore, Md. WMT * 500 C Waterloo, Iowa WOAN 500 1 Lawrenceburg, Tenn. WREC 500 1+C Memphis, Tenn.	Jas. Richardson & Sons, Ltd. Jas. Richardson & Sons, Ltd. Canadian National Railways Airfan Radio Corp. Conn. Agricultural College Monumental Radio, Inc. General Broadcasting System, Inc. Waterloo Broadcasting Co. WREC, Inc. WREC, Inc.	
610 kilocycles 491.5 meters		
KFRC * 1000 C San Francisco, Cal. WDAF - 1000 N Kansas City, Mo. WFAN * 500 2C Philadelphia, Pa. WIP * 500 2 Philadelphia, Pa. WJAY - 500 D Cleveland, Ohio	Don Lee, Inc. Kansas City Star Co. Keystone Broadcasting Co., Inc. Gimbel Bros. Co. Cleveland Radio Broadcasting Corp.	
620 kilocycles 483.6 meters		
KGW * 1000 +N Portland, Ore. KTAR - 500 +N Phoenix, Arizona WFLA * 1000 1+N Clearwater, Fla. WLBZ - 500 C Bangor, Maine WSUN * 1000 1+N St. Petersburg, Fla. WTMJ * 1000 +N Milwaukee, Wis.	Oregonian Publishing Co. KTAR Broadcasting Co. Chamber of Commerce Maine Broadcasting Co., Inc. Chamber of Commerce Milwaukee Journal	CUT OU
630 kilocycles 475.9 meters		107
CFCT * 500 Victoria, B. C. CJGX 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. XET † 500 Monterrey, Mexico XFC 350 631 Jalapa, Ver.	Victoria Broadcasting Association Winnipeg Grain Exchange Canadian National Railways Stephens College Evansville on the Air, Inc. M. A. Leese State Marketing Bureau Mexico Music Co. Gobierno del Estado de Veracruz	CUT OUT ON DOTTED LINES
640 kilocycles 468.5 meters [
KFI	Earle C. Anthony, Inc. American Insurance Union State College of Agriculture Secretaria de Guerra y Marina	
650 kilocycles 461.3 meters		
KPCB - 100 Dn Seattle, Wash. WSM - 5000 N Nashville, Tenn.	Wescoast Broadcasting Co. National Life & Accident Ins. Co.	
660 kilocycles 454.3 meters [
WAAW * 500 D Omaha, Neb. WEAF † 50000 N New York City	Omaha Grain Exchange National Broadcasting Co., Inc.	
670 kilocycles 447.5 meters		
WMAQ * 5000 C Chicago, III. XEB † 1000 666 Mexico City	WMAQ, Inc. E. Buen Tono, S. A.	

680 kilocycles 440.9 meters	
KFEQ * 2500 D St. Joseph, Mo. KPO † 5000 N San Francisco, Cal. WPTF * 1000 N Dn Raleigh, N. C.	Scroggin & Co., Bank Hale Bros. & The Chronicle Durham Life Insurance Co.
690 kilocycles 434.5 meters	
CFAC . 500 1 Calgary, Alta. CFCN . 500 1 Calgary, Alta. CHCA . 500 1 Calgary, Alta. CJCJ . 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. Alta . 1000 Arlington, Va. VAS . 10000 685 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 Dn Los Angeles, Cal. WOR . 5000 Newark, N. J.	R. S. MacMillan Bamberger Broadcasting Service, Inc.
720 kilocycles 416.4 meters	
WGN _ 25000 N Chicago, III. XEN † 1000 _ Mexico City 8WMC _ 500 722 St. Johns, N. F.	Chicago Tribune Compania Civil de Inversiones Urbanas Wesley United Church
730 kilocycles 410.7 meters	
CHLS - 50 1 Vancouver, B. C. CHYC - 5000 2 Montreal, Que. CKAC - 5000 2C Montreal, Que. CKCD - 50 1 Vancouver, B. C. CKFC - 50 1 Vancouver, B. C. CKMO - 50 1 Vancouver, B. C. CKWX † 100 1 Vancouver, B. C. CMK - 2000 - Havana, Cuba CNRM - 5000 2 Montreal, Que.	W. G. Hassell Northern Electric Co., Ltd. La Presse Publishing Co., Ltd. Vancouver Daily Province United Church of Canada Sprott-Shaw Radio Co. A. Holstead & Wm. Hanlon Cuban Broadcasting Co., Hotel Plaza Canadian National Railways
740 kilocycles 405.2 meters	
KMMJ - 1000 Dn 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	Puget Sound Broadcasting Co., Inc. St Louis University National Broadcasting Co., Inc. Herbert A. Denny y Cia.
770 kilocycles 389.4 meters	
CMI - 500 775 Havana, Cuba KFAB * 5000 1N Lincoln, Nebr. WBBM * 25000 1C Chicago, III. WJBT - 25000 1S Chicago, III.	Instituto Provincial KFAB Broadcasting Co. The Atlas Co., Inc. The Atlas Co., Inc.
780 kilocycles 384.4 meters	
CKY - 5000 3 Winnipeg, Manitoba CNRW - 5000 3 Winnipeg, Manitoba KELW - 500 2 Burbank, Cal.	Manitoba Telephone System Canadian National Railways Union Bank & Trust Co.
Γ 90 1	

INDEX BT FREQUENCIES A	AND DIAL NUMBERS	
KTM * 500 2+ Los Angeles, Cal. WEAD - 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 - 5000 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 Ülibarri	MTRS. 340.7
810 kilocycles 370.2 meters		21.12
WCCO - 7500 C Minneapolis, Minn. WPCH - 500 D New York City	Northwestern Broadcasting, Inc. Eastern Broadcasters, Inc.	
820 kilocycles 365.6 meters		
WHAS † 10000 N Louisville, Ky.	Courier-Journal & Times	
830 kilocycles 361.2 meters		
CMGA _ 300 834 Colon, Cuba KOA † 12500 N Denver, Colo. WHDH _ 1000 D Boston, Mass. WRUF * 5000 Dn Gainesville, Fla.	Leopoldo V. Figueros National Broadcasting Co., Inc. Matheson Radio Co., Inc. University of Florida	
840 kilocycles 356.9 meters	Į,	
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.	Star Publishing & Ptg. Co. G. F. Tull & Ardern, Ltd. Alberta Pacific Grain Co., Ltd. Cuban Telephone Co. Canadian National Railways Canadian National Railways	CUT
850 kilocycles 352.7 meters		003
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	OND
860 kilocycles 348.6 meters		TTO
KMO - 500 + Dn Tacoma, Wash. WABC - 5000 XC New York City WHB * 500 D Kansas City, Mo. XEJ - 101 857 C. Juarez, Chih. XFX - 500 - Mexico City, Mex.	KMO, Inc. Atlantic Broadcasting Corp. WHB Broadcasting Co. Juan G. Buttner Secretaria de Educacion Publica	CUT OUT ON DOTTED LINES
870 kilocycles 344.6 meters	l l	
WENR 50000 1N Chicago, III. WLS 5000 1XN Chicago, III.	Great Lakes Broadcasting Co. Agricultural Broadcasting Co.	
880 kilocycles 340.7 meters		
CHCS 10 4 Hamilton, Ont. CHMC 100 3 Quebec, Que. CJCB 50 Sydney, N. S. CKCI † 22.5 3 Quebec, Que. CKCV † 50 3 Quebec, Que. CKOC 50 4 Hamilton, Ont. CNRQ † 50 3 Quebec, Que. KFKA † 500 2+ Greeley, Colo. KLX 500 Oakland, Cal.	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.	

WCOC - 500 2 WCOC - 500 + WGBI * 250 1 WQAN * 250 1 WSUI * 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 kilocycles 3	336.9 meters	
CFBO * 50 CKCO 100 KFNF 500 2+ KGJF * 250 1+ KUSD * 500 2+ WGST 250 1+ WILL * 250 2+ WJAR * 250 +N WKAQ 500 WMAZ † 250 +N WMMN * 250 + XES † 500	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 kilocycles 3	333.1 meters	
CMX * 250	Havana, Cuba	Francisco Lavin
KGBU † 500 KHJ * 1000 C KSEI * 250	Ketchikan, Alaska Los Angeles, Cal.	Alaska Radio & Service Co. Don Lee, Inc. KSEI Broadcasting Association, Inc.
WBEN 1000	Los Angeles, Cal. Pocatello, Idaho Buffalo, N. Y.	Buffalo Evening News
WJAX * 1000 N WKY * 1000 N	lacksonville, Fla	City of Jacksonville WKY Radiophone Co.
WLBL * 2000 D	Oklahoma City Stevens Point, Wis.	Wisconsin Dept. of Markets
910 kilocycles 3	329.6 meters	
	Saskatoon, Sask.	The Electric Shop, Ltd.
CNRL * 500 2	London, Ont. London, Ont.	Free Press Printing Co., Ltd. Canadian National Railways
CNRS 500 1	Saskatoon, Sask.	Canadian National Railways
920 kilocycles 3	325.9 meters	
CMHD 250	Caibarien, Cuba	Manuel A. Alverez
HHK _ 1000 KFEL † 500 1 KFXF * 500 1	Port au Prince, Haiti Denver, Colo.	Republic of Haiti Eugene P. O'Fallon, Inc.
KFXF * 500 1 KOMO † 1000 N	Denver, Colo. Seattle, Wash.	Colorado Radio Corp. Fisher's Blend Station, I. c.
KPRC 1000 +N	Houston, Texas Chicago, Ill.	Houston Printing Co.
WBSO 500 D	Wellesley Hills, Mass.	Houston Printing Co. Drovers Journal Publishing Co. Babson Statistical Organization, Inc.
WWJ † 1000 N XEX - 500 923 XFE - 250 923	Detroit, Mich. Mexico City, Mex.	The Detroit, News Excelsior Cia Editorial S. A.
XFE 250 923	Villa Hermosa, Tab.	Gobierno Del Estado d Tobasco
930 kilocycles 3	322.4 meters	
CJCA * 500 4 CFRC 500 '	Edmonton, Alta. Kingston, Ont. Halifax, N. S.	The Edmonton Journal, Ltd. Queen's University
CHNS * 500	Halifax, N. S.	Halifax Herald, Ltd.
CKIC - 50 CKPR - 50 3	Wolfville, N. S. Midland, Ont.	Acadia Academy Midland Broadcasting Corp.
CNRE 500 4	Edmonton, Alta. Halifax, N. S.	Canadian National Railways Canadian Nationl Railways
KFWI 500 1	San Francisco, Cal.	Radio Entertainments, Inc.
KGBZ 500 2+ KMA * 500 2+	York, Nebr. Shenandoah, Iowa	Dr. George R. Miller May Seed & Nursery Co.
KMA * 500 2+ KROW - 500 1+X WBRC - 500 +C WDBJ * 250 +C	Oakland, Cal. Birmingham, Ala.	Educational Broadcasting Corp. Birmingham Broadcasting Co., Inc.
WDBJ * 250 +C WIBG - 50 D	Roanoke, Va. Elkins Park, Pa.	Richardson-Wayland Elec. Corp. St. Pauls P. E. Church
	319.0 meters Honolulu, Hawaii	Marion A. Mulrony
KOIN * 1000 C	Portland, Ore.	KOIN, Inc.
WAAT - 300 D WCSH * 1000 N	Jersey City, N. J. Portland, Maine	Bremer Broadcasting Corp. Congress Square Hotel Co.
WCSH * 1000 N WDAY * 1000 C WFIW _ 1000 C	Portland, Maine Fargo, N. D. Hopkinsville, Ky.	WDAY, Inc. WFIW, Inc.
WHA 750 D	Madison, Wis.	University of Wisconsin

•	TO DIAL NOMBERS				
950 kilocycles 315.6 meters					
CMCQ . 1000 955 Havana Cuba KFWB * 1000 Hollywood, Cal. KGHL . 1000 Billings, Mont. KMBC * 1000 C Kansas City, Mo. WRC † 500 N Washington, D. C.	Andres Martinez Warner Bros. Broadcasting Corp. Northwestern Auto Supply Co., Inc. Midland Broadcasting Co., Inc. National Broadcasting Co., Inc.				
960 kilocycles 312.3 meters					
CFCY * 250 1 Charlottetown, P. E. I. CFRB - 4000 2C Toronto, Ont. CHCK - 30 1 Charlottetown, P. E. I. CHCK - 500 3 Pilot Butte, Sask. CJBR - 500 3 Regina, Sask. CKCK † 500 3 Regina, Sask. CNRR - 500 3 Regina, Sask. CNRR - 4000 2 Toronto, Ont. XED - 10000 Reynosa, Mexico	The Island Radio Co. Rogers-Majestic Corp., Ltd. W. E. Burke R. H. Williams & Sons. Ltd. Cooperative Wheat Producers, Ltd. Leader Publishing Co., Ltd. Canadian National Railways Canadian National Railways International Broadcasting Co., Inc.				
970 kilocycles 309.1 meters					
KJR * 5000 Scattle, Wash. XEH 101 964 Monterrey, N. L. WCFL 1500 N Dn Chicago, III.		cys. 0 4 0			
980 kilocycles 305.9 meters		TRS.			
KDKA 50000 N Pittsburgh, Pa. XEO 101 983 Mexico City	Westinghouse Elec. & Mfg. Co.	88.3 IAL			
990 kilocycles 302.8 meters					
WBZ * 15000 INY Springfield, Mass. WBZA * 500 INY Boston, Mass.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co.				
1000 kilocycles 299.8 meters					
KFVD 250 Dn Culver City, Cal. WHO 5000 1N Des Moines, Iowa WOC 5000 1N Davenport, Iowa XEI 101 999 Morelia, Mexico	Los Angeles Broadcasting Co. Central Broadcasting Co. Central Broadcasting Co. Carlos Gutierrez M.				
1010 kilocycles 296.8 meters					
CFLC 50 3 Prescott, Ont. CKCR 50 3 Waterloo, Ont. CMBZ 150 Havana, Cuba CMCF 250 Havana, Cuba KGGF 500 2 Coffeyville, Kans. KQW * 500 San Jose, Cal. WHN 250 1 New York City WIS 500 C +- Columbia, S. C. WNAD 500 2 Norman, Okla. WPAP 250 1 New York City WQAO 250 1 New York City WQAO 250 1 New York City WRNY 250 1 New York City	Radio Association John Patterson Manuel y G. Salas Raul Karmen Coffeyville Journal 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.				
1020 kilocycles 293.9 meters	1180	757			
KFKX - 10000 IN Chicago, III. KYW - 10000 IN Chicago, III. WRAX - 250 D Philadelphia, Pa.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co. WRAX Broadcasting Co.	LINES			
1030 kilocycles 291.1 meters		-			
CFCF 500 Montreal, Que. CNRV 500 Vancouver, B. C.	Canadian Marconi Co. Canadian National Railways				
1040 kilocycles 288.3 meters [
KRLD * 10000 1C Dallas, Texas KTHS § 10000 1N Hot Springs, Ark. WKAR - 1000 D East Lansing, Mich. WMAK - 1000 C Dn Buffalo, N. Y.	KRLD Radio Corp. Chamber of Commerce Michigan Agricultural College Buffalo Broadcasting Corp.				
[413					

1050 kil	ocycles 5000 Dn 5000 X	285.5 meters [Milford, Kansas Hollywood, Cal.	KFKB Broadcasting Assn., Inc. Western Broadcast Co.
1060 kil KWJJ WBAL * WJAG * WTIC †	ocycles 500 Dn 10000 IN 1000 Dn 50000 IN	282.8 meters 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 kil KJBS * WCAZ WDZ WTAM * XER	ocycles 100 D 50 D 100 D 50000 N 101 1071	280.2 meters San Francisco, Cal. Carthage, III. Tuscola, III. Cleveland, Ohio Mexico City	Julius Brunton & Sons Co. Superior Broadcasting Service James L. Bush National Broadcasting Co., Inc. F. Armida y Cia
1080 kil WBT * WCBD * WMBI	5000 C 5000 1 Dn 5000 1 Dn	277.6 meters Charlotte, N. C. Zion, III. Chicago, III.	Station WBT, Inc. Wilbur Glenn Voliva Moody Bible Institute
1090 kil	ocycles	275.1 meters	
KMOX * XEL	50000 ICX	St. Louis, Mo. Saltillo, Coah.	Voice of St. Louis, Inc. Antonio Garza Castro
1100 kil	ocycles	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 kil	ocycles	270.1 meters	
KSOO * WRVA *	2000 Dn	Sioux Falls, S. D. Richmond, Va.	Sioux Falls Broadcasting Assn., Inc.
*******	5000 N	Richmond, Va.	Larus & Bros. Co., Inc.
		Richmond, Va. 267.7 meters	Larus & Bros. Co., Inc.
1120 kil			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
1120 kil	Ocycles 15 100 50 100 500 3 500 37 500 2C 500 +C 250 +C 250 1 250	Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College
1120 kil	Ocycles 15 100 50 100 500 3 500 37 500 2C 500 +C 250 +C 250 1 250	Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cai. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La. Haynesville, La. 265.3 meters Havana, Cuba Havana, Cuba Salt Lake City	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
1120 kil- CFJC CHGS CJOC KFIO KFSG KMSC KMSC KMSC KMSC WDEL WHAD WISN WTAW	Ocycles 15 100 500 100 500 3 500 37 500 C 500 100 2000 100 105 1131	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. College Station, Texas Rayne, La. Haynesville, La. 265.3 meters Havana, Cuba Havana, Cuba Salt Lake City Mooseheart, Ill. New York City	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford Domingo Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp.
1120 kil- CFJC CHGS CJOC KFIO KFSG * KMIC * KRSC * KMIC * WDEL † WHAD * WISN WTAW 1130 kil- CMBC CMQ CMQ CMQ WJDD WJDD WOV	Ocycles 15 100 500 100 500 3 500 37 500 C 500 100 2000 100 105 1131	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. College Station, Texas Rayne, La. Haynesville, La. 265.3 meters Havana, Cuba Salt Lake City Mooseheart, Ill. New York City Oaxaca, Oax.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford Domingo Fernandez Cruz Jose Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Frederico Zorrila Southwestern Sales Corp.
1120 kil- CFJC CHGS CJOC KFIO KFSG KMIC KRSC KMIC KRSC KMIC WHAD WHAD WHAD WHAD WISN WTAW	Ocycles 15 100 500 100 500 3 500 3 500 2C 500 +C 250 +X 250 1 250 1C 500 2 150 CPD Ocycles 150 5000 N 105 1131 Ocycles 5000 1N 5000 1N	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. College Station, Texas Rayne, La. Haynesville, La. 265.3 meters Havana, Cuba Barana, Cuba Salt Lake City Mooseheart, Ill. New York City Oaxaca, Oax. 263.0 meters Tulsa, Okla. Birmingham, Ala.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford Domingo Fernandez Cruz Jose Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Frederico Zorrila
1120 kil- CFJC CHGS CJOC KFIO KFSG KMIC KRSC KMSC KRSC KTRH WDBO WHAD WISN WTAW	Ocycles 15 100 500 100 500 3 500 3 500 2C 500 +C 250 +X 250 1 250 1C 500 2 150 CPD Ocycles 150 5000 N 105 1131 Ocycles 5000 1N 5000 1N	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. College Station, Texas Rayne, La. Haynesville, La. 265.3 meters Havana, Cuba Havana, Cuba Salt Lake City Mooseheart, Ill. New York City Oaxaca, Oax. 263.0 meters Tulsa, Okla.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford Domingo Fernandez Cruz Jose Fernandez Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Frederico Zorrila Southwestern Sales Corp.

1160 kilocycles

258.5 meters

WOWO * 10000 1C WWVA * 5000 1Y Ft. Wayne, Ind. Wheeling, W. Va. Main Auto Supply Co. West Virginia Broadcasting Corp.

1170 kilocycles

KTNT __ 5000 Dn WCAU * 10000 C

256.3 meters

Muscatine, Iowa Philadelphia, Pa.

Norman Baker

Universal Broadcasting Co

1180 kilocycles 254.1 meters

 KEX
 5000
 2
 Portland, Ore.

 KOB
 20000
 2
 State College, N. M.

 WDGY
 *
 1000
 1 Dn
 Minneapolis, Minn.

 WHDI
 500
 1 Dn
 Minneapolis, Minn.

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

1190 kilocycles

WICC * 500 D WOAI * 50000 N

252.0 meters Bridgeport, Conn. San Antonio, Texas

Bridgeport Broadcasting Station, Inc. Southern Equipment Co.

Norman R. Hoffman Emory & Henry College Alfred Frank Kleindienst

First Baptist Church

Robert Allen Gamble

St. John's Catholic Church St. Norbert's College

Missouri Broadcasting Corp.

First Congregational Church

Hammond-Calumet Broad. Corp.

Alfred Frank Kleindienst

Commodore Broadcasting, Inc. Charles C. Carlson, Jr.

Kirk, Johnson & Co. American Broadcasting Corp. of Ky.

Kingshighway Preshyterian Church John Brownlee Spriggs Home Cut Glass & China Co.

Kaskaskia Broadcasting Co.

WFBE, Inc.

WIBX, Inc.

City of Flint

David Parmer

Chas. Middleton

Alberto Palos Sauza

Radio & Electric Shop

1200 kilocycles

249.9 meters

Paragould, Ark.
Gunnison, Colo.
Marshalltown, Iowa

Fergus Falls, Minn.

Fort Morgan, Colo. Los Angeles, Cal.

Little Rock, Ark.

St. Louis, Mo. Mandan, N. D.

Huron, S. D. Yuma, Colo.

Lacey, Wash.

100 **KBTM** KFHA KFJB KFWF 50 100 100 5 --KGCU 100 KGDE 100 + KGDY 100 KGEK 50 Ť KGEW 100 9 KGFJ 100 ---KGHĬ 100 KGY 10 KMLB DCP 50 KSMR 100 KVOS 100 ---KWG 100 - - -WABI † 100 WABZ 100 WBBZ 100 WCAT WCAX 100 ž - -100 WCLO t 100 WCOD 100 3

100

100

50

100

10

100

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100

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100

50

100

101

2.5

+X

4S

5+

6

6

3

+

5+

2--

СX

8

4

WEHC

WEPS

WFBC

WFBE

WHBC

WHBY

WIBX

WJBC WJBL WJBW WKJC

WLĂP

WLBG

WMAY

WNBO

WNBW WNBX WORC

WPDF

WRAF

WRBL

WWAE

XEA

10-BP

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WIL

Monroe, La. Santa Maria, Cal. Bellingham, Wash. Stockton, Cal. Bangor, Maine New Orleans, La. Ponca City, Okla Rapid City, S. D. Burlington, Vt. Burlington, Vt. Janesville, Wis. Harrisburg, Pa. Emory, Va. Worcester, Mass. Knoxville, Tenn. Cincinnati, Ohio Canton, Ohio Green Bay, Wis. Utica, N. Y. St. Louis, Mo. La Salle, Ill. Decatur, III. New Orleans, La. Lancaster, Pa. Louisville, Ky. Petersburg, Va St. Louis, Mo. Washington, Pa. Carbondale, Pa. Springfield, Vt. Worcester, Mass. Flint, Mich. La Porte, Ind. Columbus, Ga. Hammond, Ind. Guadalajara, Jal. Wingham, Ont.

W. J. Beard's Temple of Music The Hawkins-Craig Syndicate Marshall Electric Co., Inc. St. Louis Truth Center, Inc. Mandan Radio Association KCYS. Jaren Drug Co. 1200 J. Albert Loesch and George W. Wright Beehler Elec. Equipment Co. MTRS. City of Fort Morgan Ben S. McGlashan 249.9 Berean Bible Class DIAL 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.

CUT OUT ON DOTTED LINES

1210 kilocycles 247.8 meters **CFCO** 100 Chatham, Ont. Western Ontario "Better Radio" Club James S. Neill & Sons, Ltd. Fredericton, N. B. Chilliwack, B. C. Sea Island, B. C. **CFNB** 50 CHWK ŧ Chilliwack Broadcasting Co., Ltd. 5 ---G. C. Chandler R. L. MacAdam Metal Shingle & Siding Co. CJOR CKMC 50 15 Cobalt, Ont. ---Preston, Ont. Casper, Wyo. Devils Lake, N. D. CKPC KDFN 25 ---100 Donald Lewis Hathaway ---KDLR 100 KDLR, Inc. KFOR 100 + Lincoln, Nebr. Howard A. Shuman Hirsch Battery & Radio Co. J. C. & E. W. Lee Cutler's Radio Brdcstg. Service, Inc. KFVS 100 Cape Girardeau, Mo. KFXM KGCR 100 9 San Bernardino, Cal. Watertown, S. D. 100 ---\$ Elk City, Okla. Dodge City, Kans. Fresno, Cal. KGMP 100 Bryant Radio & Electric Co. KGNO 100 Dodge City Broadcasting Co. James McClatchy Co. KMJ KPPC 100 9-Pasadena Presbyterian Church Hello World Broadcasting Corp. Roy. W. Waller John H. Stenger, Jr. Grace Covenant Presbyterian Church * 50 Pasadena, Cal. Pasadena, Cal. Shreveport, La. Zanesville, Ohio Wilkes-Barre, Pa. Richmond, Va. Springfield, Ill. Yonkers, N. Y. Chicago, Ill. Providence, R. I. Harrichurg, Ill. KWEA WALR 100 ---100 WBAX 100 75 WBBL 100 H. L. Dewing & Chas. Messter Westchester Broadcasting Corp. Clinton R. White Dutee W. Flint WCBS 100 WCOH 100 3 WCRW 100 456 WDWF 100 WEBQ 100 Harrisburg, Ill. Chicago, Ill. First Trust & Savings Bank Emil Denemark, Inc. WEDO 100 4 Freeport, N. Y. Gulfport, Miss Rock Island, Ill. WGBB 100 3 Harry H. Carman Great Southern Land Co., Inc. WGCM 100 WHBF 100 Beardsley Specialty Co. Citizens Bank WHBU + Anderson, Ind. Red Bank, N. J. 100 WJBI WJBU 100 3 Monmouth Broadcasting Co. 100 Lewisburg, Pa. **Bucknell University** WJBY WJW WLCI WLSI WMBG Gadsden, Ala. Mansfield, Ohio Ithaca, N. Y. 50 Gadsden Broadcasting Co., Inc. 100 Mansfield Broadcasting Assn. 50 Lutheran Assn. of Ithaca Providence, R. 1. Richmond, Va. Jamaica, N. Y. 5 100 The Lincoln Studios, Inc. 7 100 Havens & Martin, Inc. WMR J 100 3 Peter J. Prinz A. E. Newton Jamestown, N. Y. Manitowoc, Wis. Pawtucket, R. I. WOCL * 25 WOMT Francis M. Kadow 100 5 WPAW Shartenburg & Robinson Co. 100 WQDX WRBQ 50 Thomasville, Ga. Stevens Luke Greenville, Miss. Gastonia, N. C. Chicago, Ill. J. Pat. Scully A. J. Kirby Music Co. World Battery Co., Inc. X+100 WRBU 100 4 WSBC 100 Columbus, Ohio Springfield, Tenn. Springfield, Ill. WSEN Columbus Broadcasting Co. 638 Tire & Vulcanizing Co. + 100 WSIX TOO 2--WTAX 100 WTAX, Inc. 1220 kilocycles 245.8 meters KFKU KWSC WCAD WCAE University of Kansas State College of Washington St. Lawrence University Lawrence, Kans. Pullman, Wash. Canton, N. Y. 1000 1000 D 500 Gimbel Bros. 1000 N Pittsburgh, Pa. WDAE 1000 Tampa, Fla. Tampa Publishing Co. Jenny Wren Co. WREN 1000 Lawrence, Kans. 1230 kilocycles 243.8 meters KFQD KGGM KYA WBIS Anchorage Radio Club 100 Anchorage, Alaska + 250 Albuquerque, N. Mex. New Mexico Broadcasting Co. 1000 San Francisco, Cal. Pacific Broadcasting Corp. <u>-</u>--Shepard Broadcasting Service, Inc. Indianapolis Power & Light Co. 1000 Boston, Mass. ic 2C WFBM 1000 Indianapolis, Ind. WNAC Shepard Broadcasting Service, Inc. Boston, Mass. State College, Pa. South Bend, Ind. 1000 WPSC Ď 500 Pennsylvania State College WSBT 500 South Bend Tribune

1240	kilocycles	241.8 meters
KTAT	1000 1	Ft. Worth, Texas

KTAT - 1000 1 Ft. Worth, Texa WACO † 1000 1 Waco, Texas WXYZ † 1000 C Detroit, Mich. S. A. T. Broadcast Co. Central Texas Broadcasting Co., Inc. Kunsky-Trendle Broadcasting Corp.

CUT TUO ON DOTTED LINES

228.9 meters

Sacramento, Cal.

Juneau, Alaska

Ft. Dodge, Iowa

Jerome, Ariz.

Boone, Iowa

1310 kilocycles

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8

KCRJ

KFBK

KFGQ

KFIU

KFIY

100

100

100

10

100

7

KFPL KFPM KFPM KFYJ KFXJ KGSX KGCX KGCX KGCX KGFW KIT KTSL KTSL KTSM KTSL KTSM WBRE WCLS WDSR WCLS WBRE WCLS WGAL WFBG WFBG WFBG WFBG WFAD WGAL WHAT WJAC WJAC WJAC WKBB WKBS WLBC WKBS WLBC WKBS WLBC	* 100 * 15 100 100 100 100 100 50 50 100 100 100 100 * 100 * 100 * 100 * 100 * 100 * 100 * 100 100 * 100 100 * 100 100 * 100 100 * 100 100 100 * 100	9X927 	Dublin, Texas Greenville, Texas Denver, Colo. Edgewater, Colo. Oklahoma City St. Joseph, Mo. Wolf Point, Mont. Kalispell, Mont. Medford, Ore. Shreveport, La. El Paso, Texas Cedar Rapids, Iowa Aberdeen, Wash. Terre Haute, Ind. Wilkes-Barre, Pa. Joliet, III. El Paso, Texas Buffalo, N. Y. Royal Oak, Mich. Altoona, Pa. Flint, Mich. Philadelphia, Pa. Lancaster, Pa. Newport News, Va. Philadelphia, Pa. Poynette, Wis. Johnstown, Pa. Marion, Ind. Laconia, N. H. Joliet, Ill. Birmingham, Ala. Galesburg, Ill. Muncie, Ind. Auburn, N. Y. New Bedford, Mass. Union City, Tenn.	C. C. Baxter The New Furniture Co. Fitzsimmons General Hospital Western Slope Broadcasting Co. Exchange Ave. Baptist Church KGBX Inc. First State Bank of Vida Chamber of Commerce O. F. Sothman and R. H. McConnell Carl E. Haymond Mrs. W. J. Virgin Robert M. Dean Houston Broadcasting Co. G. A. Houseman W. S. Bledsoe & W. T. Blackwell Harry F. Paar KXRO, Inc. Banks of Wabash, Inc. Louis G. Baltimore WCLS. Inc. Eagle Broadcasting Co. Howell Broadcasting Co. Howell Broadcasting Co. Frank D. Fallain Foulkrod Radio Engineering Co. WGAL, Inc. Hampton Roads Broadcasting Corp. Independence Broadcasting Co. William C. Forrest Johnstown Automobile Co. Marion Broadcasting Co. Laconia Radio Club Sanders Bros. Radio Station R. B. Broyles Furniture Co. Permil N. Nelson Donald A. Burton Radio Service Laboratories New Bedford Broadcasting Co. Tittsworth's Radio & Music Shop
WOBT WOL WRAW WROL WSAJ	* 100 * 100 * 50 100 * 100	5XZ	Washington, D. C. Reading, Pa. Knoxville, Tenn.	American Broadcasting Co. Reading Broadcasting Co. Stewart Broadcasting Co.
wsjs	100		Grove City, Pa. Winston-Salem, N. C.	Grove City College Winston-Salem Journal Co.
	kilocycl		227.1 meters	C. D. Dischie & F. E. Eisch
KGHF KGIQ KGMB KID WADC WSMB	250 250 † 500 † 500 † 1000 * 500	X+ 1+ C N	Pueblo, Colo Twin Falls, Idaho Honolulu, Hawaii Idaho Falls, Idaho Akron, Ohio New Orleans, La.	C. P. Ritchie & J. E. Finch Radio Broadcasting Corp. Honolulu Broadcasting Co., Ltd. KID Broadcasting Co. Allen T. Simmons Saenger Theatre & Maison Blanche Co.
1330	kilocycl	es	225.4 meters	
KGB KSCJ WDRC WSAI WTAQ XEC	* 250 1000 500 * 500 * 1000 50	X 1+C N 1 1333	San Diego, Cal. Sioux City, Iowa New Haven, Conn. Cincinnati, Ohio Eau Claire, Wis. Toluca, Mex.	Pickwick Broadcasting Corp. Perkins Bros. Co. Doolittle Radio Corp. Crosley Radio Corp., Lessee Gillette Rubber Co. Jesus R. Benavides
1340	kilocycl	es	223.7 meters	
KFPW KFPY WCOA WSPD	50 1000 500 500	D C C+	Fort Smith, Ark. Spokane, Wash. Pensacola, Fla. Toledo, Ohio	John Brown Schools Symons Broadcasting Co. City of Pensacola Toledo Broadcasting Co.
1350	kilocycl	es	222.1 meters	
KWK WBNY WCDA WKBQ WMSG	* 1000 * 250 250 250 250	N 1 1 1	St. Louis, Mo. New York City New York City New York City New York City	Greater St. Louis Broadcasting Corp. Pillar of Fire Italian Educ. Broadcasting Co., Inc. Standard Cahill Co., Inc. Madison Sq. Garden Brdcstg. Corp.

1360 kilocycles 220.4 meters

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

KCRC	†	100	2 _	Enid, Okla.
KFBL		50	$_{3}^{2}+$	Everett, Wash.
KEII		100	3	Astoria, Ore.
KFJI KFJM KFJZ	Ť	100		Grand Forks, N. D.
KE 17	1	100	X	Ft. Worth, Texas
KFLX				Columntar Torras
	*	100	+	Galveston, Texas
KGAR		100		Tucson, Ariz.
KGDA	†	100	2	Mitchell, S. D.
KGFG		100	2	Oklahoma City
KGFL	7 -	50		Raton, N. M.
KGKL	t	100	5	San Angelo, Texas
KMAC	: -	100	5	San Antonio, Tex.
KONO	t	100		San Antonio, Texas
KOOS		100		Marshfield, Ore.
KRE		100	6	Berkeley, Cal.
KVL		100	3	Seattle, Wash.
KWKC		100		Kansas City, Mo.
KZM		100	6	Hayward, Cal.
WBGF	† †	50		Glens Falls, N. Y.
WBTM	Ť	100	7	Danville, Va.
WCBM		100	+z	Baltimore, Md.
WELK		100	+	Philadelphia, Pa.
WFDV		100		Rome, Ga.
WGL	*	100	C	Fort Wayne, Ind.
WHBD	*	100		Mount Orab, Ohio
WHBO		100		Memphis, Tenn.
WHDF		100	+	Calumet, Mich.
WIBM		100	1	Jackson, Mich.
WJBK		50	1	Detroit, Mich.
WLEY		100	+	Lexington, Mass.
WLVA	†	100	+ 7	Lynchburg, Va.
WMBR	†	100		Tampa, Fla.
WPOE	† *	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	8	100	CP	Augusta, Me.
" KDO	2.	100	CI	Augusta, Me.

Champlin Refining Co. Leese Bros. KFJ1 Broadcasters, Inc. University of North Dakota Estate of H. C. Meachem George Roy Clough Tucson Motor Service Co. Mitchell Broadcasting Corp. Oklahoma Broadcasting Co., Inc. W. E. Whitmore KGKL, Inc., Opr. by Ragsdale Auto W. W. McAllister Mission Broadcasting Co. H. H. Hanseth, Inc. First Congregational Church KVL, Inc. Wilson Duncan Broadcasting Co. Leon P. Tenney W. N. Parker and H. H. Metcalfe Clarke Electric Co. Baltimore Broadcasting Corp. WELK Broadcasting Station, Inc. Dolies Goings Fred C. Zieg F. P. Moler Broadcasting Station WHBQ, Inc. Unner Michigan Broadcasting Co. Wilson, Inc.
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

1380 kilocycles 217.3 meters

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

Jay Peters Doubleday-Hill Electric Co. Berry Seed Co. WKBH, Inc. Stanley M. Krohn, Jr.

1390 kilocycles 215.7 meters

KLRA		1000	1C	Little Rock, Ark.
KOY	*	500		Phoenix, Ariz.
KUOA		1000	1	Fayetteville, Ark.
WHK	*	1000	C	Cleveland, Ohio

Arkansas Broadcasting Co. Nielson Radio & Sporting Goods Co. University of Arkansas Radio Air Service Corp. 1390 MTRS. 215.7 DIAL

> CUT OUT ON DOTTED LINES

1400 kilocycles 214.2 meters

CMBY		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.
WCM /	*	500	1	Culver, Ind.
WKBF	*	500	1	Indianapolis, Ind.
WLTH	*	500	2	Brooklyn, N. Y.
WSDA		500	2	Brooklyn, N. Y.
WSGH		500	2	Brooklyn, N. Y.

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

1410 kilocycles 212.6 meters

KFLV	Ť	500	4	Rockford, Ill.
KGRS	ů.	1000	1	Amarillo, Texas
WBCM	*	500	C	Bay City, Mich.
WDAG		250	1X	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	Ť	500	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 kilocycles 211.1 meters

1420	kil	ocyc.	les	211.1 meters
KBPS		100	4	Portland, Ore.
KFIZ	-	100		Fond du Lac, Wis.
KFQU	*	100	5X.	Holy City Cal
KFOW		100		Seattle, Wash.
KFQW KFXD		100	XY	Nampa, Idaho
KFXY		100		Flagstaff, Ariz.
KFYO		100	+	Seattle, Wash. Nampa, Idaho Flagstaff, Ariz. Abilene, Texas
KGFF		100		Alva, Okla.
KGGC		100	5	San Francisco, Cal.
KGIW		100	11	Trinidad, Colo.
KGIX		100		Las Vegas, Nevada
KGKX		100		Sand Point, Idaho
KICK	*	100		Red Oak, Iowa
KLPM	Ť	100		Minot, North Dakota
KORE		100		Eugene, Ore.
KTAP	8	100		San Antonio, Texas
KXL		100	4	Portland, Ore.
KXYZ		100	X	Houston, Texas
WEDH	*	30	X	Erie, Pa.
WEHS		100	2 X	Evanston, Ill.
WELL	~ ~	50	X	Battle Creek, Mich.
WFDW	*	100		Talladega, Ala.
WHDL	8	10	D 2	Tupper Lake, N. Y.
WHFC		100	2	Cicero, Ill.
WHIS	Ť	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, III.
WLBF		100	-	Kansas City, Kas.
WMBC		100	X +	Detroit, Mich.
WMBH		100	+	Joplin, Mo.
WPAD	+	100		Paducah, Ky.
WSPA	*	100	+	Spartanburg, S. C.
WTBO	*	100		Cumberland, Md.

Benson Polytechnic Institute 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 C. E. Iwiss and F. H. McCam Red Oak Radio Corp. John B. Cooley Eugene Broadcasting Station Alamo Broadcasting Co. KXL Broadcasters, Inc. Harris County Broadcast Co. Erie Dispatch-Herald WEHS, Inc. Enquirer-News Co. Raymond G. Hammett Tupper Lake Broadcasting Co., Inc. Triangle Broadcasting Co., I 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	#	1000	N	Los Angeles, Cal.
KGNF	Ť	500	D	North Platte, Neb.
WBAK	-	500	1X +	Harrisburg, Pa.
WCAH	*	500	1C	Columbus, Ohio
WGBC	*	500	2	Memphis, Tenn.
WHP	sậc .	500	1CX	Harrisburg, Pa.
WNBR	*	500	2	Memphis, Tenn.

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

1440 kilocycles	208.2 meters		
KLS * 250 D WBAM * 500	Oakland, Cal. Greensboro, N. C. Allentown, Pa. Rochester, N. Y. Peoria Heights, III. Poughkeepsie, N. Y. Allentown, Pa. Quincy, III.	Warner Bros. North Carolina Broadcasting Co. B. B. Musselman Hickson Electric & Radio Corp. Peoria Heights Radio Laboratory Hudson Valley Broadcasting Co. Allentown Call Publishing Co., Inc. Ills. Stock Medicine Broadcasting Co.	
1450 kilocycles	206.8 meters		
KTBS * 1000 WBMS * 250 1 WCSO - 500 2Y WFJC * 500 2NY WGAR - 500 CP WHOM - 250 1 WKBO * 250 1 WNJ § 250 1 WSAR - 250 WTFI - 500	Shreveport, La. Hackensack, N. J. Springfield, Ohio Akron, Ohio Cleveland, Ohio Jersey City, N. J. Jersey City, N. J. Newark, N. J. Fall River, Mass. Toccoa, Ga.	Tri-State Broadcasting System, Inc. WBMS Broadcasting Corp. WGAR Broadcasting Co. WGAR Broadcasting Co. WGAR Broadcasting Co. WGAR Broadcasting Co. New Jersey Broadcasting Corp. Camith Corp. Radio Investment Co. Doughty & Welch Electric Co., Inc. Toccoa Falls Institute	
1460 kilocycles	205.4 meters		
KSTP * 10000 NX WJSV * 10000	St. Paul, Minn. Alexandria, Va.	National Battery Broadcasting Co. Independent Publishing Co.	
1470 kilocycles	204.0 meters		
KGA † 5000 WLAC - 5000 1C WTNT - 5000 1	Spokane, Wash. Nashville, Tenn. Nashville, Tenn.	Northwest Broadcasting System, Inc. Life & Casualty Insurance Co. Tennessee Publishing Co.	
1480 kilocycles	202.6 meters		
KFJF - 5000 C WKBW * 5000 C	Oklahoma City Buffalo, N. Y.	National Radio Mfg. Co. Buffalo Broadcasting Co., Lessees	
1490 kilocycles	201.2 meters		
WCKY * 5000 1N WJAZ 5000 1 WORD 5000 1	Covington, Ky. Chicago, Ill. Chicago, Ill.	L. B. Wilson, Inc. Zenith Radio Corp. People's Pulpit Association	
1500 kilocycles	199.9 meters		
KOBB * 100	Santa Barbara, Cal. Corpus Christi, Texas Moorhead, Minn. Grant City, Mo. Brownwood, Texas Scottsbluff, Nebr. Prescott, Ariz. Wenatchee, Wash. Santa Ana, Cal. Longview, Wash. Austin, Texas El Centro, Cal. Long Beach, N. Y. Tupelo, Miss. Conncrsville, Ind. Ludington, Mich. Long Island City, N. Y. Boston, Mass. Newport, R. I. Pittsburgh, Pa. Brooklyn, N. Y. Lapeer, Mich. Binghanton, N. Y. Bristol, Temn. Phildelphia, Pa. Augusta, Ga. Woodside. N. Y. Rutland, Vt.	Dwight Faulding Eagle Broadcasting Co., Inc. Red River Broadcasting Co., Inc. Grant City Park Corp. Eagle Publishing Co. Hilliard Co., Inc. Miller & Klahn Wescoast Broadcasting Co. Pacific Western Broadcasting Paul R. Heitmeyer Rice Hotel E. R. Irey and F. M. Bowles Arthur Faske Blair & Anderson Knox Battery & Electric Co. K. L. Ashbacker John N. Brahy Boston Broadcasting Co. LeRoy Joseph Beebe Rev. J. W. Sproul Paul J. Gollhofer First M. P. Church Hewitt-Wood Radio Co., Inc. Radiophone Brdestg. Station, Inc. Wm. Penn Broadcasting Co. Warren C. Davenport's Musicove, Inc. Long Island Broadcasting Co. Seward & Weiss Music Co.	KCYS. 1500 MTRS. 199.9

DIAL

ALABAMA	Watts		Keys.	San Jose J-1	500	KQW KREG	1010
Birmingham O-21	5000	WAPI	1140	Santa Ana M-3 Santa Barbara M-2	100	KREG	1500 1500
	500	WBRC	930	Santa Maria L-2	100	KSMR	1200
Gadsden O-21	100 50	WKBC	1310 1210	Stockton J-2	250	KGDM KWG	1100
Mobile O-20	500	WJBY	1410	C	100	KWG	1200
Montgomery P-21	500	WSFA	1410	CANAL ZONE			
Talladega O-21	100	WFDW	1420	Balboa FF-26	750	NBA	850
ALASKA	500		0222	COLORADO			
Anchorage	100 10	KFQD	1230 1310	Colorado Springs K-1 Denver K-11	1 1000	KFUM KFEL	1270
Juneau Ketchikan	500	KGBU	900	Denver K-11	500	KFEL	920
			0.55		100 500	KFXF	1310 920
ARIZONA				li .	1000	KLZ	560
Flagstaff M-7	100	KFXY	1420	[]	12500 500	KOA KPOF	830 880
Jerome M-6 Phoenix N-6	100 500	KCRJ KOY	1310 1390	Edgewater K-10	50	KFXJ	1310
	500	KTAR	620	Fort Morgan J-11	100	KGEW	1200
Prescott M-6	100	KPJM KGAR	1500	Greeley J-11 Gunnison K-9	500 50	KFKA KFHA	880 1200
Tucson O-7	100 500	KVOA	1370 1260	Pueblo L-11	250	KGHF	1320
Particle (F-4)			I PER DEL	Trinidad L-11 Yuma J-12	100 50	KGIW	1420 1200
ARKANSAS					30	KOEK	1200
Blytheville M-19	50	KLCN	1290	CONNECTICUT			
Fayetteville M-16 Fort Smith N-16	1000	KUOA KFPW	1390 1340	Bridgeport H-27	500	WICC	1190
Hot Springs N-17	10000	KTHS KGHI	1040	Hartford H-27 New Haven H-27	50000 500	WTIC WDRC	$\frac{1060}{1330}$
Little Rock N-17	100	KGHI	1200 890	Storrs H-28	250	WCAC	600
	250 1000	KGJF KLRA	1390	DELAWARE			
Paragould M-18	500 100	KBTM	1250 1200	Wilmington J-26	250	WDEL	1120
raragodid M-16	100	KBIM	1200	willington j-20	100	WILM	1420
CALIFORNIA				DISTRICT OF	COLU	MRIA	
Berkeley J-2 Burbank M-3	100	KRE	1370	Washington J-26	250	WMAL	630
Culver City M-3	500 250	KELW	780 1000	Washington J-20	500	WRC	950
Culver City M-3 El Centro N-4	100	KXO	1500	ET ODIDA	100	WOL	1310
Fresno K-2	100	KMJ KZM	1210 1370	FLORIDA	100000	Value of	
Hayward J-1 Hollywood M-3	1000	KFWB	950	Clearwater R-24 Gainesville Q-24	1000 5000	WFLA WRUF	620 830
	5000	KNX	1050	Jacksonville O-24	1000	WJAX	900
Holy City M-3 Inglewood M-3	100 500	KFQU KMIC	1420 1120	Miami T-25 Miami Beach T-25	1000	WJAX WQAM WIOD	560
Long Beach M-3	1000	KFOX	1250	Orlando R-24	1000 500	WDBO	$\frac{1300}{1120}$
Los Angolas M.3	1000	KGER KECA	1360 1430	Pensacola Q-21	500	WCOA WSUN	1340
Los Angeles M-3	5000	KFI	640	St. Petersburg S-24	1000	WSUN	620 1220
	500	KFSG	1120	Tampa R-24	100	WMBR	1370
	1000	KGEF	1300 1200	GEORGIA			
	1000	KGFJ KHJ	900	Atlanta O-22	250	WGST	890
	500 500	KMPC KMTR	710 570	The second second	5000	WSB	740
	500	KTM	780	Augusta O-23	100 50	WRDW WRBL	1500 1200
011 171	1000	KTBI	1300	Columbus O-22 Macon O-23	250	WMAZ	890
Oakland J-1	250 500	KLS KLX	1440 880	Macon O-23 Rome N-22	100	WFDV	1370
	500	KROW	930	Savannah O-24 Thomasville Q-22	500 50	WTOC	1260 1210
Pasadena M-3	1000	KPPC KPSN	1210 1360	Toccoa N-23	500	WTFI	1450
Sacramento J-2	100	KFBK	1310	TTANVATT			
San Bernardino M-3	100	KFXM KFSD	1210	HAWAII	* ***********************************	*******	
San Diego N-3	500 250	KGB	600 1330	Honolulu	500 1000	KGMB KGU	1320 940
San Francisco J-1	1000 500	KRFC KFWI	610 930	IDAHO	20.00		,
	100	KGGC	1420	Boise G-5	1000	KIDO	1250
	7500	KGO	790	Idaho Falls G-7	500	KID	1320
	100 5000	KJBS KPO	1070 680	Nampa G-5 Pocatello H-7	50 250	KFXD KSEI	1420 900
	1000	KTAB	560	Sand Point D-6	100	KGKX	1420
	1000	KYA	1230	Twin Falls H-6	250	KGIQ	1320

ILLINOIS	Watts		Keys.	Ottumwa J-17 Red Oak J-16	100	WIAS	1420 1420
Carthage J-18	50 10000	WCAZ	1070 1020	Shenandoah J-16	500	KFNF	890
Chicago I-20	10000	KFKX KYW	1020	Sioux City I-15	500 1000	KMA KSCJ	930 1330
	500 25000	WAAF WBBM	920 770	Waterloo I-17	500	WMT	600
	1000	WCFL WCRW	970	TZANICAC			
	100 100	WEDC	1210 1210	KANSAS	500	VCCE	1010
	50000 500	WENR WGES	870 1360	Coffeyville M-16 Dodge City L-13	100	KGGF KGNO	1210
	25000	WGN	720	Kansas City K-16 Lawrence K-16	100	WLBF KFKU	1420 1220
	1000 5000	WIBO	560 1490	100 m 100 m 100 m 100 m 100 m	1000	WREN	1220
	25000	WJAZ WJBT	770	Manhattan K-15 Milford K-14	500 5000	KSAC KFKB	580 1050
	100 5000	WKBI WLS	1420 870	Topeka K-16 Wichita L-15	500 1000	WIBW KFH	580 1300
	5000 5000	WMAQ WMBI	670 1080	Wienita L-13	1000	KFII	1300
	5000	WORD	1490	KENTUCKY			
	500 100	WPCC WSBC	560 1210	Covington K-22	5000	WCKY	1490
Cicero I-20	100	WHFC	1420	Hopkinsville M-20 Louisville L-21	$1000 \\ 10000$	WF1W WHAS	940 820
Decatur K-19 Evanston I-20	100	WJBL WEHS	1200 1420	Paducah M-19	100 100	WLAP WPAD	1200 1420
Galesburg J-18	100 100	WKBS	1310 1210	Paddcan W-19	100	WPAD	1420
Harrisburg L-19 Joliet I-19	100	WEBQ WCLS	1310	LOUISIANA			
La Salle J-19	100 100	WKBB	1310 1200	Haynesville P-17	10	IZA III D	1120
Mooseheart I-19	20000	WJBC WJJD WMBD	1130	Monroe P-18 New Orleans R-19	50 100	KMLB WABZ	1200 1200
Peoria Heights J-19 Quincy K-18	500 500	WTAD	1440 1440		1000	WDSII	1250 1420
Rockford I-19	500 100	KFLV WHBF	1410 1210		100	WJBO WJBW WSMB	1200
Rock Island I-18 Springfield K-19	100	WCBS	1210		500 5000	WSMB WWL	1320 850
Tuscola K-20	100 100	WTAX WDZ	1210 1070	Rayne Q-18	150		1120
Urbana J-20	250	WILL	890	Shreveport P-17	50 1000	KRMD KTBS	1310 1450
Zion I-20	5000	WCBD	1080		100	KTSL KWEA	1310
					$\frac{100}{10000}$	KWKH	1210 850
INDIANA				MAINE			1,045
Anderson J-21	100	WHBU	1210 1500	Augusta F-28 Bangor F-29	100	WRDO WABI	1370 1200
Connersville K-21 Culver I-20	100 500	WKBV WCMA	1400		500	WLBZ	620
Evansville L-20 Fort Wayne J-21	500 100	WGBF WGL	630 1370	Portland F-28	1000	WCSH	940
==1/-7	10000	WOWO	1160	NAADAZI ANID			
Gary I-20 Hammond I-20	1000	WJKS WWAE	1360 1200	MARYLAND	10000	WDAI	1060
Indianapolis J-21	1000	WFBM	1230	Baltimore J-26	10000 250	WBAL WCAO	1060 600
Lafayette J-20	500 500	WKBF WBAA	1400 1400		100 250	WCBM WFBR	1370 1270
Lafayette J-20 La Porte I-20 Marion J-21	100 50	WRAF WJAK	1200 1310	Cumberland J-25	100	WTBO	1420
Muncie J-21	50	WLBC	1310				
South Bend I-20 Ferre Haute K-20	500 100	WSBT WBOW	1230 1310	MASSACHUSET	TS		
	- 00	20		Boston G-28	1000	WB1S	1230 990
IOWA					$\frac{500}{1000}$	WBZA WEEI	590 590
					1000	WHDH	830
	5000	woi	640			WLOE	1500
Boone I-17	5000 100	WOI KFGQ	640 1310		$\frac{100}{1000}$	WLOE WNAC	1500 1230
Boone I-17 Cedar Rapids I-18	100 100	KFGQ KWCR	1310 1310	Fall River H-28	100 1000 500	WLOE WNAC WSSH	1230 1410
Boone I-17 Cedar Rapids I-18 Clarinda J-16 Council Bluffs J-16	100 100 500 1000	KFGQ KWCR KSO KOIL	1310 1310 1380 1260	Fall River H-28 Lexington G-28	100 1000 500 250 500	WLOE WNAC WSSH WSAR WLEX	1230 1410 1450 1410
Boone I-17 Cedar Rapids I-18 Clarinda J-16 Council Bluffs J-16 Davenport I-18	100 100 500 1000 5000 50	KFGQ KWCR KSO KOIL WOC KGCA	1310 1310 1380 1260 1000 1270	Lexington G-28 New Bedford H-28	100 1000 500 250 500 100 100	WLOE WNAC WSSH WSAR WLEX WLEY WNBH	1230 1410 1450 1410 1370 1310
Boone I-17 Cedar Rapids I-18 Clarinda J-16 Council Bluffs J-16 Davenport I-18 Decorah H-18	100 100 500 1000 5000 50 100	KFGQ KWCR KSO KOIL WOC KGCA KWLC	1310 1310 1380 1260 1000 1270 1270	Lexington G-28 New Bedford H-28 S. Dartmouth H-28	100 1000 500 250 500 100 100 500	WLOE WNAC WSSH WSAR WLEX WLEY WNBH WMAF	1230 1410 1450 1410 1370 1310 1410
Boone I-I7 Cedar Rapids I-18 Clarinda J-16 Council Bluffs J-16 Devenport I-18 Decorah H-18 Des Moines I-17 Fort Dodge I-16	100 100 500 1000 5000 50 100 5000 100	KFGQ KWCR KSO KOIL WOC KGCA KWLC WHO KFJY	1310 1310 1380 1260 1000 1270 1270 1000 1310	Lexington G-28 New Bedford H-28 S. Dartmouth H-28 Springfield H-27 Wellesley Hills G-28	100 1000 500 250 500 100 100 500 15000 500	WLOE WNAC WSAR WLEX WLEY WNBH WMAF WBZ WBSO	1230 1410 1450 1410 1370 1310 1410 990 920
Ames I-17 Boone I-17 Cedar Rapids I-18 Clarinda J-16 Council Bluffs J-16 Davenport I-18 Decorah H-18 Des Moines I-17 Fort Dodge I-16 Iowa City I-18 Marshalltown I-17	100 100 500 1000 5000 50 100 5000	KFGQ KWCR KSO KOIL WOC KGCA KWLC WHO	1310 1310 1380 1260 1000 1270 1270 1000	Lexington G-28 New Bedford H-28 S. Dartmouth H-28 Springfield H-27	100 1000 500 250 500 100 100 500 15000	WLOE WNAC WSSH WSAR WLEX WLEY WNBH WMAF WBZ	1230 1410 1450 1410 1370 1310 1410 990

MICHIGAN Watts					<u> </u>			
Bay City H-12	MICHIGAN	Watts		Kcys.	NEBRASKA	Watts		Kcys.
Serrier Springs 1-20 1000 WRZL 390 1000 KFOR 1210 1500	Battle Creek I-21		WELL	1420			KMMJ	740
Detroit H-22	Berrien Springs I-20	1000	WKZO	590	Emconi y-15	100	KFOR	1210
Rast Lansing H-21 1000 WX/X 1240 127		50	WJBK	1370		1000	WJAG	1060
Bast Lansing H-21		100	WMBC	1420		500	WAAW	660
St. Paul G-17 100 WRB 1300 WRB 1310 1300 WRB 1310 WRB		1000	WXYZ	1240	Ravenna J-14	100	KGFW	1310
Grand Rapids H-21	East Lansing H-21 Flint H-22	100	WFDF	1310	Scottsbluff I-11 York J-15	100 500	KGKY KGBZ	
Jackson I-21	Grand Rapids H-21	500	WASH	1270				
Las vegas L-5	Jackson I-21	100	WIBM	1370	NEVADA			
NEW HAMPSHIRE Laconia G-28 100 WKAV 1310	Lapeer H-22 Ludington H-20		WMPC	1500 1500	Las Vegas L-5 Reno I-3		KGIX	
Fergus Falls F-15	Royal Oak H-22		WEXL	1310				
Pergus Falls F-15	MININESOTA				NEW HAMPSH	IRE		
Minneapolis G-17		100	KCDF	1200	Laconia G-28	100	WKAV	1310
Moorhead F-15		7500	WCCO	810				
Monthead F-15 50 KGFK 1500 KFMX 1250 1000 WCAL 1250 1000 WGMS 1250 1000 WGMS 1250 1000 WLB 1250 1000 WLB 1250 1000 WSTP 1460 MISSISSIPPI Greenville O-19 100 WRBQ 1210 Metidian P-20 500 WCAC 1210 Metidian P-20 100 WDX 1270 Metidian P-20 100 WDX 1250 WGMR		500	WHDI	1180			***	
St. Paul G-17		50	KGFK	1500	Atlantic City J-27	5000	WPG	1100
MISSISSIPPI		1000	WCAL	1250	Camden I-26 Hackensack I-27	250	WBMS	1450
MISSISSIPPI Greenville O-19	St. Paul G-1/	1000	WLB	1250		300 250	WAAT	940
Creenville O-19		10000	KSTP	1460	Newark I-27		WAAM	
Composition		466	www.n.a		AND DIATE	250	WGCP	1250
New Marcol 100	Gulfport Q-19	100	WGCM	1210	Paterson I-27	5000	WOR	710
Missouri	Jackson P-19	500	WIDX	1270	Red Bank I-27	100	WIBI	1210
MISSOURI Cp. Girardeau L-19 Columbia K-17 Grant City J-16 Jefferson City L-17 Joplin M-16 Kansas City K-16 100 WMBH 1420 Birghamton H-26 Birghamton H-	Meridian P-20		WCOC		Tremedia 1-20	000	om	1200
MISSOURI	Vicksburg P-18	300	WQBC	1360	NEW MEXICO			
Cp. Girardeau L-19	MICCOUDI				Albuquerque N-7		KGGM	
Columbia K-17		100	I/EVC	1210				
Montana	Columbia K-17	500	KFRU	630				
Ransas City K-16	Jefferson City L-17	500	WOS	630	NEW YORK			
1000 WDAF 610 860 1000 WBBR 1300 1000 WWO 1300 1000 WGQ 1300 1000 KFEQ 680 1000 KFEQ 680 1000 WBBR 1300 1000 KFEQ 1300 1000 KFEQ 1300 1000 KFWF 1200 1000 KFWF 1200 1000 KSD 1000 KSD 1000 WEW 760 1000 WEW 760 1000 WEW 760 1000 WMAY 1200 1000 WMAY 1200 1000 WMAY 1200 1000 WGR 1300 WGR		1000	KMBC	950				
St. Joseph K-16 1000 WCQ 1300 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 500 WCGU 1400 WCGU 1400 500 WCGU 1400		1000	WDAF	610		500	WBBC	1400
St. Louis L-18		1000	WOQ	1300		500	WCGU	1400
100 KFWF 1210 50000 KMOX 1090 5000 KMOX 1090 5000 KMOX 1090 5000 KMOX 1090 5000 KWK 1350 1000 KWK 1350 1000 WEW 760 1000 WIL 1210 100 WMAY 1200 100 WMAY 1200 1000 WMAX 1200		100	KGBX	1310	Ì	100	WMBQ	1500
100	St. Louis L-18	100	KFUO KFWF		D . M . 1 . 17 . 24	500	WSGH	1400
1000 KWK 1350 1000 WGR 550 1600 WKB 1480 1600 1600 WIL 1200 100 WMAY 1200 100 WMAY 1200 100 WMAY 1200 1000 WMAY 1200 1000 WMAY 1200 1000 WMAK 1040 1000 WMAK			KMOX KSD		Buffalo H-24	100	WEBR	1310
100 WIL 1200 100 WMAY 1200						5000	WKBW	1480
MONTANA Billings F-9 Butte F-7 Great Falls E-8 Kalispell D-7 Log KGEZ Log KGEB Log		100	WIL	1200		50	WSVS	1370
MONTANA Glens Falls G-27 long 50 WBGF long 1370 lthaca H-25 long WBGF long 1370 lthaca H-25 long 1000 WEA1 long 1270 lthaca H-25 long WBGF long 1370 lthaca H-25 lthaca H-25 lthaca H-27 long 1000 WEAI long 1270 lthaca H-27 long 1000 WBGI long 1210 lthaca H-27 long 1000 WMRJ long 1210 lthaca H-27 long 1000 WBGI long 1210 lthaca H-27 long 12				-200	Freeport I-27	100	WGBB	1210
Billings F-9 1000 KGHL 950 50 WLCI 1210 Butte F-7 500 KGIR 1360 Jamaica H-27 100 WMRJ 1210 Great Falls E-8 1000 KFBB 1280 Jamestown H-24 25 WOCL 1210 Kalispell D-7 100 KGEZ 1310 Long Island City I-27 100 WLBX 1500					Glens Falls G-27	1000	WEA1	1270
Great Falls E-8 1000 KFBB 1280 Jamestown H-24 25 WOCL 1210 Kalispell D-7 100 KGEZ 1310 Long Island City I-27 100 WLBX 1500	Butte F-7	500	KGIR	1360	Jamaica H-27	100	WMRJ	
Wolf Point E-11 100 KGCX 1310 Long Beach I-27 100 WCLB 1500	Kalispell D-7	100	KFBB KGEZ		Long Island City I-27	25	WOCL	1210 1500
	Wolf Point E-11	100	KGCX	1310	Long Beach I-27	100		

New York City I-27	5000 250	WABC WBNY	860 1350	OKLAHOMA	Watts		Kcys.
	250	WCDA	1350	Alva M-14	100	KGFF	1420
	50000	WEAF	660	Chickasha N-14 Elk City N-13	250 100	KOCW KGMP	1400 1210
	500	WEVD	1300	Enid M-15	100	KCRC	1370
	250 1000	WGBS WHAP	600 1300	Norman N-15	500	WNAD KFJF	1010
	250	WHN	1010	Oklahoma N-15	5000 100	KFJF KFXR	1480 1310
	30000	WJZ	760	}	100	KGFG	1370
	250 5000	WKBQ WLWL	1350 1100	1	1000	WKY	900
	500	WMCA	570	Ponca City M-15	100	WBBZ	1200 1140
	250	WMSG	1350	Tulsa M-16	5000	KVOO	1140
	500 1000	WNYC WOV	570 1130	OREGON			
	250	WPAP	1010	l	100	KFJI	1370
	500	WPCH	810	Astoria D-2 Corvallis E-2	1000	KOAC	550
	250 250	WQAO WRNY	1010 1010	Eugene F-2	100	KORE	1420
Patchogue I-27	100	WPOE	1370	Marshfield F-1 Medford G-2	100	KOOS KMED	1370 1310
Poughkeepsie H-27	500	WOKO	1440	Portland E-3	50 5000	KEX	1180
Rochest er G-25	5000	WHAM	1150	l of thanks b-s	100	KBPS	1420
Saranac Lake F-26	500 50	WHEC	1440 1290		500	KFJR KGW	1300
Schenectady G-27	50000	WGY	790		1000 1000	KGW KOIN	620 940
Syracuse G-25	1000	WFBL	1360		500	KTBR	1300
	250 250	WMAC WSYR	570 570		500	KWJJ	1060
Froy G-27 Fupper Lake F-26	500 10	WHAZ WHDL	1300 1420		100	KXL	1420
Utica G-26	100	WIBX	1200	PENNSYLVANI			
Woodside I-27	100	WWRL	1500	Allentown I-26	250 250	WCBA WSAN	1440 1440
Yonkers I-27	100	WCOH	1210	Altoona I-25	100	WFBG	1310
NORTH CAROL	TNIA			Carbondale H-26	10	WNBW	1200
	1000	WWNC	570	Elkins Park I-26	50	WIBG	930
Asheville M-23 Charlotte M-24	5000	WBT	1080	Erie H-24 Grove City I-26	30 100	WEDH WSAJ	1420 1310
Gastonia M-24	100	WRBU	1210	Harrisburg I-25	500	WBAK	1430
Greensboro M-24 Raleigh M-25	500	WBAM	1440		100	WCOD	1200
Raleigh M-25 Wilmington N-26	1000	WPTF WRBT	680 1370	Johnstown J-24	500 100	WHP WJAC	1430 1310
Winston-Salem M-24	100	WSJS	1310	Lancaster I-25	100	WGAL	1310
		•			100	WKIC	1200
NORTH DAKO	ГΑ			Lewisburg I-26 Oil City I-24	100 500	WJBU WLBW	1210 1260
Bismarck F-13	500	KFYR	550	Philadelphia I-26	10000	WCAU	1170
Devils Lake E-14	100	KDLR	1210		100	WELK	1370
Fargo F-15 Grand Forks E-15	1000 100	WDAY	940 1370		500 500	WFAN WFI	610 560
Mandan F-13	100	KFJM KGCU	1200	1	50	WFKD	1310
Minot E-13	100	KLPM	I420		100	WHAT	1310
OUTO					500 500	WIP WLIT	610 560
OHIO		WARG	1220		100	WPEN	1500
Akron I-23	1000 500	WADC WFJC	1320 1450		250	WRAX	1020
Canton I-23	10	WHBC	1200	Pittsburgh J-24	50000 500	KDKA	980 1380
Cincinnati K-22	100	WFBE	1200		1000	KQV WCAE	1220
	1000 50000	WKRC WLW	550 700		1000	WIAS	1290
	500	WSAI	1330	D 11 12/	100	WMBJ	1500
Cleveland I-23	500	WGAR	1450	Reading I-26 Scranton H-26	50 250	WRAW WGBI	1310 880
		WHK	1390	Geranton 11-20	250	WQAN WPSC	880
	1000	WILL					1230
	500	WJAY	610 1070	State College I-25	500		
Columbus J-22	500 50000	WJAY WTAM WAIU	1070 640	Washington J-24	500 100	WNBO	1200
Columbus J-22	500 50000 500 500	WJAY WTAM WAIU WCAH	1070 640 1430	Washington J-24 Wilkes-Barre I-26	500 100 100 100	WNBO WBAX WBRE	1200 1210 1310
Columbus J-22	500 50000 500 500 750	WJAY WTAM WAIU WCAH WEAO	1070 640 1430 570	Washington J-24	500 100 100	WNBO WBAX	1200 1210
-	500 50000 500 500	WJAY WTAM WAIU WCAH WEAO WSEN WSMK	1070 640 1430	Washington J-24 Wilkes-Barre I-26	500 100 100 100	WNBO WBAX WBRE	1200 1210 1310
Dayton J-22 Mansfield J-22	500 50000 500 500 750 100 200 100	WJAY WTAM WAIU WCAH WEAO WSEN WSMK WJW	1070 640 1430 570 1210 1380 1210	Washington J-24 Wilkes-Barre 1-26 Williamsport I-25 PORTO RICO	500 100 100 100 50	WNBO WBAX WBRE WRAK	1200 1210 1310 1370
Dayton J-22 Mansfield J-22 Mount Orab K-22	500 50000 500 500 750 100 200 100	WJAY WTAM WAIU WCAH WEAO WSEN WSMK WJW WHBD	1070 640 1430 570 1210 1380 1210 1370	Washington J-24 Wilkes-Barre I-26 Williamsport I-25	500 100 100 100	WNBO WBAX WBRE	1200 1210 1310 1370
Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22	500 50000 500 500 750 100 200 100	WJAY WTAM WAIU WCAH WEAO WSEN WSMK WJW WHBD WCSO WIBR	1070 640 1430 570 1210 1380 1210 1370 1450 1420	Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34	500 100 100 100 50	WNBO WBAX WBRE WRAK	1200 1210 1310 1370
Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22 Springfield J-23 Toledo I-22	500 50000 500 750 100 200 100 100 500 50	WJAY WTAM WAIU WCAH WEAO WSEN WSMK WJW WHBD WCSO WIBR WSPD	1070 640 1430 570 1210 1380 1210 1370 1450 1450 1420	Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34 RHODE ISLAN	500 100 100 100 50 50	WNBO WBAX WBRE WRAK	1200 1210 1310 1370
Dayton J-22 Mansfield J-22 Mount Orab K-22 Springfield J-22 Steubenville J-23 Toledo I-22 Youngstown I-23 Zanesville J-23	500 50000 500 750 100 200 100 100 500	WJAY WTAM WAIU WCAH WEAO WSEN WSMK WJW WHBD WCSO WIBR	1070 640 1430 570 1210 1380 1210 1370 1450 1420	Washington J-24 Wilkes-Barre I-26 Williamsport I-25 PORTO RICO San Juan W-34	500 100 100 100 50	WNBO WBAX WBRE WRAK	1200 1210 1310 1370

Providence H-28	100 250	WDWF WEAN	1210 780	VERMONT	Watts		Kcys
	250	WJAR	890	Burlington F-27	100	WCAX	1200
	100	WLSI	1210	Rutland G-27 St. Albans F-27	100	WODM	1500 1370
SOUTH CAROL	INA			Springfield G-27	10	WNBX	1200
Charleston O-25 Columbia N-24	500 500	WCSC W1S	1360 1010	VIRGINIA			
Spartanburg N-23	100	WSPA	1420		10000	WICH	1460
				Alexandria J-26	10000	WJSV NAA	1460
SOUTH DAKO	1 A 500	KFDY	550	Arlington J-25 Danville L-25	100	WBTM	1370
Brookings H-15 Huron H-14	100	KGDY	1200	Emory L-23	100	WEHC	1200
Mitchell H-14	50	KGDA	1370	Lynchburg L-25	100 500	WLVA	1370 590
Pierre G-13 Rapid City H-12	200	KGFX	580	Newport News L-26	100	WGH	1310
Sioux Falls I-15	2000	WCAT KSOO	1200 1110	Norfolk L-26	500	WPOR	780
Vermillion I-15	500	KUSD	890	Petersburg L-26	500 100	WTAR WLBG	780 1200
Watertown G-15	100	KGCR	1210	Richmond K-26	100	WBBL	1210
Yankton I-15	1000	WNAX	570		100	WMBG	1210
TENNESSEE	100	Work	. 500	Roanoke L-24	5000 250	WRVA WDBJ	930
Bristol L-23 Chattanooga N-21	100 1000	WOPI	1500 1280	Roanoke L-24	250	WRBX	1410
Knoxville M-22	50	WFBC	1200	WASHINGTON			
	1000	WNOX	560	Aberdeen D-2	75	KXRO	1310
Louisensahuus N 20	100 500	WROL WOAN	1310 600	Bellingham C-3	100	KVOS	1200
Lawrenceburg N-20 Memphis M-19	500	WGBC	1430	Everett C-3	50	KFBL	1370
The state of the s	100	WHBQ	1370	Lacey D-3	10 100	KGY KUJ	1200 1500
	500	WMC WNBR	780	Longview D-3 Pullman E-5	1000	KWSC	1220
	500 500	WREC	1430	Seattle C-3	100	KFQW	1420
Nashville M-20	5000	WLAC	1470		5000 1000	KJR KOL	970 1270
	5000	WSM	650		1000	KOMO	920
Springfield M-20	5000 100	WTNT WSIX	1470 1210	1	100	KPCB	650
Union City M-19	100	WOBT	1310		1000	KRSC KTW	1120 1270
TEXAS					100	KVL	1370
Abilene P-13	100	KFYO	1420		500	KXA	570
Amarillo N-12	1000	KGRS	1410	Spokane D-5	100	KFIO	1120
	250 100	WDAG KUT	1410 1500		5000	KFPY KGA	1340 1470
Austin Q-I4 Beaumont R-17	500	KFDM	560	S 50%	1000	KHQ	596
Brownsville U-15	500	KWWG	1260	Tacoma D-3	500	KMO	860
Brownwood P-14	100	KGKB WTAW	1500	Wenatchee D-4	1000	KVI KPQ	700 1500
College Sta. Q-15 Corpus Christi S-14	500 100	KGFI	1120 1500	Yakima D-4	50 50	KIT	1310
Dallas P-15	10000	KRLD	1040	WEST VIRGIN			
	50000	WFAA	800			MANAGO	1.120
Dublin P-14	500 100	WRR KFPL	1280 1310	Bluefield L-24 Charleston K-23	100 250	WHIS WOBU	1420 580
El Paso P-9	100	KTSM	1310	Fairmont J-24	250	WMMN	890
	100	WDAH	1310	Huntington K-23	250	WSAZ	580
Fort Worth P-15	100 1000	KFJZ KTAT	1370 1240	Wheeling J-24	5000	WWVA	1160
	10000	WBAP	800	WISCONSIN			
Galveston R-16	100	KFLX	1370	Eau Claire G-18	1000	WTAQ	1330
Greenville O-15	500 15	KFUL KFPM	1290 1310	Fond du Lac H-19	100	KFIZ	1420
Greenville O-15 Harlingen T-14	500	KRGV	1260	Green Bay G-19 Janesville I-19	100 100	WHBY	1200 1200
Houston R-16	1000	KPRC	920	La Crosse H-18	1000	WKBH	1380
	500	KTRH	1120	Madison H-19	750	WHA	940
	100 100	KXYZ	1420 1310		500	WIBA	1280
San Angelo Q-13	100	KGKL	1370	Manitowoc H-20	250 100	WISJ	780 1210
San Antonio R-14	100	KMAC	1370	Milwaukee H-20	250	WHAD	1120
	100 100	KONO KTAP	1370 1420		250	WISN	1120
	1000	KTSA	1290	Poynette H-19	1000	WTMJ WIBU	620 1310
W 0 15	50000	WOAI	1190	Racine 1-20	100	WRJN	1370
Waco Q-15 Wichita Falls O-14	1000 250	WACO KGKO	1240 570	Sheboygan H-20	500	WHBL	1410
~	200	NONO	370	Stevens Pt. G-19 Superior F-17	2000 1000	WLBL WEBC	900 1290
UTAH	500	KLO	1400	The state of the s	1000	WEBC	1290
Ogden I-7 Salt Lake City I-7	1000	KDYL	1290	WYOMING			

CAN	NADA			PRINCE EDWAR			
ALBERTA	Watts		Kcys.	Charlottetown C-31	Watts 250	CFCY	Keys. 960
Calgary B-7	500	CFAC	690 690	Summerside C-31	30 100	CHCK CHGS	960 1120
	500 500	CFCN CHCA	690	OUEBEC	100	01100	
	500 500	CJCJ CNRC	690 690	Montreal E-26	500	CFCF	1030
Edmonton A-8	250	CHMA	580		5000 5000	CHYC CKAC	730 730
	500 500	CJCA CKUA	930 580		5000	CNRM	730
	500	CNRE	930	Quebec D-27	100 22	CHRC CKCI	880 880
Lethbridge C-8 Red Deer A-8	50 1000	CJOC CHCT	1120 840		50	CKCV	880
Red Deel A-0	1000	CKLC	840	CACICATION YEXXIA	50	CNRQ	880
	1000	CNRD	840	SASKATCHEWA Fleming C-13	N 500	CIRW	600
BRITISH COL	JMBIA			Moose Jaw C-11	500	CJRW CJRM CHWC	600
Chilliwack B-3	5 15	CHWK	1210 1120	Pilot Butte Regina C-12	500 500	CHWC	960 960
Kamloops B-5 Sea Island	50	CFJC CJOR CHLS	1210		500	CJBR CKCK	960
Vancouver B-3	50 50	CHLS CKCD	730 730	Saskatoon B-11	500 500	CNRR CFQC	960 910
	50	CKFC	730	Yorkton C-13	500 500	CNRS CJGX	910 630
	50 100	CKMX	730 730		300	CJGX	030
	500	CKWX CNRV	1030	HAITI Port au Prince X-30	1000	ННК	920
Victoria C-3	500	CFCT	630	MEXICO			, - •
MANITOBA				Chihuahua, Chih. R-9	250	XFF	920
Brandon D-14	500	CKX	540	Chihuahua, Chih. R-9 Guadalajara, Jal. X-10 Jalapa, Ver. Y-14	101 350	XEA XFC	1200 630
Winnipeg D-15	5000 5000	CNRW	780 780	Iuarez, Chih.	101	XEI	860
NEW BRUNSW	ICK			Merida, Yuc. X-19 Mexico City Y-13	105 1000	XEY XEB	550 670
Fredericton D-29	50	CFNB	1210	Interior dity 1 10	1000	XEN	720
Moncton D-30	500 50	CNRA CFBO	630 890		101 101	XEO	980 1070
St. John D-30		Crbo	090		5000 500	XEW	780 920
NEWFOUNDLA	.ND 500	8WMC	720		500	XEX XEZ	700
St. Johns A-35		o wivic	720		50 2000	XFA XFG	540 640
NOVA SCOTIA					1000	XFI	590
Halifax E-31	500 500	CHNS CNRH	930 930	Monterrey, N. L. U-13	500 101	XFX XEH	860 960
Louisburg C-32	10000	VAS	690		500	XET	630
Louisburg C-32 Sydney C-32 Wolfville D-31	50 50	CJCB CKIC	880 930	Morelia, Mich. Y-12 Oaxaca, Oax. AA-14	101 105	XEI XEF	1000 1130
			·	Reynosa, Tams.	10000	XED	960
ONTARIO	100	CECO	1210	Saltillo, Coah. Tampico, Tams.	10 501	XEL XEM	1090 765
Chatham H-22 Cobalt E-23	100 15	CFCO CKMC	1210 1210		500 50	XES XEC	890 1330
Hamilton H-24	10 50	CHCS CHML	880 880	Toluca, Mex. Veracruz, Ver.	101	XEU	800
	50	CKOC	880	Villahermosa, Tab.	250	XFE	920
Iroquois Falls F-26 Kingston G-25	250 500	CFCH CFRC	600 930	CUBA Caibarien W-25	250	CMHD	920
London H-23	1000	CJGC CNRL	910	Cienfuegos W-25	200	CMHA	1150
Midland G-23	500 50	CKPR	910 930	Colon W-24 Havana W-23	300 150	CMGA CMBC	830 1130
Ottawa F-25	100 500	CKCO CNRO CFLC	890 600	Tiavatta W-25	200	CMBY	1405
Prescott F-25	50	CFLC	1010		150 500	CMBZ CMC	1010 840
Preston G-23 Toronto G-24	25 500	CKPC CFCA	1210 840		100	CMCE CMCF	1280
X0101110 0 21	500	CFCL	580		250 1000	CMCQ	1010 9 5 0
	4000 5000	CFRB CJSC	960 690		500 2000	CMI CMK	770 730
	500	CJSC CKCL	580		150	CMQ	1130
	5000 500	CKGW CKNC	690 580		1000 250	CMW CMX	588 900
	500 4000	CNRT CNRX	840 960	Santiago X-28	150	CMKC	1360
Waterday C 22	5000	CPR Y	690	Tuinucu	500	СМНС	<i>7</i> 90
Waterloo G-23 Wingham G-23	50 25	CKCR 10-BP	1010 1200	COSTA RICA San Jose FF-23	50	TIX	750

CFAC 690		CJRW 600		CMKC 1360	E 91	KFDM 560	
	_ 1	Fleming, Sask		Santiago, Cuba		Beaumont, Tex.	
Calgary, Alta. CFBO 890		CJSC 690	-	CMQ 1130		KFDY 550	
				CMQ 1130			l .
St. John, N. B.		Toronto, Ont.		Havana, Cuba	2	Brookings, S.D.	
CFCA 840		CKAC 730		CMW 590	14	KFEL 920	
Toronto, Ont.		Montreal, Que.		Havana, Cuba		Denver, Colo.	
CFCF 1030		CKCD 730		CMX 900		KFEQ 680	
Montreal, Que.	l 1	Vancouver, B.C.		Havana, Cuba	1	St. Joseph, Mo.	
CFCH 600		CKCI 880		CNRA 630		KFGQ 1310	
Incole Falls Ont	! I	Ouches Ouc	1 1	Moncton, N.B.	0.0	Boone, Iowa	
Iroq's Falls, Ont.		Quebec, Que. CKCK 960				KFH 1300	
CFCL 580		CKCK 960			1 1		
Toronto, Ont.		Regina, Sask.		Calgary, Alta.		Wichita, Kansas	
CFCN 690		CKCL 580		CNRD 840	-	KFHA 1200	
Calgary, Alta.		Toronto, Ont.	-0.00	Red Deer, Alta.		Gunnison, Colo.	
CFCO 1210		CKCO 890		CNRE 930	17.	KFI 640	
Chatham, Ont.		Ottawa, Ont.	1 1	Edmonton, Alta.		Los Angeles, Cal.	10
CFCT 630		CKCR 1010		CNRH 930	-	KFIO 1120	
Vieteria D C				Halifor N. C		Spokane, Wash.	
Victoria, B. C.		Waterloo, Ont.		Halifax, N. S.		Spokane, wash.	
CFCY 960		CKCV 880		CNRL 910		KFIU 1310	
Ch'lottet'n, P.E.I.		Quebec, Que.		London, Ont.		Juneau, Alaska	
CFJC 1120		CKFC 730		CNRM 730		KFIZ 1420	10
Kamloops, B. C.		Vancouver, B.C.		Montreal, Que.		Fond du Lac, Wis	200
CFLC 1010		CKGW 690		CNRO 600		KFJB 1200	
Prescott, Ont.	1 1	Toronto, Ont.		Ottawa, Ont.		Marshalltown, Ia.	
CFNB 1210		CKIC 930		CNRQ 880		KFJF 1480	
CFNB 1210		Walfadlla N. C.					1
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.		Saskatoon, Sask.		Grd. Forks, N.D.	
CFRC 930		CKMO 730		CNRT 840		KFJR 1300	
		Vancouver, B.C.		Toronto, Ont.		Portland, Ore.	
Kingston, Ont.		CKNC 580		CNRV 1030		KFJY 1310	
CHCA 690			í I		1 1	Frat Dades Is	
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		CKPC 1210		CNRX 960		Ft. Worth, Tex. KFKA 880	
Hamilton, Ont.		Preston, Ont.		Toronto, Ont.		Greeley, Colo.	
CHCT 840		CKPR 930		CPRY 690		I KEKB 1050	
		Midland, Ont.		Toronto, Ont.		Milford, Kansas	
Red Deer, Alta.				HHK 920		KFKU 1220	
CHGS 1120	1 1					KFKU 1220	l
Sum'rside, P.E.I.		Edmonton, Alta.		Port au Prince, H.		Lawrence, Kans.	
CHLS 730		CKWX 730		KBPS 1420		KFKX 1020	
Vancouver, B.C.		Vancouver, B.C.		Portland, Ore.		Chicago, Ill.	
CHMA 580		CKX 540		KBTM 1200		KFLV 1410	
Edmonton, Alta.	1 1	Brandon, Man.	11	Paragould, Ark.		Rockford, Ill.	
CHML 880		CKY 780	_	KCRC 1370		I K.F.I.X 1370	
				Enid Olde		Galveston, Tex.	
Hamilton, Ont.		Winnipeg, Man.		Enid, Okla.		KFMX 1250	
CHNS 930	l II	CMBC 1130	- 3	KCRJ 1310		KFMX 1250	
Halifax, N.S.		Havana, Cuba		Jerome, Ariz.		N'thfield, Minn.	
CHRC 880	1	CMBY 1400	//	KDB 1500		KENE 890	
Quebec, Que.		Havana, Cuba		S. Barbara, Cal.		Shenandoah, Ia.	
CHWC 960		CMBZ 1010	1	KDFN 1210		Shenandoah, Ia. KFOR 1210	
Pilot Butte, Sask.		Havana, Cuba		Casper, Wyo.		Lincoln, Nebr.	1
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	
		Havena Cuba		Devils Lake, N.D.		Dublin, Texas	
Montreal, Que.		Havana, Cuba				KFPM 1310	
CJBR 960		CMCF 1010				Commedite To	
Regina, Sask.		Havana, Cuba		Salt Lake City		Greenville, Tex. KFPW 1340	
CJCA 930	[6]	CIVICO 950		KECA 1430		KFPW 1340	
Edmonton, Alta.	2000	Havana, Cuba	,— l	Los Angeles, Cal.		Ft. Smith, Ark.	
CJCB 880		I CIVICA 830		KELW 780		KEPY 1340	
Syndey, N.S.	(a)	Colon, Cuba		Burbank, Cal.		Spokane, Wash.	
CJCJ 690		CMHA 1150		KEX 1180		KFQD 1230	
	1	Ciantuagea Cuba		Portland, Ore.		Anchorage, Alas.	
Calgary, Alta.		Cienfuegos, Cuba CMHC 790		KFAB 770		KFQU 1420	
CJGC 910	1 1	CMHC 790		KFAB 110		Kr QU 1420	
London, Ont.		Tuinucu, Cuba	100	Lincoln, Nebr.		Holy City, Cal. KFQW 1420 Seattle, Wash.	
CJGX 630		CMHD 920		1 KERB 1280		KFQW 1420	
Yorkton, Sask.		Caibarien, Cuba		Great Fls., Mont.		Seattle, Wash.	
CJOC 1120		CMI 770	1	KFBK 1310		I KFRC 610	
Lethbridge, Alta.		Havana, Cuba		Sacramento, Cal.		San F'ncisco, Cal.	
CJOR 1210		CMK 730	- CONT. 2003	KFBL 1370		KFRU 630	
Sea Island, B.C.		Havana, Cuba		Everett, Wash.		Columbia, Mo.	
CIDM COC		Havana, Ouba	-	Dielett, Hasti.		Corumona, mo.	
CJRM 600		i i			1		
Moose Jaw, Sask.		1					
					1 2		

395 010			
KFSD 600	KGFF 1420	KIDO 1250 1	KPJM 1500
San Diego, Cal.	Alva, Okla.	Boise, Idaho	Prescott, Ariz.
KFSG 1120	KGFG 1370	KIT 1310	
Los Angeles, Cal.	Oklahoma City	Yakima, Wash.	San F'ncisco, Cal.
Los Angeles, Cal. KFUL 1290	KGFI 1500	KJBS 1070	San F'ncisco, Cal. KPOF 880
Galveston, Tex.	Corpus Ch'sti, Tex	San F'neisco, Cal.	Denver, Colo.
KFUM 1270	KGFJ 1200	KJR 970	KPPC 1210
Col. Spgs., Colo.	Los Angeles, Cal.	Seattle, Wash.	Pasadena, Cal.
KFUO 550	KGFK 1500	KLCN 1290	KPQ 1500
St. Louis, Mo.	Moorhead, Minn.	Blytheville, Ark.	Wenatchee, Wash
KFUP 1310	I K C R L 1370	KLO 1400	Wenatchee, Wash KPRC 920
Denver, Colo.	Raton, N. M. KGFW 1310	Ogden, Utah	Houston, Texas
KEVD 1000	KGFW 1310	KLPM 1420	KPSN 1360
Culver City, Cal.	Ravenna, Nebr.	KLPM 1420 Minot, N. Dak.	Pasadena, Cal.
KFVS 1210		KLRA 1390	KQV 1380
Cape Gir'rd'u, Mo	Pierre, S. D. KGGC 1420	Little Rock, Ark.	Pittsburgh, Pa.
KFWB 950	KGGC 1420	KLS 1440	KQW 1010
Hollywood, Cal.	San F'ncisco, Cal.	Oakland, Cal.	San Jose, Cal.
KFWF 1200	KGGF 1010	KLX 880	KRE 1370
St. Louis, Mo.	Coffeyville, Kans.	Oakland, Cal.	Berkeley, Cal.
KFWI 930	KGGM 1230	KLZ 560	KREG 1500
San F'ncisco, Cal.	Alb'a'rana N.M.	Denver, Colo.	Sente And Col
KFXD 1420	Alb'q'rque, N.M KGHF 1320	KMA 930	Santa Ana, Cal. KRGV 1260
Nampa Idaha	Pueblo, Colo.	Shenandoah, Ia.	
Nampa, Idaho KFXF 920	KGHI 1200	KMAC 1370	Harlingen, Texas
Denver Colc	Little Rock, Ark.	San Antonio, Tex.	KRLD 1040
Denver, Colo.	KCHI OFA	KMBC 950	KRLD 1040 Dallas, Texas KRMD 1310
KFXJ 1310	KGHL 950	Van City Ma	KRMD 1310
Edgewater, Colo.	Billings, Mont.	Kan. City, Mo.	Shreveport, La. KROW 930
KFXM 1210	KGIQ 1320	KMED 1310	Caldend Cal
San Ber'd'no, Cal.	Twin Falls, Ida.	Medford, Ore.	Oakland, Cal.
KFXR 1310	KGIR 1360	KMIC 1120	KRSC 1120
Oklahoma City	Butte, Mont.	Inglewood, Cal.	Seattle, Wash.
KFXY 1420	KGIW 1420	KMJ 1210	KSAC 580
Flagstaff, Ariz.	Trinidad, Colo.	Fresno, Cal.	Manh'tt'n, Kans.
	KGIX 1420	1 KMLB 1200	
Abilene, Texas	Las Vegas, Nev.	Monroe, La.	Sioux City, Ia.
	KGIZ 1500	KMMJ 740	1 KSD 550
Bismarck, N.D.	Grant City, Mo.	Clay Ctr., Nebr KMO 860	St. Louis, Mo.
KGA 1470	KGJF 890	KMO 860	I KSEI 900 I
Spokane, Wash.	Little Rock, Ark.	Tacoma, Wash.	Pocatello, Idaho
KGAR 1370	KGKB 1500	KMOX 1090	KSL 1130
Tucson, Ariz.	Brownwood, Tex.	St. Louis, Mo.	Salt Lake City
KGB 1330	KGKL 1370	KMPC 710	KSMR 1200
San Diego, Cal.	San Angelo, Tex.	Los Angeles, Cal.	Santa Maria, Cal.
KGBU 900	1 KGKO 570	KMTR 570	KSO 1380
Ketchikan, Al'ka.	Wichita Fils., Tex	Los Angeles, Cal.	Clarinda, Iowa
KGBX 1310	KGKX 1420	KNX 1050	1 KSOO 1110 1
St. Joseph, Mo.	Sand Point, Ida.	Los Angeles, Cal.	Sioux Falls, S.D.
KGBZ 930	KGKY 1500	KOA 830	KSTP 1460
York, Nebr.	Scottsbluff, Nebr.	Denver, Colo.	St. Paul, Minn.
KGCA 1270	KGMB 1320	KOAC 550	KTAB 560
Decorah, Iowa	Honolulu, T. H.	Corvallis, Ore.	San F'neisco, Cal.
KGCR 1210	KGMP 1210	KOR 1190	KTAP 1420
Watertown, S.D.	Elk City, Okla.	State Coll., N.M.	San Antonio, Tex.
KGCU 1200	KGNF 1430	KOCW 1400	KTAR 620
Mandan N D	No. Platte, Neb.	Chickasha, Okla.	Phoeniy Ariz
KGCX 1310	KGNO 1210	KOH 1380	KTAT 1240
KGCX 1310 Wolf P't, Mont.	Dodge City, Kans.	Reno, Nevada	KTAT 1240 Ft. Worth, Tex.
	KGO 790	KOIL 1260	KTBI 1300
Mitchell, S. D.	San F'ncisco, Cal.	Council Bluffs, Ia.	Los Angeles, Cal.
	KGRS 1410	KOIN 940	KTBR 1300
Ferg's F'lls, Minn	Amarillo, Texas	Portland, Ore.	Portland, Ore.
KGDM 1100	KGU 940	KOL 1270	KTBS 1450
Stockton, Cal.	Honolulu, Hawaii	Seattle, Wash.	Shreveport, La.
KCDV 1200	KGW 620	KOMO 920	KTHS 1040
Huron, S. D.	Portland, Ore.	Seattle, Wash.	Hot Spgs., Ark.
KGEF 1300	KCV 1200	KONO 1370	I KILC ISIU I
Los Angeles, Cal.	Lacey, Wash.	San Antonio, Tex	Houston, Texas
KGEK 1200	KHJ 900	KOOS 1370	KTM 780
Yuma, Colo.	Los Angeles, Cal.	Marshfield, Ore.	Los Angeles Cal
KGER 1360	KHQ 590	KORE 1420	Los Angeles, Cal. KTNT 1170
Long Beach Cal	Spokane, Wash.	Eugene, Ore.	Muscatine, Iowa
Long Beach, Cal. KGEW 1200	KICK 1420	KOY 1390	KTRH 1120
Ft. Morgan, Colo.	Red Oak, Iowa.	Phoenix, Ariz.	Houston, Texas
KGEZ 1310	KID 1320	KPCB 650	KTSA 1290
Kalispell, Mont.	Idaho Falls, Ida.	Seattle, Wash.	
Kanspen, Mont.	Idano Fans, Ida.	beattle, wasn.	San Antonio, Tex.
-	1		

							No. 6001 13.
KTSL 1310		WABC 860		WCAH 1430		I WDEL 1120	
Shreveport, La.		New York City		Columbus, Ohio		Wilmington, Dal.	
KTSM 1310		WABI 1200 Bangor, Maine		WCAI 590		WDGY 1180 Minneap., Minn. WDIX 1500	
El Paso, Texas		Bangor, Maine		Lincoln, Nebr.		Minneap., Minn.	1
KTW 1270 Seattle, Wash.		WABZ 1200		I WCAL 1250		WDIX 1500	-
Seattle Wash		New Orleans, La.		Northfield, Minn.		Tupelo, Miss.	
KUJ 1500 Longview, Wash. KUOA 1390	-	WACO 1240 Waco, Texas WADC 1320 Akron, Ohio		WCAM 1280		Tupelo, Miss. WDOD 1280	
Longview, Wash.		Waco, Texas		Camden, N. J.		Chattan'ga Tonn	
KUOA 1390		WADC 1320		WCAO 600		WDRC 1330	
Fayetteville, Ark.		Akron, Onio		Baltimore, Md.		N. Haven, Conn. WDSU 1250	
KUSD 890 Vermillion, S. D.		WAIU 640		WCAP 1280		New Orleans, La.	1
Vermillion, S. D.		Columbus, Ohio	-	Asbury Pk., N. J. WCAT 1200 Rapid City, S. D.		New Orleans, La.	
KUT 1500		WALR 1210 Zanesville, Ohio		Panid City S D		WDWF 1210	
Austin, Texas KVI 760		WAPI 1140		WCAU 1170		Providence, R. I.	
KVI 760 Tacoma, Wash.		Birmingham, Ala.		Philadelphia, Pa.		WDZ 1070 Tuscola, Ill.	
KVI 1970		WASH 1270		WCAX 1200		WEAF 660	
KVL 1370 Seattle, Wash.		Gr Rapids Mich		Burlington, Vt.		Now York City	
KVOA 1260		WRAA 1400		WCAZ 1070		WEAI 1270 Ithaca, N. Y. WEAN 780	
Tucson, Arizona		WBAA 1400 Lafayette, Ind.		Carthage, Ill.		Ithaca N V	l
KVOO 1140		WBAK 1430		WCBA 1440		WEAN 780	
KVOO 1140 Tulsa, Okla	1	Harrisburg, Pa.		Allentown, Pa.		Providence, R. I.	
KVOS 1200		WBAL 1060		WCBD 1080		WEAD 570	
Bellingh'm, Wash. KWCR 1310		Baltimore, Md.		Zion, Ill.		Columbus, Ohio	
KWCR 1310		WBAM 1440		WCRM 1370			
Cedar Rapids, Ia.		Greenshorn N. C.		Baltimore, Md.		Superior, Wis.	
KWFA 1910		WBAP 800		WCBS 1210		WEBQ 1210	
Shreveport, La.		WBAP 800 Fort Worth, Tex. WBAX 1210		Baltimore, Md. WCBS 1210 Springfield, Ill.		Harrisburg, Ill.	
KWG 1200		WBAX 1210		WCCO 810		WEBR 1310	
Stockton, Cal.		Wilkes-Barre, Pa.		Minneap., Minn.		Buffalo, N. Y.	
KWJJ 1060 Portland, Ore.	- 4	WBBC 1400		WCDA 1350 New York City WCFL 970		WEDC 1210	
Portland, Ore.	-	Brooklyn, N. Y.		New York City		Chicago, Ill.	
KWK 1350		WBBL 1210		WCFL 970		WEDH 1420	
St. Louis, Mo.		Richmond, Va.		Chicago, Ill.		Erie, Pa.	
KWKC 1370 Kansas City, Mo.		W DDIVI (10		WCGU 1400 Brooklyn, N. Y. WCKY 1490		WEÉI 590 Boston, Mass.	
Kansas City, Mo.		Chicago, Ill.		Brooklyn, N. 1.		Boston, Mass.	
KWKH 850 Shreveport, La.		WBBR 1300 Brooklyn, N. Y.		Covington, Ky.		WEHC 1200 Emory, Va. WEHS 1420	l
		WPD7 1200		WCLB 1500		WELLS 1420	
Decorah, Iowa	1 1	WBBZ 1200 Ponca City, Okla.	к 1	Long Boach N V		Evanston, Ill.	
KWSC 1220		WBCM 1410	-	Long Beach, N.Y. WCLO 1200		WELK 1370	
Pullman, Wash.	1	Bay City Mich		Janesville, Wis.		Philadelphia, Pa.	
KWWC 1960		WBEN 900		WCLS 1310		WELL 1420	
Brownsville, Tex. KXA 570 Scattle, Wash.		WBEN 900 Buffalo, N. Y.		Joliet, Ill.		BattleCreek, Mich	1
KXA 570				WCMA 1400	- 6	WENR 870	
Seattle, Wash.		Glens Falls, N. Y.	8 1	Culver Ind	1	Chicago, Ill.	
KXL 1420 Portland, Ore.		WBIS 1230		WCOA 1340 Pensacola, Fia. WCOC 880		Chicago, Ill. WEPS 1200	-
Portland, Ore.		Boston, Mass. WBMS 1450		Pensacola, Fia.		Worcester, Mass. WEVD 1300	
KXO 1500 El Centro, Cal. KXRO 1310		WBMS 1450		WCOC 880	2.10	WEVD 1300	
El Centro, Cal.		Hackensack, N.J.		Meridian, Miss.		New York City	
KXRO 1310		WBNY 1350		WCOD 1200		WEW 760	
KXRO 1310 Aberdeen, Wash		New York City		Harrisburg, Pa.		New York City WEW 760 St. Louis, Mo.	
		WBOW 1310		WCOH 1210		WEXL 1310 Royal Oak, Mich.	
Houston, Texas		Terre Haute, Ind.		Yonkers, N. Y.		Royal Oak, Mich.	
KYA 1230 San F'neiseo, Cal. KYW 1020		WBRC 930 Birmingham, Ala.		WCRW 1210		WFAA 800 Dallas, Texas WFAN 610	
KVW 1000		WDDE 1910		Chicago, Ill. WCSC 1360		WEAN CIO	
Chicago III		WBRE 1310	2	WCSC 1300		WFAN 610 Philadelphia, Pa.	
Chicago, Ill.		Wilkes-Barre, Pa. WBSO 920 Well'l'yH'ls, Mass		Charleston, S. C. WCSH 940		WERC 1900	
KZM 1370 Hayward, Cal.		Well'I'vH'le Mass	1	Portland, Maine		WFBC 1200 Knoxville, Tenn.	
		WBT 1080		WCSO 1450		WFRE 1200	
Arlington, Va.		Charlotte, N. C.		Springfield, Ohio		WFBE 1200 Cincinnati, Ohio	
NBA 850		WRTM 1370		WDAE 1220	**	WFBG 1310	-
Balboa C Z	-	Danville, Va.	9	Tampa, Fla.		Altoona, Pa.	
TIX 750				Tampa, Fla. WDAF 610		WFRI 1360	
San Jose, C. R.		Springfield, Mass.		Kansas City, Mo.)	Syracuse, N. Y.	
TIX 750 San Jose, C. R. VAS 690 Louisburg, N. S.		WBZA 990 Boston, Mass.	1	WDAG 1410		WFBM 1230	
Louisburg, N. S.		Boston, Mass.		Amerillo, Texas		Indianapolis Ind	
WAAF 920		WCAC 600 Storrs, Conn.		WDAH 1310 El Paso, Texas		WFBR 1270 Baltimore, Md. WFDF 1310	
Chicago, Ill.		Storrs, Conn.		El Paso, Texas		Baltimore, Md.	
WAAM 1250	i i	WCAD 1220 Canton, N. Y.		WDAY 940 Fargo, N. D.		WFDF 1310	
Newark, N. J.		Canton, N. Y.		Fargo, N. D.		Flint, Mich. WFDV 1370 Rome, Ga.	
WAAT 940		WCAE 1220		WDBJ 930		WFDV 1370	
Jersey City, N. J.		Pittsburgh, Pa.		Roanoke, Va.		Rome, Ga.	
Newark, N. J. WAAT 940 Jersey City, N. J. WAAW 660 Omaha Nahr				WDBO 1120 Orlando, Fla.			
Omaha, Nebr.				Orlando, Fla.			
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WFDW 1420		WHBY 1200		WJAZ 1490	1	WLB 1250	
Talladega, Ala.		Green Bay, Wis. WHDF 1370	-	Chicago, Ill. WJBC 1200		St. Paul, Minn. WLBC 1310	
WFI 560		Columnat Mich		WJBC 1200 La Salle, Ill.		Muncie, Ind.	
Philadelphia, Pa. WFIW 940		Calumet, Mich. WHDH 830		WJBI 1210	- 0 - U.S.	WLBF 1420	
Hopkinsville, Ky.		Poston Mace		Red Bank, N. J.		Kansas City Ka	
WFJC 1450	72.00	WHDI 1180 Minneap., Minn. WHDL 1420				WLBG 1200	
Akron,Ohio	1	Minneap., Minn.		Detroit, Mich.		Ettrick, Va.	
WFKD 1310		WHDL 1420		WJBL 1200			
Philadelphia, Pa.		TupperLake, N.Y.		Decatur, Ill.		Stevens Pt., Wis. WLBW 1260	
WFLA 620		WHEC 1440		WJBO 1420 New Orleans, La.	1	WLBW 1260 Oil City, Pa.	
Clearwater, Fla. WGAL 1310		Rochester, N. Y. WHFC 1420		WJBT 770			
Y D.		WHFC 1420 Cicero, Ill.		Chicago, Ill.		L.I.City, N.Y.	
WGAR 1450		WHIS 1420		WJBU 1210			
WGAR 1450 Cleveland, Ohio WGBB 1210	1	Bluefield, W. Va.		Lewisburg, Pa.		Bangor, Me. WLCI 1210 Ithaca, N. Y.	
WGBB 1210		WILL 1200		WJBW 1200		WLCI 1210	
		Cleveland, Ohio		New Orleans, La.		Ithaca, N. Y.	
WGBC 1430		WHN 1010		WJBY 1210		THE LABOR THE TO	
Memphis, Tenn.		New York City WHO 1000		Gadsden, Ala. WJDX 1270		Lexington, Mass. WLEY 1370	
WGBF 630 Evansville, Ind.		Des Moines, Ia.		Jackson, Miss.		Lexington, Mass.	
WGBI 880		WHOM 1450		WJJD 1130		WLIT 560	
Scranton, Pa.		Jersey City, N. J.		Mooseheart, Ill.		Philadelphia, Pa.	
WGBS 600		Jersey City, N. J. WHP 1430		II WJKS 1360		WLOE 1500	
New York City WGCM 1210		Harrisburg, Pa.		Gary, Ind.		Boston, Mass.	
WGCM 1210		WIAS 1420		WJR 750		WLS 870	
Gulfport, Miss.		Ottumwa, Iowa		Detroit, Mich. WJSV 1460		Chicago, Ill. WLSI 1210	
WGCP 1250 Newark, N. J.		WIBA 1280 Madison, Wis.		Alexandria, Va.		Providence, R. I.	
WGES 1360		WIBG 930	-	WJW 1210		WLTH 1400	-
Chicago, Ill.		Elkins Park, Pa.		Mansfield, Ohio		Brooklyn, N. Y.	
WGH 1310		WIBM 1370		WJZ 760		WLVA 1370	
Newp't News, Va.		Jackson, Mich.		New York City		Lynchburg, Va. WLW 700	
WGL 1370		II WIRO 560		WKAQ 890		WLW 700	
Ft. Wayne, Ind.		Chicago, Ill.		San Juan, P. R. WKAR 1040		Cincinnati, Ohio WLWL 1100	
WGMS 1250	1 1	WIBR 1420 Steubenville, O.		E. Lansing, Mich.		New York City	
St. Paul, Minn. WGN 720	-	WIRL 1310		WKAV 1310		WMAC 570	
WGN 720 Chicago, Ill.	1)1	WIBU 1310 Poynette, Wis. WIBW 580		Laconia, N. H.		Syracuse, N. Y.	
	-	WIBW 580	100	WKBB 1310		WMAF 1410	
Buffalo, N. Y.		Toneka Kansas		Joliet, Ill.		S. D'rtm'th, Mass.	
WG51 890		WIBX 1200		WKBC 1310		WMAK 1040	
Atlanta, Ga.		WIBX 1200 Utica, N. Y.		Birmingham, Ala.		Buffalo, N. Y.	
WGY 790		11100 1100		WKBF 1400		WMAL 630 Washington, D.C.	
Schenec'd'y, N.Y. WHA 940		Bridgeport, Conn. WIL 1200		Indianapolis, Ind. WKBH 1380		WMAQ 670	
Madison, Wis.		St. Louis, Mo.		La Crosse, Wis.		Chicago, Ill.	
WHAD 1120		WILL 890		WKBI 1420		WMAY 1200	
Milwaukee, Wis.		Urbana, Ill.		Chicago, Ill.		St. Louis, Mo.	
WHAM 1150	/	WILM 1420		WKBN 570		WMAZ 890	
Rochester, N.Y.		Wilmington, Del.	-	Youngstown, O. WKBO 1450		Macon, Ga. WMBA 1500	-
WHAP 1300		WIOD 1300		Jersey City, N. J.		Namport P I	
New York City WHAS 820		Miami Bch., Fla. WIP 610		WKBQ 1350		Newport, R. I. WMBC 1420	_
Louisville, Ky.		Philadelphia, Pa.		New York City		Detroit, Mich.	
WHAT 1310		WIS 1010 Columbia, S. C.	-	WKBS 1310		WMBD 1440	
Philadelphia, Pa.	0	Columbia, S. C.		Galesburg, Ill.		Peoria Hghts.,Ill.	
WHAZ 1300	1	14197 190		WKBV 1500		WMBG 1210	
Troy, N. Y. WHB 860		Madison, Wis.		Connersville, Ind.		Richmond, Va.	
WHB 860	1	WISN 1120		WKBW 1480 Buffalo, N. Y.		Joplin, Mo.	
Kansas City, Mo. WHBC 1200	_	Milwaukee, Wis. WJAC 1310		WKBZ 1500		WMBI 1080	
Canton, Ohio		Johnstown, Pa.		Ludington, Mich.		Chicago, Ill.	
WHRD 1370	ľ	WJAG 1060		WKJC 1200		WMBJ 1500	
Mt. Orab, O.		Norfolk, Nebr.		Lancaster, Pa.		Pittsburgh, Pa.	
WHBF 1210	9	WJAK 1310 Marion, Ind.		WKRC 550		WMBO 1310 Auburn, N. Y.	
Rock Island, Ill.		Marion, Ind.		Cincinnati, O.		Auburn, N. Y.	
WHBL 1410		WJAR 890 Providence, R. I.		WKY 900 Oklahoma City		WMBQ 1500 Brooklyn, N. Y.	
Sheboygan, Wis. WHBQ 1370		WJAS 1290		WKZO 590		WMBR 1370	
Memphis, Tenn.		Pittsburgh, Pa.	(Be'n Spgs., Mich.		Tampa, Fla.	
WHBU 1210		WJAX 900		XVI A C 1470		WMC 780	
Anderson, Ind.		Jacksonville, Fla.		Nashville, Tenn.		Memphis, Tenn.	
		WJAY 610		1 WLA1 1200 1		WMCA 570	
		Cleveland, Ohio		Louisville, Ky.		New York City	_
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WMMN 890	1	WOV 1130		WROL 1310	1	WTNT 1470	
Fairmont, W.Va.		New York City		Knoxville, Tenn.		Nashville, Tenn.	
WMPC 1500		WOW 590		I WRR 1280		WTOC 1260	
Lapeer, Mich. WMRJ 1210	-	Omaha, Nebr.		Dallas, Texas WRUF 830		Savannah, Ga. WWAE 1200	
WMRJ 1210		WOWO 1160		WRUF 830		WWAE 1200	
Jamaica, N. Y.		Ft. Wayne, Ind. WPAD 1420		Gainesville, Fla. WRVA 1110		Hammond, Ind. WWJ 920	
WMSG 1350	1	WPAD 1420				WWJ 920	
New York City WMT 600		Paducah, Ky. WPAP 1010		Richmond, Va. WSAI 1330		Detroit, Mich.	
Waterloo, Iowa	1 1	New York City		Cincinnati, Ohio		WWL 850 New Orleans, La.	
WNAC 1230		WPAW 1210		WSAJ 1310		WWNC 570	
Boston, Mass.	l	Pawtucket, R. I.		Grove City, Pa.		Asheville, N. C.	
WNAD 1010	-	WPCC 560		WSAN 1440		WWRL 1500	
Norman, Okla.		Chicago, Ill.		Allentown, Pa.		Woodside, N. Y.	
WNAX 570		WPCH 810		WSAR 1450		WWVA 1160	
WNAX 570 Yankton, S. D.		New York City		Fall River, Mass.		WWVA 1160 Wheeling, W. Va.	
W NBF 1500		WPDF 1200		WSAZ 580		WXYZ 1240	-
Bingh'mt'n, N.Y.	1 1	Flint, Mich.		Hunt'gton, W.Va.		Detroit, Mich.	
WNBH 1310		Flint, Mich. WPEN 1500		WSB 740		XEA 1200	
New B'df'd, Mass.		Philadelphia, Pa.		Atlanta, Ga.		Guadalajara, Jal.	
WNBO 1200		WPG 1100		WSBC 1210		XEB 670	
Washington, Pa.		Atl'ntic City, N.J.		Chicago, Ill.		Mexico City	
WNBR 1430		WPOE 1370		WSBT 1230		XEC 1330	
Memphis, Tenn.		Patchogue, N. Y.		South Bend, Ind.		Toluca, Mex.	
WNBW 1200		WPOR 780		WSDA 1400		XED 960	
Carbondale, Pa. WNBX 1200	_	Norfolk, Va.		Brooklyn, N. Y.		Reynosa, Tams.	-
Prince ald 174		WPSC 1230		WSEN 1210		XEF 1130	
Springfield, Vt. WNBZ 1290		State College, Pa. WPTF 680		Columbus, Ohio WSFA 1410		Oaxaca, Oax. XEH 960	_
SaranacL'ke, N.Y.		Raleigh, N. C.		Montgomery, Ala.		Monterrey, N. L.	
WNJ 1450	-	WQAM 560		WSGH 1400		XEI 1000	
Newark, N. J.		Miami Fla	1	Brooklyn, N. Y.		Morelia, Mich.	
WNOX 560		Miami, Fla. WQAN 880		WSIX 1210		VET OCO	-
Knoxville, Tenn.	1 1	Scranton, Pa.		Springfield Tonn		Juarez, Chih.	
WNYC 570		WQAO 1010		WSJS 1310		XEL 1090	
New York City	1 1	New York City		WSJS 1310 WinstSal., N. C. WSM 650		Saltillo, Coah.	
WOAI 1190		WQDM 1370		WSM 650		XEM 765	
San Antonio, Tex. WOAN 600	E	St Albane Vt.		Nashville, Tenn. WSMB 1320		Tampico, Tams.	
WOAN 600		WQDV 1500 Tupelo, Miss. WQDX 1210				XEN 720	
Law'nceb'g, Tenn.		Tupelo, Miss.		New Orleans, La.		Mexico City	
WOAX 1280		WQDX 1210		WSMK 1380		XEO 980	
Trenton, N. J.		Thomasville, Ga.		Dayton, Ohio		Mexico City	
		I WRAF 1200		WSPA 1420		XER 1070	
Union City, Tenn.		La Porte, Ind.		Spartanburg, S.C.		Mexico City	-
WOBU 580		WRAK 1370		WSPD 1340		XES 890	
Charlest'n, W.Va.		Williamsport, Pa.		Toledo, Ohio WSSH 1410		Tampico, Tamp.	
WOC 1000		WRAW 1310 Reading, Pa. WRAX 1020		WSSH 1410		XET 630	
Davenport, Iowa	-	WDAY 1020		Boston, Mass. WSUI 880		Monterrey, N. L. XEU 800	_
WOCL 1210	1 I	WRAX 1020 Philadelphia, Pa.	K 33	Town City In		Veracruz, Ver.	
Jamestown, N. Y. WODA 1250	-	WRBJ 1370		Iowa City, Ia. WSUN 620		XEW 780	
Paterson, N. J.	1 4	Hattiesburg, Miss		St. Petersb'g, Fla.		Mexico City	
WODX 1410		WRBL 1200		WSVS 1370		XEX 920	-
Mobile, Ala.		Columbus, Ga.		Buffalo, N. Y.		Mexico City	
WOI 640		Columbus, Ga. WRBQ 1210		WSYR 570		XEY 550	
Ames, Iowa		Greenville, Miss.		Syracuse, N. Y.		Merida, Yuc.	
WOKO 1440	1000	WKBT 1370				XEZ 700	
ghkeepsie, N.Y.		Wilmington N.C.		Quincy, Ill.		Mexico City	
WOL 1310		WRBU 1210		WTAG 580		XFA 540	
Washington, D.C.		WRBU 1210 Gastonia, N. C.		worcester, Mass.		XFA 540 Mexico City XFC 630	
VOIVI 1210	3	HILL TAIL		WTAM 1070		XFC 630	
Manitowoc, Wis.		Roanoke, Va.		Cleveland, Ohio WTAQ 1330 Eau Claire, Wis. WTAR 780 Norfolk Va		Jalapa, Ver.	
WOOD 1270		WRC 950 Washington, D.C.		WTAQ 1330		XFE 920	
Gr. Rapids, Mich.		Washington, D.C.		Eau Claire, Wis.		Villahermosa, Tab	-
WOPI 1500		WRDO 1370		Morfalls Va		XFF 920	1
Bristol, Tenn.		Augusta, Me. WRDW 1500		Norfolk Va. WTAW 1120		Chihuahua, Chih.	-
WOQ 1300		Augusta, Ga.		College Sto Tor		XFG 640 Mexico City	
Kansas City, Mo. WOR 710		WREC 600		College Sta., Tex. WTAX 1210		XFI 590	-
Newark, N. J.		Memphis, Tenn.		Springfield, Ill.		Mexico City	
WORC 1200		WREN 1220		WTBO 1420			
Worcester, Mass.		Lawrence, Kans.		Cumberland, Md.		Mexico City 8WMC 720	1
WORD 1490	1000	WRHM 1250		WTF1 1450		8WMC 720	
Chicago, Ill.		Minneap., Minn.		Toccoa, Ga.		St. Johns, N. F.	
WOS 630		WRJN 1370		WTIC 1060		10BP 1200	
eff's'n City, Mo.	100	Racine, Wis.		Hartford, Conn.		Wingham, Ont.	
	-	WRNY 1010		WTMJ 620			
		New York City		Milwaukee, Wis.			
		The Indiana of A			1		
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Principal Broadcasting Stations of the World

Fill in your dial numbers and you will then know where these foreign stations should be received on your set

Ксуз.	Call	Watts	City	Country	Kcys.	Call	Watts	City	Country
19			Berlin	Germany				550°	
55	RYK	7000	Kovno	Lithuania				330	
60	PH9	6200	Huizen	Netherlands	[
62	TNU		Carthage	Tunisia					
66		40000	Lahti	Finland	553	SBD	600	Sundsvall	Sweden
67		1000	Norddeisch	Germany	563		4000	Munich	Germany
74		13500	Paris	France	571	RA30	1000	Dneipropetrovsk	Russia
76	RA43	4000	Kharkov	Russia	571	YLZ	10000	Riga	Latvia
87	101115	5000	Angora	Turkey	580	RA38	1000	Krasnodar	Russia
93	5XX	25000	Daventry	Un. Kingdom	580	7ZL	600	Hobart	Australia
02.5	0711	12000	Warsaw	Poland	581	122	15000	Vienna	Austria
07	RA1	40000	Moscow	Russia	590	ON4RB	3600	Brussels	Belgium
07.5	FL	15000	Paris	France	599	IMI	7000	Milan	ltaly
22	SBG	30000	Motala	Sweden	333	11411	1000	17111411	Italy
31	AFT	10000	Berlin	Germany				600	
40	TUA	500	Tunis	Tunisia				800	
50		100	Tallion	Estonia					
50 50		6000	Osmanie	Turkey					
50 50	SBE	600	Boden	Sweden	600	cwow		Montevideo	Uruguay
	SBE	7500			606		500		China
60	D 4 22		Kalundborg	Denmark	608	XGZ LKO	60000	Nanking	
69	RA33	4000	Novorossisk	Russia				Oslo	Norway
72	RA57	500	Irkutsk	Russia	616	OKP	5000	Prague	Czecho-
78	RA67	1200	Malchik	Russia	620	3AR	1000	M . 11	slovakia Australia
79	PCF	1500	Scheveningen	Netherlands				Melbourne	
80	PFBI	7000	Hilversum	Netherlands	625	COTN	500	Tientsin	China
85	RA15	500	Sverdlovak	Russia	625	CMAB	1000	Santiago	Chile
85	RA49	1200	Erivan	Russia	625	RA17	1500	Vladivostok	Russia
00	RA42	10000	Leningrad	Russia	626	5GB	25000	Daventry	Un. Kingdo
07	RA40	1200	Odessa	Russia	631	RA43	4000	Kharkov	Russia
16	RA12	1200	Voronezh	Russia	633	EAJ8	1000	San Sebastian	Spain
25	RA39	1200	Gomel	Russia	635		8000	Langenburg	Germany
33	RA22	1200	Samara	Russia	644	YN	3000	Lyon	France
43	RA41	1200	Vologda	Russia	648	4YA	500	Dunedin	New Zeala
45	RA11	4000	Tiffis	Russia	653		630	Zurich	Switzerland
49	RA18	1200	Minsk	Russia	662	IBZ	200	Bolzano	Italy
57	RA13	1800	Nizhni-Novgorod	Russia	662		500	Klagenfurt	Austria
66	RA14	4000	Rostov-on-Don	Russia	662	SCT	150	Uppsala	Sweden
75	RA7	180	Ivanovo Vos-		662	LKP	700	Porsbrund	Norway
			nesensk	Russia	662		700	Aix la Chapelle	Germany
75	RA9	250	Sevastopol	Russia	662	EAJ22		Salamanca	Spain
75		1750	Colombo	Ceylon	664	RUS	500	Salvador	Salvador
80	RA56	1200	Artemovsk	Russia	665	2FC	2500	Sydney	Australia
89	SBF	600	Ostersund	Sweden	666	ZTJ	15000	Johannesburg	South Afric
93	RA46	2000	Petrozovodsk	Russia	667	RA4	300	Moscow	Russia
95	KATO	250	Geneva	Switzerland	667	RA2	500	Moscow	Russia
97	RA5	1200	Kiev	Russia	671	FPTT	1000	Paris	France
00	RA8	700	Bogorodsk	Russia	671	LKR	1000	Rjukan	Norway
00	RA45	4000	Baku	Russia	671	LKA	350	Aalesund	Norway
11	RA77	1200	Stalino .	Russia	674	COHB	1000	Harbin	China
17	RA47	200	Armavir	Russia	680	IRO	3000	Rome	Italy
20	RA27	2000	Tashkent	Russia	685	LT2	1000	LaPlata	Argentina
20 29	RAZI RAZI	1000	Astrakhan	Russia Russia	688	SBA	1000	Stockholm	Sweden
		1200	Astrakhan Tyer	Russia Russia	689	PTB	500	Danzig	Danzig
35 12	RA44				689		1000		China
	DA1C	600	Lausanne	Switzerland		CAB		Canton	
2	RA16	1200	Vel Ustjuk	Russia	639	SCN	250	Malmberget	Sweden
59	RA25	1000	Orenburg	Russia	690	6WF	1000	Perth	Australia
					695	1001	2500	Belgrade	Yugoslavia
					698	JODK	1000	Keijo	Japan
			500					700	
					700	CWOA	1000	Montevideo	Uruguay
21	RA34	1000	Kourak	Russia	706	LSI	5000	Buenos Aires	Argentina
22		3000	Lljubljana	Yugoslavia	706			Sorocaba	Brazil
26	LKH	700	Hamar	Norway	706	HJN	550	Bogota	Colombia
27		1500	Freiburg	Germany	707.6	EAJ7	1500	Madrid	Spain
35	,	700	Augsburg	Germany	708	JOJK	3000	Kanazawa	Japan
35		750	Hanover	Germany	714	RA32	200	Saratov	Russia
	RA20	1200	Stavropol	Russia	714	COMK	2000	Mukden	China
45		1200	Sta 4 (Opt)	1/ 03314	11.7				
		20000	Rudanest	Hungary	714	IODK	1000	Haiia (Sasul)	Chosen
45 45 45		20000 12000	Budapest Bucharest	Hungary Rumania	714	JODK	1000	Heijo (Seoul)	Chosen (Korea)

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	· Cuit				923		4000		Germany
717	0771	4000	Berlin	Germany		4RK	2000	Breslau	
718	2YA	5000	Wellington	New Zealand	930	4KK		Rockhampton	Australia
724		2500	Rabat	Morocco	931	SBB	10000	Goteborg	Sweden
725		750	Dresden	Germany	937	PRAB	500	Rio de Janerio	Brazil
730	5CL	2500	Adelaide	Australia	937	COPK	1000	Peking	China
734		10000	Katowice	Poland	940	2RN	1500	Dublin	Irish Free S
735		2200	Tartu	Estonia	941		250	Basle	Switzerland
743		1000	Berne	Switzerland	942	CTIAA	1000	Lisbon	Portugal
750	LR7	1250	Buenos Aires	Argentina	949	LR3	1000	Buenos Aires	Argentina
750	PRAA	1000	Rio de Janerio	Brazil	950	2GB	600	Sydney	Australia
750	III	250	Marsan	France	950		500	Marseilles	France
750	7LO	2000	Nairobi	Kenya	950		700	Bremen	Germany
750	JOBK	10000	Osaka	Japan	956	K4	250	Tucuman	Argentina
		750	Madrid		959	IV.4	1500	Krakow	Poland
750	EAJ2		Cl	Spain		5DN			
752	5SC	1000	Glasgow	Un. Kingdom	960		100 480	Adelaide	Australia France
759	JQAK	5000	Dairen	Kwangtung	963.1	F2BD		Agen	
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760	4QG	2500	Brisbane	Australia	967	PRAP	300	Pernambuco	Brazil
769	JOHK	10000	Sendai	Japan	968	5WA	1000	Cardiff	Un. Kingdo
769		1500	Franfort on Main	Germany	973		700	Zagreb	Yugoslavia
777.2		500	Rheims	France	980	3YA	500	Christchurch	New Zealar
779		500	Wilna	Poland	983.6	PIAA	500	Lisbon	Portugal
779	LKF	700	Fredrikstad	Norway	986		1500	Bordeaux	France
779		8000	Toulouse	France	990	LR4	2000	Buenos Aires	Argentina
788	IGE	1200	Genea	Italy	995	2BD	1000	Aberdeen	Un. Kingdo
789	ZTD	1000	Durban	South Africa	330	230			
789	JOGK	10000	Kumamoto	Japan			1	1000	
789	LRI	500	Buenos Aires	Argentina	-				
700		200	Juiz de Fora	P:1					
789	PRAJ			Brazil			-		
789	OAX	1500	Lima	Peru	1000	RA21	150	Tomsk	Russia
789	cwos	500	Montevideo	Uruguay	1000	OPX	1000	LaPaz	Bolivia
797	2Z.Y	1000	Manchester	Un. Kingdom	1004	PFBI	7000	Hilversum	Netherlands
			000		1004	SCC	500	Falun	Sweden
			800		1009	000	200	Jyvaskyla	Finland
	-				1010	6ML	300	Perth	Australia
					1013	OHIL	10000	Tallinn	Estonia
800	ZTC	1000	Cape Town	South Africa		CMAO			
	21.0		Mall	South Africa	1016	CIVIAO	250	Santiago	Chile
800	3LO	2500	Melbourne	Australia	1022	0.000	500	Limoges	France
804	CMAC	1000	Santiago	Chile	1023	OKK	2500	Kosice	Czecho-
806		4000	Hamburg	Germany		100 Mars 1	-		slovakia
810	JOCK	10000	Nagoya	Japan	1025	2UE	50	Sydney	Australia
810	VUC	3000	Calcutta	India	1029.9	YR	500	Lyon	France
815		10000	Seville	Spain	1030		750	Vipuri	Finland
824		2400	Algiers	Algeria	1030	LR9	2000	Buenos Aires	Argentina
824	LKB	1000	Bergen	Norway	1031	ITO	7000	Turin	Italy
825	F8GC	1500	Paris	France	1034	CMAJ	100	Valparaiso	Chile
825.3	8DB	100	Algiers	Algeria	1040	6BM	1000	Bournemouth	Un. Kingdor
328	LR5	2000	Buenos Aires	Argentina	1040	6LV	130	Liverpool	Un. Kingdor
331	JOIK	10000	Sapporo	Japan	1040	2DE	130	Dundee	Un. Kingdoz
333	JOIN	4000	Stuttanet	Germany	1040	2EH	350	Edinburgh	Un Kingdor
	PRAE	1000	Stuttgart Sao Paulo	Brazil	1040	6KH	130	Hull	Un. Kingdor Un. Kingdor
333			Van L. T.						Un. Kingder
340	G5	250	Venado Tuerto	Argentina	1040	5PY	130	Plymouth	Un. Kingdor
340	ANR	3000	Bombay	India	1040	2LS	130	Leeds & Bradford Sheffield	Un. Kingdor
342	2LO	30000	London	Un. Kingdom	1040	6FL	130	Shernerd	Un. Kingdor
349	JOFK	10000	Hiroshima	Japan	1040	6ST	130	Stoke on Trent	Un. Kingdor
351		7000	Graz	Austria	1040	5SX	130	Swansea	Un. Kingdor
355	2BL	2500	Sydney	Australia	1049	2ZF	150	Palmerston	New Zealan
357	ZBW	1500	Victoria Peak	Hong Kong	1049		200	Montpellier	France
357	PRAD	500	Rio de Janerio	Brazil	1050	D5		Bahia Blanca	Argentina
357	CWOR	500	Montevideo	Uruguay	1058		500	Innsbruck	Austria
369	EAJ1	7500	Barcelona	Spain	1059		2000	Berlin	Germany
369	1111111	11.00	Cairo	Egypt	1059	2 5 2 2 3 3 3 3 3 3		Magdeburg	Germany
369	JOAK	10000	Tokyo	Japan	1059		750	Stettin	Germany
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177	OKB	2500	Brunn	Czecho-	1067	000	1000	Copenhagen	Denmark
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95	XGY	250		China					slovakia
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FAVORITE PROGRAMS

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HOW TO TUNE A SET CORRECTLY

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

INDEX BY FREQUENCIES AND DIAL NUMBERS

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 (Volume control) until we find the marks on your dials at which it comes in most clearly and with greatest volume.

Let us assume that the station we are hearing is WEAF in New York. First we must ascertain the frequency for this station. Look it up under WEAF in the Index by Call Letters or under New York in the Index by States and Cities. 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 and is owned by the

National Broadcasting Co., Inc. In the blanks for dial numbers opposite 660 kilocycles (which is the wave length of 454.3 meters) enter the dial readings of your set. It is immaterial whether your set has one, two or three dials. Use as many of three spaces provided as you need. The set used in the illustration had two dials. In this case we entered the dial readings for 660 kilocycles as 69-67.

WAIQ

670 kilocycles 447.5 meters

680 kilocycles 440.9 meters

RPO Sind San Francisco, Cal. WPTP Scook Kaleigh, N. C.

WMAQ 5000 Chicago, Ill.

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

We now have found that the dial numbers for 630 kcys, are 72-70 and the dial numbers for 660 kcys, are 69-67. If we now will set our dials for 70-68 it is obvious we will have our set tuned for 650 kcys. We listen carefully and if they are on the air and within range of our set we will tune in WSM of Nashville at this point. We then enter the dial readings for WSM opposite 650 kcys. Now it is clear that if we reset our dials at 71-69 our set will be tuned to 640 kcys, 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

590 kilocycles 508.2 meters 761 e World e World clonary College T73 600 kilocycles 499.7 meters op N. S. Thomas in Radhe Lorp. ornernal Radio Co., Inc. ord of Maste urance Co. 610 kilocycles 491.5 meters Inc.

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(Ity Star Co. e . Inc 620 kilocycles 483.6 meters 73 17/ hat Equipment Co. miles Publishing Co. in College, Inc. openit L Garrasey sucker Journal 630 kilocycles 475.9 meters 72 1 70 1 olia Northernal Ram-olia Hamas hensy Unifice wille on the Afr. Inc. Leese to. Marketing Bureau 640 kilocycles 468.5 meters 5000 Los Angeles, Calif. 70 68 650 kilocycles 461.3 meters 500) Nashville, Tenn. 69 167 660 kilocycles 454.3 meters WAAW 500 Omalia Nebr. WEAF 50000 New York City

681661

67 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 have ever received it before or not.

Our index now becomes 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 not interfere. should When two stations in the same locality have the same frequency, they are required to divide the

time. In this case, of course, it is not possible to tell which one of the two stations is broadcasting at the particular moment we hear it, but we do know it is one or the other of them.

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

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

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

I Will Train You at Home





will give Yourny new 8 OUTFITS of RADIO PARTS for a home Experimental Laboratory





HOVT MOORE R. R. J. Hov 519, Indianapolls, Ind.

If you are earning a penny less than \$50 a week, send for my book of information on the opportunities in Radio. It is free. Clip the coupon NOW. Why be satisfied with \$25, \$30 or \$10 a week for longer than the short time It lakes to get ready for Radio.

Radio's growth opening hundreds of \$50, 675, \$100 a week jobs every year

300, 375, 3100 a week lobs every year In about ten years Radio has grown from a \$2.000,000 to a \$1,000,000,000 industry. Over 800,000 Jobs have been created. Hundreds more are being opened every year by its continued growth. Men and young men with the right training—the kind of training I give you—are needed continually.

You have many jobs to choose from

Broadcasting stations use engineers, operators, station managers and pay \$1.500 to \$5.000 a year. Manufacturers continually need testers, inspectors, foremen, engineers, service men, buyers, for jobs paying up to \$15.000 a year. Shipping companies use hundreds of Raidio operations of the state of the service men, buyers and so set wide travel at practically no expense and a seaf wide travel at practically no expense and a seaf engineers. See the seaf of the

week. There are many other opportunities too. So many opportunities many N. R. I. men make 55 to \$25 a week extra while learning. The day you enroll with me I'll show you how to do 10 jobs, common it most every nef hostnood, for spare time money. Throughout performance of the performance of N. R. I. students in their spare time while studying. while studying.

Talking Movies, Television, Wired Radio are also included

are also included
Radio principles as used in Talking
Miniciples, as used in Talking
experiments, Wired Radio, Radio's use in
Aviation, are all given. I am so sure that
I can train you satisfactorily that I will
agree in writing to refund every penny
of our tultion if you are not satisfied
upon competing.

Get your copy today. It tells you where Radio's good jobs are, what they pay, tells you about my course, what others who have taken it are doing and making. Find out what Radio offers you, without the slightest obligation. ACT NOW.

J. E. SMITH, President National Radio Institute Dept. ON52 Washington, D. C.

You can build over 100 circuits with these outfits. You build and experiment with the circuits used in Crosley, Atwater-Kent, Eveready, Majestic, Zenith, and other popular sets. You learn how these sets work, why they work, how to make them work. This makes learning at home easy, fascinating, practical.

Back view of 5 tube Screen Grid A. C. tuned Radio frequency set-one of many circuits you can build with my outfits.



am doubling and tripling the salaries of many in one year and less Find out about this quick way to REWARDS BIGGER Radio FILL OUT A Men THIS COUPON

Washington, D. C. Dear Mr. Smith: Send me your book, This request dees not obligate me	J. E.	SMITE	Radio	dent, Institut	te, Dept.	ON52
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