

THE DECEMBER 1929

# RADIO INDEX

The Radio Fan's Own Magazine



That Schoolgirl's Complexion

To \_\_\_\_\_

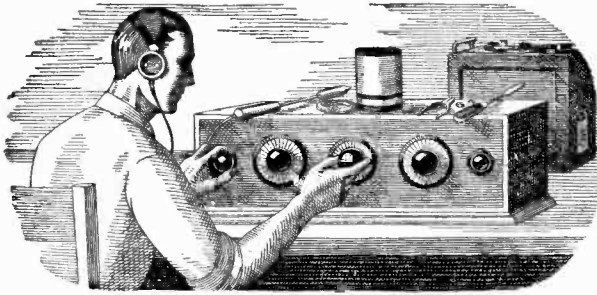
**A Very Merry Christmas  
and A Happy New Year**

From \_\_\_\_\_

No. 34

With 67 More Station Changes

N. S. E.



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

# I Thought Radio Was a Plaything

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

\$50 a week! Man alive, just one year ago a salary that big would have been the height of my ambition.

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

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

But I am getting ahead of my story. I was hard up a year ago because I was kidding myself, that's all—*not* because I had to be.

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

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

And as for the idea that a splendid Radio job might be mine, if I made a little effort to prepare for it—such an idea never entered my mind. When a friend suggested it to me one year ago I laughed at him.

"You're kidding me," I said.

"I'm not," he replied. "Take a look at this ad."

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

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

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

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

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

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

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

Take another tip—No matter what your plans are, no matter how much or how little you know about Radio—clip the coupon below and look their free book over. It is filled with interesting facts, figures, and photos, and the information it will give you is worth a few minutes of anybody's time. You will place yourself under no obligation—the book is free, and is gladly sent to anyone who wants to know about Radio. Just address J. E. Smith, President, National Radio Institute, Dept. 9Z91, Washington, D. C.

J. E. SMITH, President,  
National Radio Institute, Dept. 9Z91.  
Washington, D. C.

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

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Town \_\_\_\_\_  
State \_\_\_\_\_

THE DECEMBER 1929

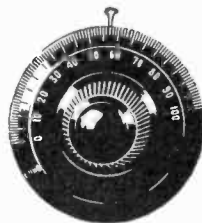


# RADIO INDEX

REG. U. S. PATENT OFFICE

FRED CLAYTON BUTLER

Editor and Publisher



SIXTH YEAR

## Contents

NUMBER 34

Frontispiece—That Schoolgirl's Complexion .....	
Olive Palmer of Palm Olive	
Troubles of B-Eliminators, by Enno R. Haan .....	2
And How to Remedy Them	
Like Mother Used to Make, by Cai Clement .....	3
Billy Believed the Radio	
Catching Criminals Red-Handed, by Ralph L. Peters .....	7
Radio's New Task	
The Puzzle Page .....	9
Another Tantalizing Cross-Calls	
"Dear Mr. Editor—"	
Interesting Letters From Readers	5
The Kentucky Hill-Billies .....	11
Mountain Folk Who Broadcast	
The Question Mill, Conducted by Enno R. Haan .....	13
Answers to Your Problems	
Radio Carols, By Lee McCrae .....	15
A Charming Christmas Custom	
Cause and Cure of Microphonics .....	21
Another Article on Noise Elimination	
Broadcasting Stations of the World .....	23
A List of the Principal Foreign Stations	
What's On the Air Tonight? .....	24
Hour-by-Hour Index to Chain Programs	
Table of Air-Line Distances .....	32
Broadcasting Map of U. S. A. ....	34
A Complete Index by Frequencies .....	36
Cross-Indexed by Dial Numbers and Wave Lengths	
A Complete Index by States and Cities .....	50
With Key to Location of Station on Broadcasting Map	
A Complete Index by Call Letters .....	56
A Log for 750 Stations	

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### THE RADEX PRESS

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# Troubles of B-Eliminators

## Simple Remedies for Their Cure

By E. R. HAAN

(Continued from November issue)

IT has been found that motorboating can often be remedied by shunting resistors and condensers across the output terminals of the eliminator. In some cases it will be found helpful to shunt a glow lamp, such as a UX874 or CX374 across the B-negative and the B-90 or intermediate terminals, which supply the radio-frequency tubes. This controls the voltage applied to the radio-frequency tubes and permits them to operate uniformly at all times. Proper control and adjustment of their plate voltage, and that of the detector, is necessary, as excessive plate voltage on these tubes may cause motorboating. The voltages applied by the eliminator should therefore be checked up occasionally, and it is advisable for the fan to provide himself with a high-resistance voltmeter of the type specially used for this purpose, as an ordinary voltmeter will not give correct output readings of eliminator voltages. With the aid of a high-resistance voltmeter, however, the fan can readily adjust the output voltages of his eliminator correctly according to the exact requirements of the various tubes.

An effective remedy for motorboating consists in connecting a radio-frequency choke coil in series with the detector plate and the first resistor in case of a resistance-coupled receiver, and between the detector plate and the P-terminal of the transformer in case of a transformer-coupled receiver. Substituting a 1 or 2-megohm resistor for the usual .1-megohm resistor in the plate circuit of the detector, in case of a resistance coupled receiver, will also help materially to reduce the trouble.

If a UX112 or CX112 power tube is used in the last stage of audio, the resistor in its grid circuit should be of .25-meg. value. In resistance-coupled receivers not having a three-stage amplifier-unit of the Daven or similar type, it will be found that the substitution of a well-

designed transformer or impedance unit will usually be quite effective in preventing the trouble. When making this change, however, care must be taken to wire the transformer or impedance unit up correctly, according to the markings on the terminals.

If the remedies just mentioned are not entirely effective, connect a 30 to 100-microhenry choke coil, which is the size used for radio-frequency purposes, and also a 4 to 8-mfd. condenser across the B-negative and the maximum B-positive terminals of the eliminator.

In case of a super-heterodyne or other large receiver, it will be found advantageous to make use of a separate B-battery to supply detector-plate voltage. Of course, this plan partly defeats the purpose of B-eliminators, but it may nevertheless be the best remedy for motorboating. It must be taken into consideration that one remedy may work better than another, depending on the type of receiver, and the best cure for motorboating in any particular set can best be found by trying out the various methods outlined in this section, one by one, until the trouble disappears.

If no improvement is noticed after trying all the methods already mentioned, then the trouble may be found in the receiver itself, which should be gone over thoroughly. . . Incorrect grid bias, or voltage on the grids of the various tubes, is a condition in the receiver that is especially conducive to motorboating. Be sure to have the correct C-negative voltage on the grid of the power tube. This voltage is given on the sheet of instructions accompanying the tube when it is purchased, or is printed on the carton in which the tube is sold. In general, it must be borne in mind that radio-frequency and audio-frequency tubes should have a negative bias, while the detector usually has a positive bias. It is a good idea to connect a variable resistor, such

(Continued on page 10)

# Like Mother Used to Make

By CAI CLEMENT

THE turning point in Billy Grant's young life came with the breaking of his best front tooth on a pebble that reposed in a piece of raisen pie he had got at Nonine's Inn. It came to Billy suddenly that for years and years he had been tired of cafes, hotels, hot dogs, chop suey and weak coffee and now, as he gazed at the broken tooth how he yearned for a dear, little home-cooking wife—one who would make a Paradise on earth for him. A Paradise filled with pies, doughnuts, biscuits, roasts and mashed potatoes like mother used to make.

But alas, when Billy checked over the list of girl friends he discovered that the paragon he was looking for was greatly in the minority.

Peg Arnold had too much money and she admitted that she did not know how to boil water. And she was proud of it.

Kitty Blake danced, swam, golfed, climbed peaks and wrote poetry. But she was dumb. She believed in Santa Claus.

Flo Caton had taken up the Secret of Soul Breath with the Great Mahutma and was living on peanuts, prunes and water-cress. No good.

All the rest were crazy about Calories and Vitamines. Raving about pineapple juice, lamb chops, raw tomatoes and Lost Pounds. Billy fancied the slim model, but he shied at meals that an angle worm would have starved on.

Running down the list in the little red book Billy came to the name "Edie

Williams." There the finger rested.

Edie was a shy, faun-like creature, a hang-over from the days of the bustle and eighteen-inch waists. Her hair was long, her feet flat and her form inadequate. But she could cook.

Billy had not called on Edie for six months, but he would do so this very night, propose and they could be married next week.

Alas! When Billy arrived at the Williams', Edie's mother was having hysterics. She sobbed on Billy's neck that she had just received a wire from Edie saying that she had eloped with Miska, the Russian dancer, that she had shingled her hair and bought a make-up box.

This bitter blow gave Billy the headache, so next morning he telephoned the office he would not be down.

After breakfast and the "Scribbler," being lone-

some, Billy turned to the radio for solace.

He dialed here and there for a while, listened to a jazz band, a talk on how to reduce and how to get rid of ants. Then he found station H.O.N. A caressing, girlish voice was on the air. Billy drew closer to the cabinet.

"Take the yok of three eggs, a heaping cupful of sugar, a cup of butter and of cream."

Billy's mouth watered.

"Pour this mixture into a baked shell, cover with meringue and brown. Dear listeners, this is my own, tested recipe." The voice was gone.

Billy was thrilled. He had to meet



Meet the end-men of the Dutch Masters Minstrels, Al Bernard and Paul Dumont (left and right respectively). Tuesdays at 9:30 p.m. over the WJZ chain.

that voice. He prayed that there was no husband in the way.

Feverishly he scanned the radio news. There it was. "Cooking classes conducted by Cordelia Crane." Nothing should daunt him. Next Thursday at this hour.

Billy conveniently had the toothache on the Great Day and two o'clock found him in the Scribber's lecture room, wedged between two fat women and being pounded on the back with a chicken bone in the hands of a friendly baby.

Suddenly Cordelia appeared. Small, pretty and blonde.

Billy heard nothing. He only saw—Cordelia. She smiled, Billy smiled. Cordelia succumbed in a month.

They bought a bungalow, an electric dish-washer, a self-starting vacuum cleaner and a heat control kitchen range.

Honolulu, honeymoon, Aloah, home.

They landed Saturday afternoon, too late to arrange for meals at home over the week-end. The Beverly Hills was nice.

Billy let Cordelia sleep late Monday morning. He crept from the bungalow on all fours and breakfasted at the cafeteria. He telephoned to Cordelia five times during the day about the first dinner at home. Cordelia was busy making "Otsa good fings for nice, big man."

When Billy arrived at six p.m. Cordelia met him at the door with the fervor befitting a bride. She *did* know how to kiss.

Billy sniffed, smelled nothing.

"Dinner is on the table, darling."

When Billy sat down he stared at what should have been the steaming roast. He said "dam" and looked at Cordelia. She shriveled to pint size and burst into sobs. Billy took another look at the cold boiled ham, potato salad and cream puffs.

Hysterics. Billy was cruel, selfish, a brute. Cordelia had tried, oh, so hard. Sob, sob.

I'll—I'll—have—to—have—time—to learn," quavered Cordelia.

"Learn *what*?" Billy asked with some curiosity.

Then the ghastly secret. She had only

*read* recipes over the radio. She didn't know a rutabaga from a radish. She had *meant* to have roast beef but the meat was so red it frightened her. She was so fond of the little cows. It would have been like eating one's relatives.

The dream was over. Billy sighed and took a slice of ham.

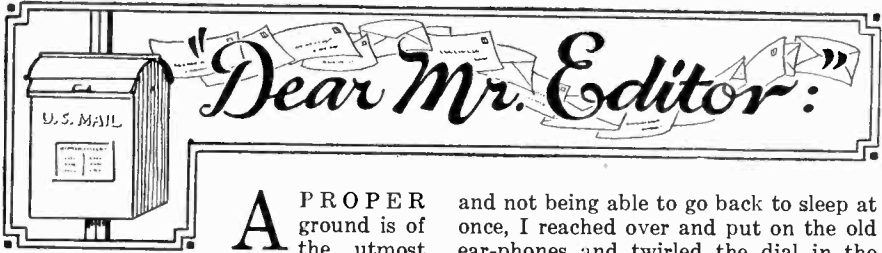
Then Cordelia crept into his arms and cuddled up under his chin. When he felt her warm tears on his throat he forgot the cream puffs. He lifted Cordelia's lips to his own. She *did* know how to kiss.

## Station Changes

In order to lessen interference, the Radio Commission has made a number of changes this month, principally in Florida, California and the Chicago district. A number of shifts in the Florida district were also made in November which were to take effect on November 15th. Some of the stations changed at that time are again changed this month. It is probable that similar shifts will take place from time to time in order to remedy defects that are showing up in the reallocation of November 11th, 1928.

Among the major changes this month we are calling the attention of our readers to the following at the request of several who, like James S. Massey, of Philadelphia, find that the changes fool him and make him think his set is not performing properly.

CJSC, Toronto from 580 to 690.  
WSUI, Iowa City, from 580 to 600.  
WOQ, Kansas City, from 610 to 1300.  
WDAE, Tampa, from 620 to 1240.  
WDBO, Orlando, from 620 to 1120.  
KFVD, Culver City, from 710 to 1000.  
KFIL and KPXF, Denver, from 940 to 630.  
KPSN, Pasadena, from 950 to 1360.  
WGFL, Chicago, from 970 to 1280.  
KPLA, Los Angeles, from 1000 to 1430.  
KEJK, Los Angeles, from 1170 to 710.  
WMT, Waterloo, from 1200 to 600.  
WFLA, Clearwater, from 1240 to 620.  
WJUN, St. Peterburg, from 1240 to 620.  
WJAX, Jacksonville, from 1260 to 900.  
WDAY, Fargo, from 1280 to 940.  
WEBG, Duluth-Superior, from 1280 to 1290.  
WIBW, Topeka, from 1300 to 580.  
WEHS, Evanston, from 1310 to 1500.  
WHFC, Cicero, from 1301 to 1500.  
WKBF, Chicago, from 1310 to 1500.  
KGB, San Diego, from 1360 to 1330.  
KGBR, Long Beach, from 1370 to 1360.  
WTOG, Savannah, from 1410 to 1250.  
KGFJ, Los Angeles, from 1420 to 1200.  
KXRO, Aberdeen, from 1420 to 1310.



**A** PROPER ground is of the utmost importance to clear and distant reception. The best possible ground is the cold water pipe, preferably at the point it enters the earth. Where such a ground is not available a substitute must be found. One of our readers has tried an interesting experiment which has proven most successful. We will let him tell the story. "I was reading in RADEX of some one who could not get a good ground," writes W. Gould, of Hudson, Mass., "and I would like to tell about a ground that I made.

"I dug a hole in the earth just outside the house and about four feet deep and I put in about one-third of a bushel of charcoal and a few handfuls of rock salt. Then I got a hundred feet of heavy copper wire and placed on top of the charcoal. I soldered on a lead-in wire carrying it to the set. Then I put on the coiled wire two-thirds of a bushel of charcoal and about a peck of salt and covered the whole thing with dirt, tramping it down hard. I have used that ground for over four years and it is the best ground that I ever had. Perhaps it will do someone some good to know about this."

The logic of Mr. Gould's unique idea is that the salt drew the moisture and the charcoal retained it. The coil of wire acted as a metal mass which drew the signals from the earth. The plan is worth trying where a more convenient ground is not available.

#### *Lower-power DX*

In a recent issue we published a letter from a reader who was having a hard time convincing his friends that he had received a 250-watt station, KFEL of Denver. Several readers have rushed to his defense. "This past Sunday morning," writes J. P. Neill, of San Antonio, Texas, "I was awakened by a heavy rain

and not being able to go back to sleep at once, I reached over and put on the old ear-phones and twirled the dial in the dark. Imagine my surprise when the first station I tuned in was KFEL. Reception was clear without any fading." Mr. Neill asks that we advise him the most economical wet-cell-battery set on the market. We receive many letters asking our advise as to the best set to buy. It is quite impossible for us to recommend any particular set. All of the standard, advertised sets are good. It is much as though we were asked what automobile is the best to buy. That, of course, depends upon just what one wants and what one wishes to pay. Naturally, the more one pays the more one gets.

"This spring I received KFEL almost every morning at about 6 a.m." says Ralph R. Turner, of Connerville, Ind. "On January 20th last, at 3:30 a.m. I brought in CKWX, of Vancouver, B. C., who were using 100 watts. This I verified." Mr. Turner also lists a number of other fifty and one hundred-watt stations he has received. He adds "With the help of RADEX I have logged 205 stations from the east to the west coast and from Winnipeg to Mexico City. May we never be without RADEX!"

#### *More Low-Power Reception*

Elmer E. Wilson, York, Penna., also has received KFEL and verified it. "More unusual yet," he writes, "I tuned in CFCY, Charlottetown, Prince Edward Island, whose power is listed at 100 watts. This reception was confirmed."

And A. D. Rice, of Detroit, writes regarding the reception of a fifty-watt station, WCLO, at that time located at Camp Lake, Wis.

Several readers have written to inquire about the reception of two Cuban stations which are not listed in RADEX

(nor in any other publication so far as we can find). One of these stations comes in on 730kcys. and this has been identified by Cyril P. Engelmeier, of Pittsburgh, Pa., as CMK, Havana, broadcasting from the Hotel Plaza. Mr. Engelmeier adds, "Since February 22, 1928, I have logged 321 stations."

"What is the greatest number of stations received by anyone and who is he?" asks L. J. Lipke, of Syracuse, N. Y. We have had peanut-pushing and flag-pole-sitting, and ice-cream-eating contests, but as yet no one has set forth the claim to being the world's champion DX-er. It would be interesting to know, but obviously it is not a claim that can very well be established. Mr. Lipke states that he has received 383 stations in 41 states and five provinces of Canada and two stations in Cuba. His best record is KGER, of Long Beach, California, a hundred-watter.

#### *Ground vs. Aerial*

Mr. Lipke asks, "Why is it that when I interchange the ground and aerial wires, I get twice as much volume as I do when I have them on right? When I have them transposed I get much more distance and hardly any static." We doubt if there is any understandable explanation of such an incident. Of course, it makes no difference whatever whether ground and antenna are attached as the binding-posts read or *vice versa*. The extremely faint antenna signal current merely flows through the set and into the ground, just as water flows through a pipe and obviously it makes no difference which way water flows into a pipe. The set manufacturer probably marks the binding post the way he believes the best results will be obtained, but if the owner finds upon experimenting that contrariwise brings better effects, then the wires may be transposed.

"I have made the wave-trap which was described in the September issue and it works pretty fair," writes Peter J. Moshinski, of St. Clair, Pa. "Also thanks to J. C. Weller, of Elyria, Ohio, for the idea of two condensers on the house-line. I tried it and it cut off a lot of noise."

#### *Friendly Comment*

"Last spring I was fortunate in purchasing, in Gadsden, Alabama, where I was working, the May issue of RADEX. That was my first and only copy of your publication that I have been able to purchase around here since that time." Thus writes H. A. Carpenter, of Jacksonville, Ala. "I am extremely interested in radio and anything that lends itself to improving radio reception is certainly appreciated and I find RADEX so complete in every detail that it is to be most applauded."

"Your little guide is fine—couldn't do without it. It helps a lot in DX. Stations can be identified much easier. The best part of it, it gets better every issue which makes it, as they say on the stage, 'a wow.' Good wishes for its continued success." This letter is from Martin J. Waskiewicz, of Plainfield, N. J.

When Fred L. Hinkley, of Springfield, Mass., renewed his subscription he added this postscript: "Your RADEX is the best index I have seen and I have had five other publications. Your listing and arrangement of stations has helped to identify 280 stations since November 11, 1928. The fact that you seem to keep pretty hot on the trail of changes in channel locations, transmitting power, etc., makes your monthly edition idea most valuable."

"After six years of DXing, I have found your magazine most helpful in identifying the stations," writes Ralph K. Ziegler, of Philadelphia. "I logged KNX, which is 2400 miles away, entirely through the use of RADEX."

And from Bob Glick, Huntington, W. Va., "The night of October 15th, I stayed up to see how many stations I could log. With the help of RADEX I brought in 90 stations. This exceeded by far any number of stations I had ever logged in one night. The RADEX is a great help for DX fans."

#### **Boys!**

Don't forget that offer in the November RADEX to send you free a fine Rugby Cowhide Football for only two yearly subscriptions to RADEX.



# Catching Criminals Red-Handed

Radio's New Task  
By RALPH L. PETERS

**T**HIS is Station WCK. Attention Cruiser No. 10. Burglars have just broken into a grocery store near the corner of X and Y Streets."

(Three minutes later.) "Attention WCK. This is Cruiser No. 10. We caught one of the burglars. Two others jumped through the glass window and escaped. Have all cruisers look for two young men probably badly cut."

"Attention all cruisers. Pick up two boys probably cut and bleeding. Bring them in. This is Station WCK, Detroit Police Department."

"Attention WCK. This is Cruiser No. 9. Just arrested two fellows whose faces and hands were badly cut. They could not explain and finally admitted being the pair who escaped from burglary." \* \* \*

Protecting millions of America's citizen's from the preying of criminals is radio's new task—a task the importance of which is receiving nation-wide attention.

Radio has become an efficient, time-tested and proved police weapon—an ally whose silence and swiftness have enabled police work to achieve a pace

heretofore believed impossible. Arrests have become a matter of seconds as one police department after another has added radio to its crime-fighting equipment.

Powerful and speedy police automobiles—equipped with receiving sets and loud speakers—are dispatched to the scenes of actual or reported crimes four to six seconds after the reports of those crimes reach police headquarters.

Scattered about the city on roving patrol duty, they are enabled by radio's warning flash to reach the designated spots within 15 to 90 seconds, in most instances, after receiving their orders from the police radio station.

Their swiftness has enabled their crews to trap burglars in scores of residences and stores; to halt hit-run drivers and return them to where they left hapless victims lying in the streets; to capture or kill bandits; to capture racketeers and gunmen in breath-taking time and to arrest slayers and other law-violators before they could flee from the scene of their crimes.

Evil-doers in Detroit, Chicago, Cleveland, Highland Park, Mich., Berkeley, Cal., and other cities where radio has or is being put into use by the police, never know when a radio-equipped police car is going to roar up to the scene and trap them in such a manner that escape of conviction becomes practically impossible so weighty is the evidence.

Roving police automobiles, termed scout cars, cruisers or squad cars, are not new



"A thief has just snatched a woman's purse—"

in police work. They have been in use for several years in most of the country's large cities. Their use was forced as the criminal began using the automobile as a means of getaway. The automobile enabled the police to speed up their work and to better cope with the criminal. But there were still drawbacks.

The crews of the patrol cars had no way of receiving reports of crimes in their territories until one of their number called into the precinct stations at regular intervals for orders. The car might be within a few blocks of a holdup, burglary or other crime but would have no way of knowing of it unless perchance the patrol car happened along at the spot the crime was being committed or shortly after the crook had fled.

Radio has changed all of this. The efficiency of the patrol cars has become a thing uncanny. One or more of the cars is ordered to the scene of the crime within a few seconds after the crime is reported and all the others receive the flash simultaneously.

Crews of all the cars jot down the license numbers of a car fleeing the scene of a crime, the description of the men involved and other pertinent information. If the fleeing criminals come into the territory of the other radio-equipped cars, they will find the police waiting for them. Precinct boundary lines are forgotten when a chase is involved or when a reported crime is near the boundary line of two or more precincts.

While a patrol car is still heading toward the scene of a crime, the police dispatcher or radio operator may broadcast additional information that will enable the police car to change its route and head off the escaping criminals.

It frequently happens that while one of the cruisers or scout cars is at the scene of one crime, another crime will be reported a few blocks away. The crew of the cruiser or scout car is notified at once. A portion of the crew will be left at the scene of the first crime and the rest race off to the new address.

One evening the No. 10 cruiser was flashed a warning that two men were stripping a parked automobile of accessories and tires. Sixty seconds later the thieves were in custody.

Another time Cruiser No. 9 was told a prowler had forced his way into a house. Just fifty seconds later the home-owner was congratulating the police on the speedy capture of the burglar.

Again a thief snatched a woman shopper's purse. She hurriedly called the police. A cruiser arrived on the scene sixty seconds later, placed the woman in the car and sped down the street in the direction taken by the thief. There was an exclamation from the woman. She pointed to a man hurrying along the sidewalk. He was arrested, confessed and the woman's property recovered.

The Detroit Police Department has been the pioneer in the broadcasting of orders to radio-equipped police cars from a radio station devoted entirely to police work. More than 1,300 arrests have been made by the crews of the 35 cruisers and scout cars of the department. Most of these arrests have been made at an average time of slightly more than 60 seconds and the general average for all of them is approximately 90 seconds, the records of Station WCK, the police radio station, show.

The cruisers are seven-passenger touring cars, manned by a crew of four. The scout cars are light but fast touring cars manned by a crew of two. Each precinct has two or more radio-equipped cars assigned to it.

The aerials of the cars are concealed in the tops of the cars. The receiving sets are enclosed in metal cabinets and locked in position, so that the crews can tune them to no other station. The crew has access only to the volume control. The loud speakers enable the crew to catch the orders clearly with their volume toned down.

All of the sets are built in the workrooms of Station WCK. Quarter-hour tests insure the crew's knowing whether the sets are working. A "trouble shooting" car is ready at an instant's notice to speed to service or replace a set that has gone dead. The sets are turned on constantly while in the cars.

The police dispatcher, seated before the switchboard at Police Headquarters, plugs in on the radio station, located miles across the city, when he receives

*(Continued on page 23)*

# The Puzzle Page

THE answer to the puzzle in the November issue will not be published until January. We find that many readers are not able to get their solutions in by the time it is necessary for us to go to press with the first succeeding number. In future the correct solutions will be published in the second issue.

There were thirty correct solutions to the October puzzle while a large number failed in one or more instances. Answers in the November cross-calls are still being received. One contestant calls to our attention the fact that No. 1 vertical may be either of two stations. We will therefore consider as correct the use of either of these two station calls.

The December puzzle which follows is much simpler than those in October and November. To each one solving this puzzle correctly we will mail an extra copy of the January RADEX which they may use as a gift to a friend.

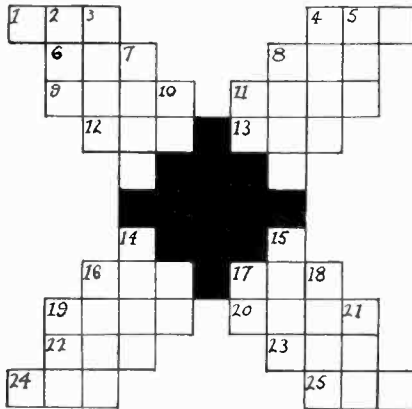
A number of readers have sent in puzzles of their own devising for our use. Most of these were ingenious, but in several cases there were lines which could not be keyed. We are glad to receive original puzzles for each of which we will send one of those beautiful leatherette covers for RADEX. The ideal puzzle will be symmetrical in form and every line will be capable of being keyed, that is practically every letter will be part of two calls, one reading horizontally and one vertically.

The puzzle this month was contributed by Mike Supitilov, of Kenosha, Wis., who writes: "I have been very much interested in your radio magazine

and very much in the cross-calls. So in trying to make your magazine the greatest and best, I designed this puzzle, which I hope will be used. I am but fifteen years old and am a bug on radio. I like to experiment on long and short wave receivers. I find RADEX the most convenient guide for my long-wave reception." Here is the puzzle, the

correct solution of which will appear in February.

Unfortunately one of the stations used in the November puzzle was deleted in that issue. It will be found, however, in previous issues. Several puzzlers relied only on the November edition and hence failed on this station. In working out these puzzles, old copies of RADEX are very valuable.



## HORIZONTAL

1. In central Canada.
4. Located in I-14.
6. Initials of station and owner are the same.
8. Has been on 1160, 1350, 1420 and 1200 kcys.
9. At the foot of the Cascades.
11. A hundred-watter in California.
12. In the great North-west.
13. At nearly 100 on most dials.
16. Daytime station on a cleared wave.
17. Formerly WLBV.
19. "The Gateway to Wisconsin."
20. (Reversed) Last three letters of call are first three of city.
22. One of the fifty-thousand watters.
23. Owned by Jay Peters.
24. Home of the barn dance.
25. Its sister station adds the letter A.

## VERTICAL

2. A thousand-watter sharing wave with four two-fifties.
3. (Reversed) On the Columbia chain.
4. On 249.9 meters.
5. Low-power from California.
7. "The Friendly Voice."
8. Johnson-Kennedy Radio Corp.
10. The thrill of radio.
11. Frequency measure.
14. City named for famous horticulturist.
15. Formerly in Kokomo.
16. Lots of people would like to get out of here.
17. Measured in meters.
18. On the banks of the Wabash.
19. Loyola University.
21. "Heart of America."

## Troubles of B-Eliminators

*(Continued from page 2)*

as a Clarostat, in the grid circuits, so that the voltage can be correctly regulated. Too much grid voltage is likely to set up motorboating, and if a variable resistor is inserted in the line such excessive voltage can readily be reduced. Also be sure that the negative terminal of the C-battery connects to the grid terminal of the socket of the power tube.

### *Defective Condensers*

Another cause of motorboating is a defective grid condenser, which slowly dissipates energy through its dielectric or insulation. To find out whether or not the grid condenser is defective, remove it from the set and short-circuit the two terminals together to discharge it. Then charge the condenser by connecting a C-battery to its terminals, being careful not to touch either the condenser terminals or the ends of the leads while doing this. A condenser should be able to hold such a charge for a few minutes. The cord tips of a headset are then touched to its terminals, care again being exercised not to touch the cord tips or the condenser terminals with the fingers, for this will discharge the condenser through the body, and then the test is incorrect. A sharp click in the phones at the moment the condenser terminals are touched shows that it is in good condition as the condenser holds its charge. If no click is heard or the click is very faint, the condenser is defective and should be replaced with a new one. Humidity conditions have considerable effect on open condensers, and in moist places the dielectric may absorb enough moisture to cause it to become leaky. The enclosed type of fixed condenser, such as is enclosed in a bakelite shell, is impervious to moisture. It is a good plan to substitute condensers of this kind for the open type, being sure that the new ones are of the same values as the discarded ones. Too high a value of grid resistance may contribute to the tendency to motorboat, and if this is the case, a resistor of lower value should be substituted.

### *Incorrect Wiring*

Motorboating is sometimes caused by

a reversed condition of the primary winding of an audio-frequency transformer. This reversed condition may be attributed to incorrect internal connections between the winding and the terminals on the transformer shell. All that is necessary, in order to remedy this trouble, is to reverse the transformer connections on the outside, that is, the B-positive line will then connect to the P-terminal of the transformer, and the lead from the P-terminal on the preceding tube socket will connect to the B+ terminal on the transformer.

Motorboating can also be caused by a lack of matched impedance of the magnet winding of the loudspeaker and the plate of the last tube. Many loudspeaker manufacturers are trying to match the impedance of their speakers to that of the generally used power tubes, but power tubes have different characteristics and new ones are constantly coming out on the market, which makes it impossible to obtain perfect matching in this way. Besides, many fans have loudspeakers before they install power tubes in their sets, and it is therefore necessary for them to use other methods of overcoming motorboating caused in this way. There are several types of output transformers and output impedances which can be added to any receiver. In output transformers the plate output of the power tube is passed through the primary winding, and the loudspeaker terminals are connected to the secondary windings of the output device. An output impedance has the advantage of preventing possible coupling between the plate circuit of the last tube and that of the other tubes of the receiver through the medium of the output resistance devices of the eliminator.

### *Total Inoperation of B-Eliminator*

In case no signals can be obtained from a receiver and there is no doubt that the receiver itself is in good condition, the trouble may be found in the eliminator. First see that the leads from the eliminator to the receiver are unbroken and are securely connected.

Examine the rectifier, for this may have become defective; if it is of the electrolytic type, the electrolyte may

*(Continued on page 12)*

# Kentucky Hill-Billies

WITH Kentucky just across the river, there's nothing synthetic about the "hill Billy" music offered to the audience of the Crosley radio station, WLW.

Among the chief protagonists of the native American balladry, who come up from the Kentucky mountains to perform, are the Aladdin Fiddlers, an orchestra composed of harmonica, jew's harp, guitar, banjo, and fiddle, with a supply of mountaineer voices thrown in for good measure.

Leader of the Aladdin Fiddlers is Charles MacCormick, better known to the WLW audience as "Harmonica Mac." MacCormick claims to possess 40 different harmonicas, one for each key in which he expects to play and an extra supply for spaces

"Harmonicas is pesky things," he says, "You can't always depend on the critters."

Except for the information that "Harmonica Mac" spends most of his days around the race track at Latonia, Ky., and that "Ma" MacCormick also likes to follow the horses, little is known about the Aladdin Fiddlers.

With a reticence common to the Kentuckians who come to the WLW studios, the members of the group never open their mouths except in songs.

Each one plays several musical instru-



ments so that they can offer an old-time fiddling contest, a full harmonica orchestra, or can play the "Pathetique Symphony" on combs and saws.

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## Radio Watches

Radio signals which would automatically regulate watches in their owners' pockets are the objective of experiments being conducted here by the Elgin Watch Co.

Development of radio-controlled timepieces is still in the laboratory stage, but shows much promise, says Frank D. Urie, director of research. The Federal Radio Commission has granted a wavelength for experimental work.

The ultimate goal, Urie says, is commercial production of watches and clocks

so devised that they will essentially be radio receivers capable of picking up signals sent by a central transmission station which would adjust them to the precise time.

Another possible method, he explained, would be for time signals to be picked up by a regular receiver with an attachment to which a watch could be connected for correcting purposes.

Intensive study of radio regulation of timepieces is being made in Russia and Germany, it is understood.

## Troubles of B-Eliminators

*(Continued from page 10)*

have evaporated, or it may be too low for the proper operation of the device. The electrodes have perhaps become decomposed, which necessitates renewal. If the eliminator uses a filament-lighted tube rectifier, see whether or not it is lighting properly. It must be remembered that these tubes have a definite life and must be renewed sooner or later. Even the ionized-gas rectifying tubes, such as the Raytheon or the Q.R.S. tubes, which have an exceedingly long life, there being no filament to burn out, become exhausted eventually. Normally, they give off a bluish flash at the edge of the "cup" at the moment that the eliminator is turned on, and this flash can usually be noticed. Sometimes the tube may still be defective, even though it shows signs of life. It is perhaps the best practice for the fan to provide himself with two tubes, so that if he suspects that the one in use is defective, he can substitute the other one.

When purchasing a new rectifier, be sure to get one of the same type as the defective one. If you get one of a higher or lower capacity, the eliminator will not work properly, because the other parts are designed just for the amount of current produced by the original rectifier. For instance, many eliminators, especially the old models, were designed to operate on a type B Raytheon tube, which has an output of 60 milliamperes. When replacing one, some dealers will try to persuade the fan to use a type BH tube of the same make, telling him that it has a greater capacity than the old type and is more durable, etc. The latter type, it is true, has a greater capacity, but if the eliminator is not designed for it, it will not give satisfactory results.

### *Open Circuits*

After the rectifier has been carefully examined, listen for a slight transformer hum. This will tell whether or not the transformer is working. If no hum is noticeable, it is probable that the transformer winding is open-circuited or the transformer is not receiving current from the A.C. circuit. However, open-cir-

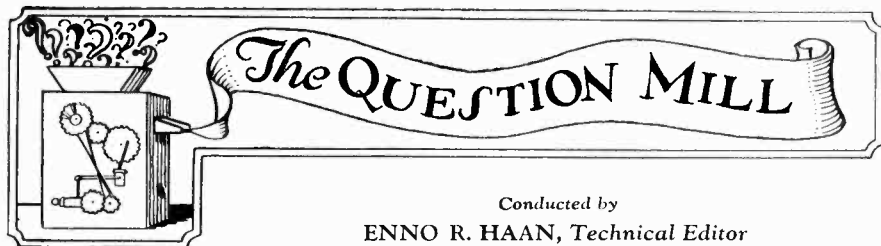
cuted transformers in eliminators are quite rare, as they are usually designed to stand up under heavy loads. To be certain that a transformer is defective or not, make a test for an open circuit. Some types of transformers used in eliminators have a separate winding to provide current for lighting the power tube of the receiver. In case the power tube does not light, and one is certain that the filament is not burned out, and also certain that the transformer is getting current from the lighting circuit, then the winding, which supplies the filament current for the power tube, may be open-circuited.

Lack of A.C. supply may often be the cause of trouble if a slight transformer hum is not noticeable, and no output voltage can be obtained from the eliminator. Test the light socket to determine whether or not the supply is being delivered to this point, for it is possible that a fuse of the lighting circuit has been burned out. If the fuse is in good condition, the light socket itself may be defective, even if it makes good contact with the plug occasionally. Sometimes the spring contact in the light socket does not make a good electrical connection with the end of the plug. In this case, turn off the current and pull the prong out so that it will make a better contact. If light can be obtained from the socket, there is perhaps a break in the cord connected to the eliminator, and such a break can usually be found at the plug end. If the cord is broken, it is an easy matter to repair it. Cut the wire at the break, bare both ends for about 2 inches, and splice them together, after which they are soldered to make them electrically and mechanically secure. Friction tape is then wound over the splice to insulate and protect it.

### *Faulty Choke Coils*

If a transformer hum is noticeable, but there is no output voltage across two or more of the eliminator terminals, which can be determined by the needle deflection of any 0 to 150-reading voltmeter held across the B-negative and the B-detector, B-intermediate and B-amplifier terminals successively, then the trouble

*(Continued on page 16)*



# The QUESTION MILL

Conducted by

ENNO R. HAAN, Technical Editor

*How far should I be able to receive stations on a five-tube tuned radio-frequency receiver?*

Distance depends on several conditions: the location of the set, the quality and working order of the apparatus, and the skill of the operator. The average five or six-tube t.r.f. receiver should have a range of 2000 miles under good conditions. If you are located in a congested radio district, where several high-power stations may be broadcasting at the same time, it will be a difficult matter to tune in outside stations.

*Would straight-line frequency condensers improve the selectivity of my tuned r.f. receiver?*

Straight-line-frequency condensers will spread the stations out over the dial and will seem to make tuning easier on the lower part of the dial, but each station will cover a greater portion of the dial and will overlap the next station unless your set is of the type that can be made more or less selective by manipulation of a potentiometer controlling feed-back current. I suggest that you do not make the change as the slight advantage gained does not justify the cost.

*Kindly give me information as to what tubes I could use to replace the following in my Sparton No. 69 A. C. receiver: Cardon rectifier tube No. 280, Cardon power tube No. 585 and Cardon A. C. tube No. 484. When a tube burns out I am at a loss to know what to buy to replace it as these numbers are peculiar to the set. I have tried to find the proper substitutes but have been unable to do so and your help would be appreciated.*

Do not attempt to substitute tubes of any other make for the Cardon tubes which are used in the Sparton Equasonne Receiver No. 69. These tubes are especially designed for the set and the sub-

stitution of other tubes is only inviting trouble. It is quite an easy matter to get these tubes from mail-order houses in the larger cities. Undoubtedly you can get the Cardon tubes from them. If you desire you can also write to the manufacturers of your receiver and ask them where their nearest dealer is located, and he will be able to supply you.

*My Majestic all-electric receiver stopped suddenly and upon investigation I found that none of the tubes would light, I have had them tested and found that they are in good condition. The socket where my radio connects should be all right as it lights a floor lamp connected to it. Can you advise me where the trouble could be located?*

You have one of the following faults: defective plug where your radio connects to the electric socket, a loose or broken wire carrying a. c. current to the receiver, or a burned-out primary winding of the power transformer in the set.

*I have an Alwater Kent Model 35 receiver and whenever a turn the rheostat knobs a grating sound is heard. How can I overcome this?*

The trouble in the rheostat is due to natural wear of the resistance wire and can be easily overcome. Take a soft lead pencil and rub the graphite over the wire winding of the rheostat where the slider makes contact with it. This slight application of graphite lubricates the rheostat and in no way affects its electrical characteristics, which would be the case if you used oil or grease.

*I have been experiencing trouble with my King radio receiver, Model 62, and would like to know if you can help me. My set stopped functioning suddenly and I discovered that the 1000-ohm resistor, located under the tube shelf directly behind*

the shielding cans, was burned out. I obtained a new one and as soon as I started the set, with the new resistor installed, it began to heat up and then burned out. Where is the trouble causing this?

Your trouble is undoubtedly caused by the breaking down of the by-pass condenser located on the inside of the shielding can on the right of the burned-out resistor. Simply remove the can cover and replace this condenser. The short-circuiting of this by-pass condenser puts a direct short of 90 volts potential on the resistor, which causes the overheating.

We have had a Zenith 27 electric receiver since 1928 and have had lots of satisfaction from it except for one thing: I simply must replace the UX 199 tubes every few weeks, which is quite expensive upkeep. This set is equipped with five UX 199 tubes fed in series from a power pack using a Raytheon type BH 80-milliamper tube. The B-supply also uses a BH tube. Can I do anything to overcome this trouble?

In localities where abnormal line voltage exists the life of the tubes in a receiver fed by alternating current is considerably shortened. It is particularly true in cases where the line voltage runs up to 140 volts. In your case the trouble can be overcome by mounting an ordinary porcelain light socket on the inside of your cabinet directly above the a.f. transformers. One of the parallel wires leading from the B-supply to the A-supply, should be cut and the socket connected to the two ends, which puts it in series. Considerable experimenting will be necessary to determine the exact size of lamp to use. Usually a 60-watt lamp will serve the purpose satisfactorily. A lamp of lower wattage will cut down the voltage applied to the tubes still more. The lamp will burn at a dull red glow and will not injure the set or cabinet in any way.

I have a Sparton Equasonne Model 930 receiver. At times the set has a low whistle that does not die out but continues for hours. Sometimes I don't notice it but at other times it is so bad that it ruins the program. I read somewhere that if the secondary leads of the speaker were reversed, the whistle would stop. I don't have the

slightest idea what the secondary leads are or where they are located. If you think that it is advisable to change them, please explain how to go about it. My aerial is about 100 feet long, including the lead-in wire. I have lots of static and plenty of volume for most stations, but can only reach a little over 1500 miles. Is this characteristic of the set? About the static, there is a factory about two blocks away from my location, in which 1300 electric motors are running so I suppose that my static is coming from them. Also my set is calibrated in kilocycles. On the lower end of the range, up to 800 kilocycles, the calibration on the set corresponds exactly to the station frequency, but above that it varies. The frequency of KD KA is 980 kilocycles, but it comes in at a dial reading of 950. Kindly explain this.

Remove the r.f. tubes while the set is operating to determine whether or not the low whistle still persists. If so, you know that the trouble is caused in the a.f. stages. If the whistle stops when the r.f. tubes are removed, the trouble is evidently due to improperly balanced r.f. stages. Sometimes too high a plate voltage on the r.f. tubes causes such a whistle. Then again the grid-leak value may be incorrect. Your dial readings can be made to correspond more closely to the station frequency over the entire range by properly adjusting the antenna-compensating condenser near the antenna and ground binding posts of the receiver. This adjustment should only be attempted by means of a bakelite screwdriver in order to prevent capacity effects of the tool. The "static" of which you speak is probably caused by the large number of electric motors in the nearby factory. During the winter months you may occasionally reach out farther than 1500 miles, although it should be borne in mind that most modern receivers are designed for good tone quality rather than for long-distant reception.

Would you please advise me if the new Rogers 45 push-pull tube will operate on a new Victor using ten tubes, including 245 tubes?

I have no material at hand concerning the Rogers 45 tube, which is of Canadian

(Continued on page 17)



# Radio Carols

## A Charming Christmas Innovation

AN entire neighborhood in a residential section of Pasadena, California, was awakened at dawn on Christmas morning by exquisite music. The old familiar carols were being sung by highly trained voices accompanied by harps, violins and cornets. Strangely, too, the strains seemed to come from all directions. It was as though an angel choir were floating above the city.

People lifted their heads to marvel at the sweetness of the singing, realizing that no band of wandering carollers could achieve such perfect harmony and lovely rendition, much less carry full orchestral

to the broadcasting and half a dozen of them easily covered a block. And such a wondrous improvement over the music that might be furnished by any well-intentioned, but cold and footsore and untrained group of local carollers!

It must be but the beginning of a beautiful custom of our land, a land where there are 28,061,000 homes (according to official figures at the close of 1928) that have radio connection. Next Christmas should make one grand symphony of the angels' song over all America, even to the isles of the sea and the isolated spots.

*How Many of These Famous Artists Do You Know.*

*Seated: Agnes Davis, Kathryn Meisle, Louise Homer, Kathleen Stewart.*

*Second row: Solon Alberti, Hazel Arth, Maria Kurenko, Nina Morgana, A. Atwater Kent, Katharine Homer, Allen McQuhae, Alois Hvilla.*  
*At the microphone: Graham McNamee.*

*Third row: Reinald Werrenath, Harry Spter, and Atwater Kent Quartette.*



equipment. Doors and windows were heard to open up and down the block. All ears were attuned to listen as one after another of the glorious Christmas messages came over the still night air. It was thrilling!

Then, suddenly, the secret was out as the voice of a local radio announcer "signed off." They realized that a number of owners of fine radio sets had quietly arranged among themselves to have their loud speakers placed close to a front window all tuned in on a certain station that had promised an especially fine program of carols for the hour of dawn. Each instrument added its voice

## Dead Spots

Certain spots on the earth's surface are apparently impervious to radio signals and these are called "dead spots." About fifty of these have been charted in North America and they have usually been found accidentally so that it is probable that there are many more. One of the largest of these spots is located a little south of Hudson Bay in Canada; another is over the ocean off Atlantic City; while a third is in the vicinity of Camden, N. J. There are numerous dead spots in Mexico and the southwestern states.

## Troubles of B-Eliminators

*(Continued from page 12)*

may be in a broken-down or open-circuited choke coil, although this is rarely the case. To find out which choke coil is at fault, get a pair of headphones and hook up a 22½-volt B-battery in series with the headphones. Before applying the free ends of the leads to the coils, remove the eliminator plug from the light socket. Disconnect the choke coils if there is any possibility of a shunt circuit around them, for the coils should be tested separately and there should be no path for current over a shunt. After the coil to be tested has been disconnected, it is short-circuited to free it from any residual charge which it may hold. The free ends of the tester are touched to the ends of the coil, and a click should be heard in the phones. The absence of a click indicates an open circuit, and the coil must then be replaced with a new one of exactly the same design.

A punctured condenser may also prevent the eliminator from functioning. Broken-down condensers, which permit an unrestricted path for the current to flow directly through them, frequently cause eliminator troubles. To test a condenser, it is first removed from the eliminator. It is then discharged by holding a wire or a piece of metal across its terminals, for the charge it contains may cause a click in the phones, which will give a false impression that the condenser is short-circuited. If the condenser is in good condition, there will be little or no click the second time that its terminals are touched, but if it is short-circuited, a distinct click will be heard in the headphones each time the condenser terminals are touched, and again when the tips are removed. When making two or more tests on one condenser, be sure to hold the testing tips to the same terminals of the condenser each time. The absence of a click does not always prove that the condenser is in good condition, for there may be a slow leakage of charge through its insulation. To find such a leak remove the B-battery from the headphones and charge the condenser by holding the bared ends of the wires connected to a battery, to the terminals of

the condenser for a few seconds. Be careful not to touch either the condenser terminals or the bare ends of the wires, for this will dissipate the charge. After the condenser has been charged in this way, wait for a few moments and then touch the same tips of the headphones to the terminals of the condenser. If only a faint click is heard, or none at all, one may be reasonably certain that part of the charge has dissipated through the insulation. Faulty condensers should be replaced with new ones of the same capacity and make. If a condenser is entirely short-circuited it may be impossible to get any output voltages across two or more terminals, as there is then a complete path for the positive current emerging from the choke coils to return to the negative line, which is the path of least resistance. If, however, the condenser has a leaky insulation through which the charge gradually dissipates, it has lost its function to supply energy for an instantaneous overload, and in addition to this considerable fuzziness and distortion will often be evident. A short-circuited buffer condenser may cause a noticeable hum. At other times a crackling noise will be evident in the loudspeaker, resulting from the same cause. A new condenser is the remedy.

### *When Resistors Heat*

Faulty resistors, which do not stand up under a heavy current and voltage, may cause crackling noises resembling static, or complete inoperation of the receiver. This is the case when they do not permit enough variation of the voltage. When the detector and radio-frequency resistors, and sometimes even the amplifier resistors, become hot, examine them to see whether part of their winding touches the metal case of the eliminator, or whether the resistor is of the correct capacity, a check which is necessary in case of homemade eliminators. In many eliminators employing a number of fixed resistors, in addition to the variable ones, it is possible that a variable resistor become short-circuited for some reason or other, and then a fixed resistor, in series with it, may be subjected to a greater pressure, with the result that it will become excessively

hot. Burned-out or open-circuited elements of resistors will of course cause total inoperation of the receiver. To determine whether or not a resistor is open-circuited, make a headphone test. Touch one testing tip to the B-negative line and the other to the side of the resistor not connected to the B-positive line. If no click is heard, one can be certain that the winding is open-circuited although, perhaps, if another resistor, either fixed or variable, is connected in series to the one being tested, the trouble may be found in this one, which should be tested in the same way. There is one objection to the use of variable resistors in eliminators, namely, that it is difficult for the average fan to adjust them cor-

tube to indicate its similarity to the UX 245 tube. You can easily determine whether this tube can be used interchangeably with the 245-type tubes, by comparing the data of tube characteristics, which are usually printed on the carton, or on a separate sheet furnished with the tube, and the data on the UX 245 tube, which is as follows: Filament voltage, 2.5; filament current, 1.5 amperes; plate voltage, 180-250 volts; grid-bias voltage, 33-50 volts; plate current, 26-32 milliamperes. If you find that the filament voltage and plate voltage are the same in the case of the Rogers tube, it is quite possible that you can substitute the latter in any audio amplifier, whether push-pull or not.

*The Whitney Trio, who are heard regularly over Station WMAQ.*

*Robert, Pianist  
Noreen, Violinist  
Grace, Cellist*



rectly in order to get the proper plate voltages for the tubes. For this reason some manufacturers are making use of fixed resistors having a number of taps, these being designated as unit strips. A definite voltage can be obtained from each one of the taps.

### **The Question Mill**

*(Continued from page 14)*

manufacture. However, I find that these tubes are made by the Standard Radio Mfg. Corp. Ltd., of Toronto, and I have written to them for the tube data. Evidently the number 45 is given to the

*Can I substitute a CX 381 rectifier tube for the CX 316B half-wave rectifier in my power supply?*

Yes, you can substitute the CX 381 tube for the CX 316 B as the former will deliver about twice as much current as the latter without overloading. It would be a good idea to make this change if you have provided a power tube in the last audio stage to take the place of a 201A tube, as the power tube requires more current. If the set is overloaded, which may result in an a.c. hum, make the above change. However, if your receiver is in good condition and the old

rectifier tube still performs the change would be unnecessary.

*Last year I built an "Infradyne" receiver but it apparently has not the "pep" it should have. When I use B-batteries instead of B-Eliminator, it works much better. Can you suggest what is wrong with the eliminator or does it not produce sufficient current and voltage for the perfect operation of the set?*

Have you correctly deducted where your trouble lies? The Infradyne, equipped with a UX 171 tube provided with 180 volts of plate potential, draws a B-current of 40 to 45 milliamperes. A B-Eliminator used with this set should be capable of furnishing at least 50 milliamperes, but preferably more, as it is advisable to have some reserve energy. Generally, it is best to furnish a B-supply which will provide at least 33 per cent more current than actually required by the receiver. If a UX 112 power tube were substituted for the 171 tube less plate current would be needed. The 112 takes about 30 milliamperes. Another indication of overload is hum. I suggest that you change the power tube, taking care to get the current plate and grid-bias or C-voltage on the new tube, or get an eliminator of greater capacity.

*Is the 3-wire system for a radio antenna better than a single wire?*

The advantage of three wires instead of one is so slight that it is not advisable. If you are located quite some distance from broadcasting stations, erect a single-wire antenna about 100 feet long, using stranded phosphor-bronze wire. Scrape off the enameled insulation, if it has any, and be sure to solder the lead-in wire to the aerial near one end. Use insulators and install with precautions against grounding.

*I have built a small radio set of the non-regenerative type. It has a detector and one stage of a.f. I do not get enough volume to operate a pair of headphones on a station less than 50 miles away. What could be the trouble?*

Assuming that the tubes and batteries are in good condition, which you should carefully check, the trouble may lie in a wrong size or defective grid leak or grid condenser, or an incorrect plate voltage,

especially on the detector tube. For a 201A detector use a 2-megohm grid leak.

*I would like to add two stages of untuned r.f. before the first detector of my superheterodyne. Is this practical?*

Experiments have been carried along these lines with too little success to warrant much popularity. The most common trouble seems to be a broadening of tuning, which makes the receiver extremely difficult to operate, especially in congested districts where several stations are operating simultaneously. This trouble is, however, not so great if the filter circuit is of the ultra-selective type. On the other hand, the addition of tuned r.f. stages ahead of the 1st detector has been found highly satisfactory by some experimenters. Selectivity is gained, distant reception possible, and a loop antenna can be used.

*Kindly tell me how to build an underground antenna. I have heard that an antenna of this type has many advantages over a regular antenna, erected overhead.*

It is claimed that an underground antenna picks up less atmospheric disturbance such as static than a regular aerial erected overhead. The length should be approximately 100 feet, and No. 14 weatherproof wire is used. Insulate one end thoroughly, coil the wire and bury it about one foot underground. The end not insulated is used as a lead-in. Some experimenters shield the lead-in from the point where it leaves the ground to the binding post of the receiver by slipping it into a lead tube, which is grounded. This type of antenna is also claimed to be non-directional.

*Can I use a gas pipe for a ground connection? What size wire should I use for making a ground connection?*

It is not advisable to use a gas pipe for a ground connection but a cold-water pipe is satisfactory. Gas pipes are often insulated at the meter. Besides, this method of grounding will not pass inspection of insurance companies. Use No. 14 rubber-covered wire for the ground lead, and provide a good ground clamp. Scrape all corrosion from the surface of the pipe before attaching the clamp.

*How can I clean the prongs of the*

*tubes in my receiver, as this is said to help bring in better reception?*

Good electrical contact between the tube tips and the socket prongs is essential. Take a piece of fine sandpaper or a nail file for cleaning off the ends of the tube tips, and a pencil or small wooden stick for getting into the sockets to clean the prongs. If you have sockets that have holes in the top for the insertion of the tube tips, it may be necessary to take the socket apart. When doing this be sure to disconnect the batteries, or the cord, which is connected to a nearby wall plug, in case your set is of the all-electric type.

*I noticed your diagram of a wave trap in the September issue of RADEX and I would like to know if it can be successfully applied to a Stewart-Warner radio receiver No. 950, and what method you use in connecting it?*

A wave trap of the kind described can be successfully used on the Stewart-Warner receivers, these being of the popular radio-frequency type. The best method of determining just where to connect a wave-trap to any particular receiver for best results, is to first cut it in the aerial line, in series with the set so that all the energy must pass through the wave trap before entering the set. The second method is to connect the wave trap across the aerial and ground lines, leaving both connected to the set. A third method is to disconnect the lead from the G or grid terminal of the detector-tube socket, bending the lead back slightly so that it will not make contact. Then run a wire from the G or grid terminal of the coil or r.f. transformer preceding the detector socket, to one terminal of the wave trap, and connect the second terminal of the wave trap to the G-terminal of the detector-tube socket. After trying this method reconnect the loose wire to the G-terminal of the detector, leaving the other connections just made intact. The three methods given above can be tried out to determine which one is most effective in your case.

*Is a C-battery necessary with a resistance-coupled audio amplifier? What C-voltages are required with the B-potential 90 and 135 volts?*

A C-battery is advisable to conserve the current taken from the B-battery, but is not necessary of a B-eliminator is used. For 90 volts, provide a C-bias or  $4\frac{1}{2}$  volts, and for 135 volts, a C-bias of from  $7\frac{1}{2}$  to 9 volt. In the case of power tubes it is always necessary to provide a C-battery supplying the correct potential for the operation of the tube. You will find the amount of C-bias required on the tube carbon or sheet which accompanies it.

*I have a 32-volt farm-lighting unit. Can I get filament current for my radio set from the battery of this unit? If so, kindly tell me how to proceed.*

Yes, it is a good idea to take your radio current from your farm-lighting unit battery. Of course, only three cells are used as the filament voltage required for the receiver is 5 volts. Run the negative filament lead to the negative side of one cell, and connect the positive lead to the positive terminal of the third cell *above* the one to which the negative lead is connected. It is well to use spring clips to make the connections as there will then be no need of loosening and tightening the lugs. By the word "above" in the previous sentence is meant the side toward the positive end of the entire battery, for as you will note, one extreme end is negative and the other is positive. The sixteen cells each give a pressure of approximately two volts, or a total of 32 volts. It is best to provide a double-pole, double-throw, knife switch in the lines to the radio set to permit disconnecting it from the battery while the unit is charging, for during a charge you will undoubtedly experience some interference from the unit. Do not use the same three cells for the A supply all the time, but change around so that the amount of drain will be equally distributed over the entire battery of the lighting unit.

*We have purchased a new all-electric receiver and it works well with the exception that it becomes loud and soft at intervals without any apparent reason. What causes this and how can the trouble be overcome?*

Your trouble is evidently voltage fluctuation of the house-lighting circuit.

Although theoretically the voltage delivered by power companies is 110 volts, with a permissible variation of 5 per cent above and below this figure, actual tests have shown that the voltage in many cases varies between 90 and 130 volts, this being due to variations in load, improper regulation, poorly-designed feeders, etc. The resulting trouble in radio reception is exactly what you have experienced, namely, variation in volume. Besides this, the life of your tubes will be shortened if this condition is permitted to continue. Fortunately, there are on the market automatic voltage regulators, which are especially designed to provide a constant 110-volt current to the receiver regardless of line fluctuations between 90 and 130 volts. Such a regulator is an investment worth while and you will find this a practical solution of your trouble.

## Seven Stations to Censor Advertising

**S**TANDARDS to govern broadcast advertising so that objectionable practices will be eliminated and to the end that radio as an advertising medium "will increasingly enjoy and deserve the confidence of the public," have been adopted by seven broadcasting stations in the Boston area, the Federal Radio Commission was informed October 19. These stations have subscribed to standards of practice and a plan of operation based on cooperation with the Better Business Bureau of Boston.

The stations subscribing to the standards are WBZA, WEEL, WNAC and WSSH, Boston, WHDH, Gloucester, and WLEX, Lexington.

The standards adopted, as transmitted to the Commission, are as follows:

"To the end that radio broadcast advertising will increasingly enjoy and deserve the confidence of the public, the radio stations have subscribed to the following standards:

"1. To prohibit broadcast advertising believed to be or which might be detrimental to the public interest, or injurious to radio broadcasting in general, or to any other accepted form of advertising,

and to reject advertising by concerns whose other forms of advertising and practices may be objectionable or injurious to public interest.

"2. To prohibit broadcast advertising known to be untrue, deceptive, misleading, fraudulent, or grossly exaggerated, or which might, on reasonable investigation be ascertained to be untrue, deceptive, misleading, fraudulent, or grossly exaggerated.

### *Censorship Provided*

"3. To take care to prevent the broadcasting of statements derogatory to other stations, to individuals, or to competing products or services, except where the law specifically provides that the station has no right of censorship.

"4. To make reasonable investigation concerning the financial responsibility and character of broadcast clients, so that no dishonest, fraudulent, or dangerous person, firm, organization or advertising may gain access to the radio public.

"5. To prohibit the advertising of products or services for treatment of disease or illness which are injurious to health.

"6. To cooperate with the Better Business Bureau in all lawful manner in its purpose as outlined in the articles of incorporation, i. e., 'the furthering and promoting of honesty, truthfulness, and dependability in advertising, merchandising, and in all business methods and practices and fair competition in trade and business, thereby increasing public confidence in advertising, salesmanship, and business methods generally.'"

## Lighting Circuit Aerial

A form of inside aerial which has found much favor among radio owners, is a small screw-plug device which, when attached to any light socket, utilizes the wiring of the house as an aerial system. Such a device is merely a condenser, one terminal of which is connected to one side of the line and the other to the radio receiver, there being no connection between the receiver and the lighting circuit which, of course, obviates the possibility of electric shocks. When using one of these devices, try reversing the plug.

# Cause and Cure of "Microphonics"

**A**LMOST every radio owner who uses a "hard" tube for a detector, has, at some time or other, experienced a loud, howling noise, which increases in volume and rises in pitch, making reception an impossibility. This is what is known as a "microphonic," a noise caused by one or more vibrating tubes, the detector usually being the offending one. You can make sure whether the trouble really is a microphonic by grasping the tube securely while the noise is heard; if it stops you have located the trouble. As just stated, the cause of a microphonic is vibration of the tube. There may, of course, be a number of sources of such vibration, and the removal of the source is the most positive remedy. This, however, is not always possible, for the source may be the loud speaker and without this you would have no reception at all. Then again, it may be the traffic passing your home; machinery in the building, or persons walking around.

The vibration is transmitted through the walls, floors, table or stand on which the receiver is placed, or it may even be transmitted through the air. Sometimes there seems to be no external source of vibration at all, and the tube just starts to produce noise seemingly of its own accord. The quality of each tube is slightly different from that of another, and one tube is therefore apt to be much more microphonic than another, a variation of uniformity which can naturally be expected when tubes are manufactured by the thousands in rapid quantity production. Also, it will be found that the small, three-volt, dry-cell tubes have a greater tendency toward being microphonic than the large six-volt tubes.

Sometimes the trouble can be cured by merely "switching" tubes, or by decreasing the plate voltage of the detector. There are also many devices on the market for curing this trouble, and, these are usually heavy shields or weights to be placed on the tube, or some means of holding the tube rigidly in position. But it is better to arrest the

vibration before it enters the set. This can be done in various ways. Get a few pieces of one-inch sponge-rubber and provide cushions of this material under both the receiver cabinet and the loud speaker, the latter being the most common cause of microphonic trouble. The provision of cushion sockets instead of rigid sockets will also be found an



*Elsa Baklor, coloratura soprano, whose voice is often heard over WBAL in solo recitals and special programs. Mrs. Baklor has appeared as soloist with the Baltimore Symphony Orchestra and other important musical organizations.*

effective method of eliminating this trouble. If this is not entirely effective, remove the loud speaker as far as possible from the set, preferable on another stand or table. Also be sure to turn the bell of the loud speaker away from the set, instead of toward it, for it has been found that the air vibration caused by reception, is transmitted to the tubes, and in many cases this alone is enough to cause them to vibrate.

These measures are certain to reduce the trouble considerably and in most cases will eliminate it entirely. But,

*(Continued on page 23)*





		Meters	Watts
<b>India</b>			
Bombay	7BY	357.1	3000
Cacutta	7CA	370.4	3000
<b>Japan</b>			
Dairen	JQAK	395	1000
Hiroshima	JOFK	353	10000
Keijo	JODK	366	1000
Nagoya	JOCK	370	1000
Osaka	JOBK	400	10000
Sapporo	JOJK	361	10000
Sendai	JOHK	390	10000
Tokio	JOAK	345	10000
<b>Kwangtung</b>			
Dairen	JQAK	395	5000
<b>OCEANIA</b>			
<b>Australia</b>			
Adelaide	5CL	392	1000
Brisbane	4QG	385	1000
Hobart	7ZL	525	3000
Melbourne	3LO	371	1000
Perth	6WF	1250	1000
Sydney	2BL	353	1000
	2FC	442	2000
	2GB	326	1500

## Cause and Cure of "Microphonics"

(Continued from page 21)

should you still be annoyed, change the hard detector for a detector tube of the "soft" type. Such a tube is non-microphonic, will give better tone quality and is much more sensitive than a hard tube. With the popular use of consoles nowadays, much trouble from microphonics is experienced by the proximity of the built-in horn to the receiver, and its rigid attachment to the console, which only paves the way for this trouble. In such cases the speaker should be unfastened from the console, and then suspended less rigidly. If this does not help, it may be necessary to remove the speaker from the console entirely.

## Catching Criminals

(Continued from page 8)

the flash of a crime. This automatically throws the radio station on the air and he broadcasts direct to the cruisers and scout cars. His orders are repeated by the radio station operator to doubly insure their receipt.

The success attained by the Detroit Police Department has had a far-reaching effect. The Federal Radio Commission has granted permission for the construction of stations to: Chicago; Cleve-

land; Buffalo, N. Y.; Beaumont, Texas; Berkeley, Cal.; Pasadena, Cal.; Highland Park, Mich.; Miami; Cincinnati; Indianapolis; Philadelphia, and Tulare, Cal.

New York, Atlanta and other points are planning to establish police radio systems and police officials predict the time when the entire nation will be linked together in a network of police radio systems.

## Commission Not to Limit Chains

THE proposal of Commissioner E. O. Sykes to regulate the broadcasting of chain programs over high-powered radio stations was rejected November 5 by the Federal Radio Commission. The vote was 3 to 2. Chairman Ira Robinson and Commissioner Sykes voting for the proposal.

The Commission's action followed opposition to the proposal by M. H. Aylesworth, president of the National Broadcasting Company, who recently told the Commission that this regulation would jeopardize the operations of the company's network. The proposed order would have required all stations subscribing to chain programs of 5,000 watts or more to obtain permission to broadcast them. The purpose, Judge Sykes explained, was to eliminate unnecessary duplication of chain programs on the listener's dials.

The proposed chain order rejected by the Commission follows in full text:

"It is hereby ordered that after January 30, 1930, no broadcasting station of 5,000-watt power or more will be permitted to regularly broadcast chain programs unless and until it has been authorized in writing to do so by the Commission.

"It is further ordered that no two stations of the above power located within the same States shall be permitted to broadcast the same chain program simultaneously unless the Commission shall be satisfied that the geographical separation in mileage or the character of transmission of the station or stations is such that there will be no objectionable duplication of programs."

# 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 the Pacific Time, three hours.

Station lists beginning with WEAf and WJZ are the National Broadcasting Co., Inc., while those beginning with WABC are the Columbia Broadcasting System.

#### Daily (Except Saturday and Sunday)

6:45-8:00 Tower Health Exercises  
WEAF WEEI WCAE WFI WRC  
WGY WGR

8:00-8:15 Jolly Bill and Jane  
WEAF WEEI WGY WFI

8:00-8:30 Organ Reveille  
WABC WHK WEAN WREC WDBJ  
WWNC KMBC KOIL WLAC

8:15-8:30 Morning Devotions  
WEAF WCAE WRC WGY WGR

8:30-8:45 Morning Devotions  
WABC WDOD WFBL WMAK WEAN  
WREC WDBJ WWNC KMBC KOIL  
WLAC

8:30-9:00 Cheerio  
WEAF WEEI WCKY WRC WGY  
WGR WHO WJAR WTAG WCHS  
WCAE WWJ WOW WDAF WTMJ  
KSTP WBCB WPTF WBT WAPI  
KVOO KPRC WIBO

8:45-9:00 Something for Everyone  
WABC WHK WDOD WCAU WFBL  
WJAS WMAK WEAN WREC WDBJ  
WWNC KOIL KMOX WLAC

9:00-9:15 Milt Coleman  
WEAF WRC WWJ WOW

9:15-10:00 Morning Melodies  
WEAF WRC WWJ WOW

9:30-10:00 Morning on Broadway  
WABC WHK WDOD WFBL WLBW  
WOWO WKBW WMAL WREC WDBJ  
WWNC KDYL KOIL KVI KMOX  
WLAC

10:00-10:30 Ida Bailey Allen  
WABC WGHP WMAL KMBC WCCO  
WFBL WEAN WNAC WBBM WMAK  
WCAU WCAO WJAS WADC WKRC  
KMOX KOIL WSPD WHK WLBW  
WISN WOWO

11:00-11:30 Forecast School of Cookery  
WJZ WBZ WBZA WHAM KDKA  
WLW KWK WREN WJR WGN

11:15-11:30 Radio Household Institute  
WEAF WEEI WJAR WTAG WCHS  
WLIT WRC WGY WGR WCAE  
WTAM WWJ WSAI KSD WFKX  
WTMJ KSTP WHO WPW WDAF

11:30-12:30 Columbia Noon Day Club  
WABC WADC WDOD WFAN WCAO  
WCCO WGHP WBBM WFBL WSPD  
WJAS WLBW WOWO WMAK WNAC  
WEAN WMAL WREC WDBJ WWNC  
KOIL KVI KFPY KLZ WFBM

1:00-1:45 National Farm and Home Hour  
WJZ WBZ WBZA WBAL WHAM  
KDKA WJR WLW KFKX WREN  
KSTP WBCB WRVA WPTF WBT  
WJAX WIOD WHAS WSM WMC  
KVOO WKY KTHS KPRC WOAI  
KOA WRC WHO WOW WDAF

1:30-2:00 Harold Stern Orchestra  
WBAC WKRC WADC WISN WDOD  
WFAN WFBM WCAO WGHP WBBM  
WFBL WSPD WJAS WLBW WOWO  
WMAK WMAL WMAQ WREC WDBJ  
WWNC KOIL KVI KLZ WLAC

2:00-3:00 Patterns in Prints  
WABC WHK WKRC WADC WDOD  
WFAN WFBM WCAO WGHP WBBM  
WFBL WSPD WJAS WLBW WOWO  
WMAK WNAC WEAN WMAL WMAQ  
WREC WDBJ WWNC KDYL KOIL  
KVI KMOX KFPY KLZ WLAC

3:30-4:00 For Your Information  
WABC WKRC WADC WISN WDOD  
WCAU WFAM WFBL WSPD WOWO  
WMAK WMAL WMAQ WREC WDBJ  
WWNC KDYL KOIL KVI KMOX  
KFPY KLZ WLAC WCAO

4:00-4:30 Musical Albums  
WABC WKRC WADC WISN WDOD  
WCAU WFBM WCAO WCCO WBBM  
WFBL WSPD WOWO WMAK WNAC  
WEAN WMAL WMAQ WREC WDBJ  
WWNC KDYL KOIL KVI KMOX  
KFPY KLZ WLAC

4:00-5:00 Dancing Popularities  
WJZ WBAL WJR KWK

4:30-5:00 The Tea Timers  
WABC WHK WKRC WADC WISN  
WDOD WFAN WCAO WCCO WGHP  
WBBM WFBL WSPD WOWO WMAK  
WNAC WEAN WMAL WMAQ WREC  
WDBJ WWNC KMBC KOIL KVI  
KMOX KFPY KLZ WLAC

5:30-6:00 The Lady Next Door  
WEAF WRC WWJ WAPI

6:00-7:00 Black and Gold Orchestra  
WEAF WRC WCAE WLS WWJ  
WTAG

7:00-7:15 Amos 'n' Andy  
WJZ WBZ WBA WHAM KDKA  
WJR KYW KWK WREN WTMJ  
KSTP WBCB KOA KSL WDAF  
WRC WLW WMAQ

#### Sunday

9:00-10:00 Morning Musicals  
WABC WDOD WCAU WOWO WNAC  
WEAN WREC WDBJ WWNC KMOX  
WLAC

10:00-11:00 Children's Hour  
WABC WDOD WCAU WNAC WEAN  
WREC WDBJ WWNC KMOX WLAC

12:30-1:00 Metropolitan Echoes  
WJZ WBAL KWK WRC

1:00-1:30 National Broadcasting Program  
WEAF WCAE WWJ WHO

1:00-1:30 The Nomads  
WJZ WBAL WJR WRC

1:30-2:00 The Pilgrims  
WJZ WBAL WRC WJR

1:30-2:00 Godfrey Ludlow  
WEAF WWJ WCAE WTAM KSD  
KSTP WAPI WOW WHO

2:00-2:30 Troika Bella  
WEAF WWJ KSL KSD WLS  
WOC

2:00-3:00 Roxy Symphony Concert  
WJZ WBZ WBZA WBAL KDKA  
WLW WTMJ KSTP KYW WJR  
WRC WFAA WBCB KWK KFAB

2:30-3:00 Milady's Musicians  
WEAF WGY WWJ WOW KSL  
WLS KSD

3:00-4:00 The Jewish Hour  
WEAF WJAR WCSH WRC WGR  
WCAE WWJ WSAI WCFL

3:00-4:00 National Youth Conference  
WJZ WBAL WRVA WPTF WJAX  
WMC WSB WOAI KFAB

3:00-4:00 Symphonic Hour  
WABC WHK WKRC WADC WISN  
WDOD WCAU WFBM WCAO WCCO  
WGHP WFBL WSPD WJAS WOWO  
WKBW WNAC WEAN WMAL WMAQ  
WAIU WREC WDBJ WWNC KDYL  
KMBC KOIL KVI KMOX KFPY  
KFH KLZ WLAC

4:00-5:00 Cathedral Hour  
WABC WHK WKRC WADC WISN  
WDOD WCAU WFBM WCAO WCCO  
WGHP WFBL WSPD WJAS WLWB  
WOWO WKBW WNAC WEAN WMAL  
WMAQ WREC WDBJ WWNC  
KDYL KMBC KOIL KVI KMOX  
KFPY KLZ WLAC

4:00-5:00 National Light Opera  
WJZ WBAL KSTP WRC KFAB  
WTMJ

4:00-5:30 Cathedral Hour  
WEAF WGY WEEI WJAR WTAG  
WCSH WGR WCAE WOW WRVA  
WPTF WJAX WSM WMC WSB  
WKY WOAI KPO KGO KOMO  
KFI KGW KHQ

5:00-5:30 Duo Disc Duo  
WJZ WBZ WBZA WBAL WLW  
KYW KWK WREN KFAB WJR

5:00-5:30 McKeesson News Reel  
WABC WNAC W AN WFBL WKBW  
WJAS WADC WKRC WGHP WOWO  
KMBC KOIL WSPD WHK WLWB  
WMAL WHEC WDBJ WTAR WWNC  
WLAC WDOD WBRC WREC KLRA  
KFJF KRLD KFH KTSA WCCO  
WISN WDSU KLZ KDYL KHJ  
KFRC KOIN KVI KFPY WCAU  
WMAQ KMOX

5:30-6:00 Rev. Donald Grey Barnhouse  
WABC WMAL WKBW WEAN WNAC  
WKRC WJAS WFBL WLWB WCAU  
WCAO WADC WMAQ WOWO KOIL  
WFBM

5:30-6:00 Gilbert Sports Revue  
WEAF WEEI WJAR WTAG WCSH  
WFI WRC WGY WGR WCAE  
WFJC KOA WWJ WSAI KYW  
KSD WHO WOW WDAF WTMJ  
KSTP WEBC KSL KGO KOMO  
KGW KHQ KFI WOC

5:30-6:00 National Religious Service  
WJZ WBAL WBZ WBZA WHAM  
KFAB

6:00-6:15 Echoes of the Orient  
WEAF WCAE WRC WWJ KSD  
KOA WGY WOC WOW

6:00-6:30 Fox Fur Trappers  
WABC WCAU WNAC WHK

6:15-6:30 Countess Olga Medolago Albani  
WEAF WRC WCAE KSD WOC  
WHO WOW

6:30-7:00 Old Company's Songalogue  
WEAF WEEI WCSH WTAG WLIT  
WJAR WRC WGY WGR

6:30-7:00 1-10 Scalers  
WABC WJAS WNAC WEAN WHK  
WSPD WCAU WFBL KOIL KMBC  
WKBW WADC WKRC WGHP WOWO  
WLWB WMAL KMOX

6:30-7:00 Whittall Anglo-Persians  
WJZ WBZ WBZA WBAL WHAM  
KDKA WLW WJR KYW KWK  
WTMJ KSTP WEBC KOA KSL  
KGO KOMO KHQ KGW KFI

7:00-7:30 in the Spotlight  
WJZ KWK WEBC KOA KTHS

7:00-7:30 Heroes of the World  
WEAF WJAR WTAG WCSH WLIT  
WRC WGY WGR WCAE WTAM  
WFJC WWJ WSAI WLS WOC  
WDAF WTMJ WEBC WRVA WPTF  
WBT WJAX WIOD WHAS WSM  
WMC WSB WSMB KVOO WKY  
KPRC WOAI WEEI KSD WHO  
WAPI KOA

7:30-7:45 French Trio  
WABC WKRC WADC WISN WDOD  
WFAN WFBM WCAO WFBL WSPD  
WJAS WLWB WMAL WMAQ WREC  
WDBJ WWNC KDYL KOIL KVI  
KFPY KLZ

7:30-8:00 At the Baldwin  
WJZ WBZ WBZA WBAL WHAM  
WJR WLW WREN KYW WSB  
WTMJ WEBC KSTP WHAS WSM  
WSM KOA WMC KSL

7:45-8:00 "The World's Business"  
WABC WKRC WADC WISN WDOD  
WFAN WFBM WCAO WCCO WFBL  
WJAS WLWB WNAC WMAL WMAQ  
WREC WDBJ WWNC KDYL KMBC  
KOIL KVI KFPY KLZ

7:30-8:30 Major Bowes' Family  
WEAF WJAR WRC WGY WCAE  
WWJ WSAI KSD WOW WFJC  
WIOD WHAS WMC WSB WKY  
WTAM KTHS WDAF WHO

8:00-8:15 Enna Jettick Melodies  
WJZ WBZ WBZA WHAM WKY  
WJR KWK WLW WREN WFAA  
KPRC WOAI WHAS WSM WSB  
WTMJ KSTP WMC KOA KDKS  
KYW WEBC WIOD WBT KVOO  
KTHS

8:00-8:30 La Palina Rhapsodizers  
WABC WNAC WCAU WEAN WFBL  
WCAO WJAS WADC WKRC WFBM  
KMOX KMBC KOIL WLWB WMAL  
WISN WMAK WGHP WOWO WSPD  
WCCO WHK

8:15-9:15 Collier's Radio Hour  
WJZ WBZ WBZA WHAM KDKA  
WJR WLW KYW KWK WREN  
KOA KSL KGW KOMO KHQ  
KPO KFI

8:30-9:00 Chase & Sanborn Orchestra  
WEAF WTIC WJAR WTAG WCSH  
WRC WLIT WGY WGR WCAE  
WFJC WWJ WSAI KSD WOB  
WLS WDAF WIOD WHAS WBS  
WMC WSE WSMB WKY KTHS  
KPRC WOAI WOC KVOO

8:30-9:00 Sonatour Program  
WABC WCAU WEAN WFBL WCAO  
WJAS WADC WKRC WOWO KMBC  
KMBC KOIL WHK WLWB WMAL  
KLZ KDYL WBBM WNAC WGHP  
WMAK WSPD WCCO WFBM KFRC  
KHJ KOIN KVI KFPY

9:00-9:15 "Our Government." David Lawrence  
WEAF WTIC WJAR WTAG WCSH  
WRC WGY WCAE KSD WHAS  
WKY WSAI WFJC WGR WSB  
WBT WMC WSM WFAA WOW  
WOAI WHO

9:00-10:00 Majestic Theatre of the Air  
WABC WCAU WNAC WEAN WFBL  
WMAK WCAO WJAS WADC WKRC  
WGHP WBBM WOWO KMOX KMBC  
KOIL WSPD WHK WLWB WLAC  
WMAL WDBJ WTAR WWNC WDOD  
WBRC WREC KLRA KFJF KRLD  
KTSA WDSU WCCO WISN KLZ  
KDYL WFBM WIBW WISN CKAC  
KFRC KHJ KOIN KVI KFPY  
WDEL

9:15-9:45 D'Orsay's Parisienne Romance  
WJZ WBZ WBZA WHAM KDKA  
WJR KYW KWK WREN WCKY

9:15-10:15 Atwater Kent Concert  
WEAF WEEI WRC WGY WGR  
WCAE WTAM WWJ WSAI WGN  
KSD WOV KSTP KOA KSL  
KPO KGO KFI KGW KOMO  
KHQ WSM WMC WSB WFAA  
KPRC WOAI WKY WFI WSMB  
WOC

9:45-10:15 The Fuller Man  
WJZ WBZ WBZA WHAM KDKA  
WJR KYW KWK WREN WCKY

10:00-10:30 Arabesque  
WABC WHK WKRC WISN WADC  
WDOD WFBM WCAO WFBL WSPD  
WJAS WLBW WKBW WNAC WEAN  
WMAL WMAQ WREC WDBJ WWNC  
KDYL KMBC KVI KMOX KFPY  
KLZ WLAC

10:15-10:45 Studebaker Champions  
WEAF WTIC WTAG WCSH WFI  
WRC WGY WGR WCAE WTAM  
WWJ WGN KSTP WTMJ WEBC  
KOA KPO KGO KGW KOMO  
KFI KHQ WOW KSL WJAR  
WHO

10:15-11:00 Master Musicians  
WJZ WHAM KOA WRC KWK

10:30-11:00 Jesse Crawford  
WABC WCAU WNAC WEAN WFBL  
WKBW WCAO WJAS WADC WKRC  
WGHP WMAQ WOVO KMOX KMBC  
KOIL WSPD WHK WLBW WMAL  
KLZ KDYL KHJ KFRC KOIN  
KVI KFPY

10:45-11:15 Sunday at Seth Parker's  
WEAF WCAE WHAS WJAX WOW  
WKY WWJ WFJC WIOD WHO

11:00-12:00 Back Home Hour  
WABC WCAO WKRC WISN WDOD  
WCAU WFBM WGHP WFBL WSPD  
WOVO WMAK WNAC WEAN WMAL  
WMAQ WREC WDBJ WWNC  
KVI KFPY KFH KLZ KDYL

11:15-11:45 South Sea Islanders  
WJZ KDKA WRC KWK

11:15-11:45 Christmas Club Program  
WEAF WEEI WTIC WJAR WTAG  
WCSH WFI WRC WGY WGR  
WCAE WTAM WFJC WWJ KSD  
WHO WOV WTMJ KSTP WEBC  
WBT WJAX WIOD WHAS WSM  
WMC WSB WAPI WKY KTHS  
WBAP KPRC WOAI KOA KGO  
KGW KFI WCKY

11:45-12:00 Sam Herman, Xylophonist  
WEAF WOW KOA WOC WWJ  
WBAP

11:45-12:00 Armchair Quartet  
WJZ KDKA KWK WRC WREN

## Monday

9:30-10:00 Blue Monday Chasers  
WABC WHK WDOD WFBL WLBW  
WOVO WMAK WMAL WREC WDBJ  
WWNC KDYL KOIL KVI KMOX  
WLAC

10:30-11:00 Columbia Mixed Quartet  
WABC WADC WDOD WCAU WGHP  
WBEM WFBL WJAS WLBW WOVO  
WMAL WREC WDBJ WWNC KMBC  
KOIL KFPY KLZ WLAC

11:15-11:30 Elizabeth Fellows' Menu Club  
WABC WDOD WCAU ECAO WBBM  
WFBL WLBW WOVO WMAK WMAL  
WREC WDBJ WWNC KLZ

5:00-5:30 Five o'Clock Sweethearts  
WABC WKRC WISN WDOD WFAN  
WCAO WCCO WGHP WBBM WFBL  
WSPD WOVO WMAK WMAL WMAQ  
WREC WDBJ WWNC KMBC KVI  
KMOX KFPY KFH KLZ

6:00-6:30 Mormon Tabernacle Choir  
WJZ WBAL WSM WLW KWK  
WRC KOA KSL KPO KGO  
KOMO KFAB WAPI

6:30-7:00 H. V. Kaltenborn  
WABC WHK WKRC WISN WDOD  
WFBM WCAO WBBM WJAS WLBW  
WOVO WKBW WMAQ WREC WDBJ  
WWNC KVI KFPY KLZ KFRC

7:00-7:30 Buck and Wing  
WEAF WRC WCAE WOW

7:30-8:00 Roxy and Ilis Gang  
WJZ WBZ WBZA WHAM KDKA  
WJR KWK WRC WSM WSB  
WIOD WCFL WSMB WAPI WPTF  
WREN KFAB

7:45-8:00 Back of the News  
WEAF WKY WOC WEBC WJAR  
WCSH WGR WSAI KVOO KOA

8:00-8:30 Voice of Firestone  
WEAF WEEI WTIC WJAR WTAG  
WCSH WLIT WRC WGY WGR  
WCAE WWJ KYW WSAI KSD  
WOC WOW WDAF WIOD KTHS  
WSMB KSTP WTMJ WEBC WJAX  
WHAS WSM WMC WSB WBT  
WRVA KVOO KPRC WOAI WKY  
WFJC WTAM WFAA

8:30-9:00 Ingram Shavers  
WJZ WBZ WBZA WJAR WLW  
KWK WREN WHAM KDKA KYW  
WIOD WRVA WJAX WTMJ WMC  
WSB WKY KTHS KPRC KFAB  
WBT WOAI WEBC WSM WSMB

8:30-9:00 Ceco Couriers  
WABC WCAU WNAC WEAN WFBL  
WMAK WCAO WJAS WADC WKRC  
WGHP WMAQ KMOX KMBC KOIL  
WHK WLBW WMAL WCCO WSPD

8:30-9:30 A & P Gypsies  
WEAF WEEI WTIC WJAR WTAG  
WCSH WLIT WRC WGY WGR  
WCAE WWJ WSAI WGN KSD  
WOC WDAF WTAM

9:00-9:30 Edison Program  
WJZ WBZ WBZA KDKA WJR  
WYV WREN WEBC KSL KPO  
KGO KOMO KFI KGW KHQ  
KOA KWK WHAM KSTP

9:00-9:30 Physical Culture Magazine Hour  
WABC WCAU WNAC WFBL WMAK  
WCAO WJAS WADC WKRC WGHP  
WMAQ WGL KMOX KMBC KOIL  
WSPD WHK WLBW WMAL WEAN

9:30-10:00 Chesebrough Real Folks  
WJZ WBZ WBZA WHAM KDKA  
KWK KYW WREN WLW WJR

9:30-10:00 General Motors Family Party  
WEAF WEEI WTIC WJAR WCSH  
WTAG WLIT WRC WGY WGR  
WCAE WTAM WWJ WGN KSD  
WOC WOW WDAF KSTP WTMJ  
WHAS WSM WMC WSB WBT  
WJAX WFAA KPRC WOAI WKY  
KOA KSL KPO KGO KFI  
KGW KOMO KHQ

9:30-10:00 "An Evening in Paris"  
WABC WFBL WEAN WISN WNAC  
WKRC WMAL WSPD WHK WADC  
WMAK WMAQ WLBW WOVO WJAS  
WCAU KMOX KMBC KOIL WCAO  
WGHP CFRB

10:00-10:30 Cabin Nights  
WJZ WBZ WBZA WJR KYW  
KWK WREN WHAM KDKA WCKY

10:00-10:30 Panatela Country Club  
 WABC WCAU WNAC WEAN WFBL  
 WKAK WCAO WJAS WADC WKRC  
 WGHP WMAQ WOWO KMOX KMBC  
 KOIL WSPD WHK WLWB WMAL  
 WFBM

10:30-11:30 Voice of Columbia  
 WABC WHK WLAC WCCO WOWO  
 WGHP WCAO WISN WNBC WKBN  
 WLWB WNAC WEAN WSPD WADC  
 WMAQ WMAL WDOD WFBM WBRC  
 WJAS WKRC WCAU KFH KOIL  
 KLZ KDYL WMAK KMOX KVI  
 WREC WDBJ

10:30-11:00 Empire Builders  
 WJZ WEZ WEZA WHAM KDKA  
 WJR WOW KYW KWK WREN  
 WTMJ KSTP WEBC WKY WFAA  
 KPRC WOAI KOA KSL KPO  
 KGO KFI KOMO KHQ KGW  
 WLW

11:00-12:00 New Yorker Hotel Orchestra  
 WEAFF WTIC WGR WFJC WWJ  
 WMC

11:30-12:00 Abe Lyman's Orchestra  
 WABC WCCO WOWO WGHP WCAO  
 WISN WNBC WKBN WLWB WSPD  
 WMAL WDOD WFBM WBRC WKRC  
 WCAU KFH KOIL KLZ KDYL  
 WKBW KVI WREC WDBJ

**Tuesday**

11:00-11:30 Walter Kolomoku's Honoluluans  
 WABC WDOD WCAU WGHP WBBM  
 WFBL WSPD WLWB WOWO WKBW  
 WMAL WREC WDBJ WNBC KVI  
 KFPY KLZ WFBM

3:15-4:00 Matinee Gems  
 WJZ KWK WRVA WJAX WIOD  
 KOA WJR

4:00-4:45 Columbia Symphony Orchestra  
 WABC WMAL WNAC WEAN WFBM  
 WOWO WADC WGHP WNBC WLAC  
 WKRC WIBW WKBW KOIL KFRC  
 WBBM WDBJ WREC WERC WHK  
 WHP WISN WCAO WSPD WDOD  
 WCCO WCAU KLZ KMBC KDYL  
 KFPY KMOX

4:45-5:15 The Rhythm Kings  
 WABC WKRC WISN WDOD WFAN  
 WCAO WCCO WBBN WFBL WSPD  
 WOWO WMAL WMAQ WREC WDBJ  
 WNBC KMBC KVI KMOX KFPY  
 KLZ

6:00-6:30 Show Folks  
 WABC WHK WKRC WDOD WISN  
 WFBM WCAO WCCO WBBM WLWB  
 WOWO WEAN WMAQ WREC WDBJ  
 WNBC KVI KFPY KLZ KFRC

7:00-7:15 Roads of the Sky  
 WEAFF WRC WIOD WSM KOA  
 WHO WCSH WFI WTAG WTAM  
 WPTF KVOO WOA KSL WHAS  
 WOW

7:00-7:30 Jeddo Highlanders  
 WJZ WEZ WEZA WHAM

7:15-7:30 Universal Safety Series  
 WEAFF WJAR WTAG WCSH WRC  
 WSAI WDAF WRVA WPTF WBT  
 WHAS WSMF WKY KTHS WOA K  
 KOA WFI WCAE WOW WEBC  
 WJAX WIOD WSM KVOO WCKY  
 KGO KOMO KGW WCKY

7:30-7:45 Lew White Organ Recital  
 WJZ WBAL WRC WKY WIOD  
 WPTF WREN

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

8:00-8:30 Songs of the Season  
 WEAFF WTAG WFI WRC WGY  
 WGR WWJ WSAI KSD WEEI

8:00-8:30 Blackstone Plantation  
 WABC WCAU WNAC WEAN WFBL  
 WKBW WCAO WJAS WGHF KMBC  
 KOIL WLWB WMAL WHP WHEC  
 WCCO

8:00-8:30 Pure Oil Band  
 WJZ WBAL WHAM KDKA WJR  
 WLW KYW KWK WREN KSTP  
 WTMJ WEBC WHAS WMC WBT  
 WJAX WRVA WSM WSB

8:30-9:00 Around the World  
 WJZ WEZ WEZA WBAL WHAM  
 KDKA WJR WLW KWK KYW  
 WREN WHAS WSM WMC WSB  
 WSMB KOA KSL KPO KGO  
 KGW KOMO KHQ

8:30-9:00 Prophylactic Program  
 WEAFF WEEI WCAE WJAR WTAG  
 WCSH WFI WRC WGY WGR  
 WSAI KSD WLS WHO WOW  
 WDAF WWJ

8:30-9:00 True Romances  
 WABC WCAU WNAC WEAN WFBL  
 WKBW WADC WOWO KMOX KOIL  
 WHK WLWB WMAL WBBM KMBC  
 WCAO WGHP WSPD WAU WJAS

9:00-9:30 Johnson and Johnson Program  
 WJZ WEZ WEZA WHAM KDKA  
 KYW KWK WLW WREN WBAL

9:00-10:00 Eveready Hour  
 WEAFF WEEI WFI WRC WGY  
 WGR WCAE WTAM WWJ WGN  
 KSD WHO WDAF KSTP WEBC  
 WHAS WSM WMC WSB KVOO  
 WOA WJAR

9:00-10:00 Old Gold-Whiteman Hour  
 WABC WCAU WNAC WEAN WFBL  
 WKBW WCAO WJAS WADC WGHP  
 WBBM WOWO KMOX K BC KOIL  
 WSPD WHK WLWB WMAL WCCO  
 KLZ KDYL KLRA WDBJ WTAR  
 WNBC WLAC WDOD WBRC WREC  
 KFJF KTS A WISN WDSU WFBM  
 KRLD WKRC KFRC KHJ KOIN  
 KVI KFPY KFH

9:30-10:00 Dutch Masters Minstrels  
 WJZ WEZ WEZA WBAL WHAM  
 KDKA KYW KWK WREN WJR  
 WTMJ

10:00-10:30 Fada Orchestra  
 WABC WCAU WNAC WEAN WFBL  
 WKBW WCAO WJAS WADC WKRC  
 WGHP WBBM WOWO KMOX KMBC  
 KOIL WSPD WHK WLWB WMAL  
 WFBM KLRA KFJF KRLD WTS  
 WCCO WISN WTBW

10:00-10:30 Clichequot Club Eskimos  
 WEAFF WEEI WCSH WJAR WFI  
 WRC WGY WGR WCAE WWJ  
 WSAI WSP KYW KSD WHO  
 WDAF KSTP WHAS WSM WMC  
 WSH WOA KOA KSL WTMJ  
 KPRC WRVA WBT WJAX WKY  
 KPO KGO KFI KGW KOMO  
 KHQ WEBC WBAP WTAG

10:00-10:30 Williams Orlomatics  
 WJZ WEZ WEZA WBAL WHAM  
 KDKA KWK WREN WGN

10:30-11:00 Freed Orchestraidians  
 WJZ WEZ WEZA WBAL WHAM  
 KDKA WJR KYW KWK WREN  
 KSTP KOA KSL KGO KOMO  
 KHQ KGW KFI

10:30-11:00 Night Club Romance  
 WABC WHK WLAC WOWO WGHP  
 WCAO WISN WHP WNBC WLWB  
 WNAC WEAN WSPD WADC WMAL  
 WDOD WFBM WBRC WJAS WKRC  
 WCAU KOIL KLZ KDYL KMBC  
 WKBW KFPY KMOX KVI WREC  
 WDBJ

10:30-11:30 R-K-O Hour  
 WEAFF WEEI WJAR WTAG WCSH  
 WFI WRC WGY WGR WCAE

WFJC WWJ WSAI KSD WHO  
WOW WDAF WTMJ KSTP WEBC  
WRVA WBT WJAX WIOD WHAS  
WSM WMC WSB WAPI WWSB  
WFAA KPCC WQAI WKY KTHS  
KOA KSL KPO KGO KGW  
KFI KOMO KHQ WIBO

11:00-11:30 Around the Samovar  
WABC WCCO WOWO WGHP WCAO  
WISN WHP WWNC WLBW WNAC  
WEAN WSPD WMAL WDOE WERC  
WJAS WKRC WCAU KFH KOIL  
KLZ KDYL KMBC WKBW KFPY  
KVI WREC WDBJ

11:30-12:00 Hotel Paramount Orchestra  
WABC WCCO WOWO WGHP WCAO  
WISN WHP WWNC WLBW WSPD  
WMAL WDOE WFBM WERC WKRC  
WFAN KFH KOIL KLZ KDYL  
KMBC WKBW KFPY KVI WREC  
WDBJ

11:30-12:00 Harbor Lights  
WEAF WCAE WFI WWJ WRC  
WGR WFJC WRVA KSD

### Wednesday

9:15-10:00 Parnassus String Trio  
WJZ WJR WREN KWK

10:00-10:45 The Manhattaners  
WJZ KWK WREN WBAL

10:30-11:00 Interior Decorating  
WABC WCAU WNAC WEAN WMAK  
WCAO WJAS WADC WGHP WOWO  
KMOX KOIL WSD WHK WLBW  
WMAL WFBM WBBM WISN WFBL  
WKRC

10:45-11:00 Mary Hale Martin  
WJZ WBZ WBAZ WMC WBAL  
WSM WSMB WSB WAPI WJR  
WHAM KDKA WLW KWK WREN  
WHAS KFCK WBAL WJR

11:00-11:15 The Wiseco Program  
WEAF WCAE WLIT WGY WTAG  
WCSH

11:00-11:30 Milady's Mirror  
WABC WDOE WCAU WBBM WFBL  
WLBW WOWO WMAL WREC WDBJ  
WWNC KFPY KLZ

3:30-4:00 Our Little Playhouse  
WABC WKRC WADC WISN WDOD  
WCAU WFBM WCAO WCCO WFBL  
WSPD WOWO WMAK WMAL WMAQ  
WREC WDBJ WWNC KDYL KOIL  
KVI KMOX KFPY KLZ WLAC

4:30-5:15 Club Plaza Orchestra  
WABC WHK WCCO WOWO WGHP  
WCAO WISN WHP WWNC WNAC  
WSPD WADC WMAL WDOD WERC  
WKRC WFAN KOIL KLZ KMBC  
WMAK KFPY WBBM KMOX KVI  
WREC WDBJ

5:00-5:30 Sky Sketches  
WEAF WRC WWJ WCSH

6:30-7:00 Guy Lombardo's Orchestra  
WABC WERC WISN WDOD WFBM  
WCAO WBBM WJAS WLBW WOWO  
WMAK WMAQ WREC WDBJ WWNC  
KVI KFPY KLZ

7:00-7:30 Family Goes Abroad  
WEAF WRC WWJ WSM WMC

7:00-7:30 Twilight Melodies  
WJZ WBZ WBAZ KDKA KWK  
KSTP WERC WLS WJR WTMJ

7:30-8:00 Westinghouse Salute  
WJZ WBZ WBAZ WHAM KDKA  
KYW WJR KWK WREN WEBC  
WRVA WPTF WBT WJAX WIOD  
WHAS WSM WMC WSB WWSB  
KVOO WKY WQAI KOA KFAB  
WCKY KSL KGO KGW KOMO  
KFI KHQ KPCC WFAA KSTP

7:30-8:00 Golden Gems  
WEAF WCSH WTAG WWJ WGR

8:00-8:30 Grand Opera Concert  
WABC WLAC WCCO WGHP WCAO  
WISN WHP WWNC WLBW WNAC  
WEAN WADC WMAQ WMAL WDOE  
WFBM WJAS WKRC WCAU KOIL  
KLZ KDYL KFRC WKBW KFPY  
KMOX KVI WAU WREC WDBJ

8:00-8:30 The Yeast Foamers  
WJZ WBZ WBAZ WHAM KDKA  
WJR KYW KWK WLW WREN  
WTMJ KSTP WEBC KFAB

8:00-8:30 Mobiloil Concert  
WEAF WEEI WTIC WJAR WTAG  
WCSH WLIT WRC WGR WCAE  
WWJ WSAI KSD WOC WOW  
WDAF WFJC WTAM KOA KVOO  
WFAA KPCC WQAI WKY

8:30-9:00 Forty Fathom Trawlers  
WABC WADC WCAO WNAC WKBW  
WMAQ WKRC WHK WGHP WLBW  
WCAU WJAS WEAN KMOX WFBL  
WMAL WHP WFBM WHEC

8:30-9:00 Happy Wonder Bakers  
WEAF WEEI WTIC WJAR WTAG  
WCSH WLIT WRC WGY WGR  
WWJ WSAI KSD WOC WOW  
WFJC KSTP WTMJ WMC KVOO  
WQAI KPCC WKY WLS WFAA

8:30-9:00 Sylvania Foresters  
WJZ WBZ WBAZ WHAM KDKA  
KWK WREN WLBW KYW WJR  
KFAB

9:00-9:30 MacFadden Red Seal Hour  
WABC WCAU WNAC WEAN WFBL  
WMAK WCAO WJAS WADC WKRC  
WGHP WMAQ KMOX KMBC KOIL  
WSPD WHK WLBW WMAL WGL

9:00-9:30 Smith Brothers  
WJZ WBZ WBAZ WHAM KDKA  
KYW KWK WREN WCKY

9:00-9:30 Halsey Stuart Program  
WEAF WEEI WJAR WTAG WESH  
WLIT WRC WGY WCAE WWJ  
WSAI KSD WOC WOW KSTP  
WBT WJAX WHAS WMC WSB  
WSMB KVOO KPCC WQAI KOA  
KGO KOMO KHQ KGW KFI

9:30-10:00 La Palina Smoker  
WABC WCAU WNAC WEAN WFBL  
WMAK WCAO WJAS WADC WGHP  
WMAQ WOWO KMOX KMBC KOIL  
WSPD WCCO WHK WLBW WMAL  
WISN WKRC

9:30-10:30 Palmolive Hour  
WEAF WEEI WTIC WJAR WTAG  
WCSH WLIT WRC WGY WGR  
WCAE WTAM WWJ WSAI WGN  
KSD WOC WOV WDAF WWSB  
KSTP WTMJ WHAS WSM WMC  
WSE WBT WJAX KVOO KPCC  
WQAI KOA KSL KPO KGO  
KFI KGW KOMO KHQ WFAA

10:00-10:30 Kolster Radio Hour  
WABC WCAU WNAC WEAN WFBL  
WMAK WCAO WJAS WADC WKRC  
WGHP WMAQ WOWO KMOX KMBC  
KOIL WSPD WHK WLBW WMAL  
WCCO KLZ KDYL KFRC KHJ  
KOIN KVI KFPY CJCG

10:00-10:30 Neapolitan Nights  
WJZ WHAM KDKA WREN WCKY

10:30-11:00 Stromberg-Carlson Program  
WJZ WBZ WBAZ KDKA KYW  
KWK WREN WRVA KSTP WTMJ  
WEBC WIOD WHAS WSM WMC  
WSB WBT WJAX KVOO WBAP  
KPCC WQAI WKY KOA KSL  
KPO KGO KFI KGW KOMO  
KHQ WJR WHAM WWSB KTHS  
WAPI

10:30-11:00 In a Russian Village  
WABC WHK WLAC WCCO WGHP  
WCAO WISN WWNC WKBW WLBW  
WNAC WEAN WSPD WADC WMAQ



# Friday

10:30-11:00 Walter Kolomoku's Honoluluans  
 WABC WHK WLAC WOWO WGHP  
 WCAO WHP WYWC WKBN WSPD  
 WADC WMAL WDOD WJAS WCAU  
 KOIL KLZ KMBC WMAK WBBM  
 KVI WREC

11:00-11:15 Neil Vinick  
 WABC WNAC WEAN WFBL WMAK  
 WCAO WJAS WADC WKRC WGHP  
 WOWO KOIL WSPD WLBW WMAL  
 WHEC WFBL WCAU WAIU WBBM

11:00-12:00 NBC Music Hour  
 WEAH WJZ WBEI WJAR WTAG  
 WCFH WLIT WRC WGY WGR  
 WCAE WTAM WWJ WGN KSD  
 WHO WOV WDAF KSTP WTMJ  
 KOA WHAS WSM WMC WSB  
 WBT KVOO WFAA KPCC WOI  
 WJAX WRVA WEEC WBZ WBZA  
 WBAL WHAM KDKA WJR WLW  
 KYW KWK WREN KFAB WFC  
 KSL WKY WIOD WSMB WAPI  
 WPTF KTHS

11:15-11:45 Columbia Salon Orchestra  
 WABC WDOD WCAU WCAO WGHP  
 WBBM WFBL WJAS WLBW WOWO  
 WMAK WMAL WREC WDBJ WWNC  
 KVI KFPY KLZ

11:45-12:15 Radio Beauty School  
 WABC WCAU WNAC WEAN WFBL  
 WMAK WCAO WJAS WADC WKRC  
 WGHP KMBC WBBM WOWO KOIL  
 WLBW WMAL WSPD (KMOX 11:45-12)

12:00-1:00 Evening Stars  
 WEAH WTAG WRC WWJ KSD  
 WHO WOV WJAX KSTP WTMJ  
 WSM WRVA WKY KOA KSL  
 WCSH WGY WCAE WDAF KPCC  
 WAPI WLIT WTAM WBT WBAP  
 WECB WFJC

5:00-5:15 Dr. Thatcher Clark  
 WABC WCCO WOWO WCAO WHP  
 WWNC WKBN WDOD WKRC WFAN  
 KLZ WMAK KFPY KVI WREC

6:30-7:00 Raybestos Twins  
 WEAH WJAR WTAG WCSH WRC  
 WGY WCAE WTAM WWJ

7:00-7:30 Henry-George  
 WABC WADC WMAK WKRC WHK  
 KMBC KOIL WJAS KMOC WISN  
 WCCO WFBL WMAQ WFBM WGBI

7:30-7:45 Broadway Lights  
 WEAH WCSH WLIT WRC WGR  
 KSD WWJ

7:30-8:00 Dixies Circus  
 WJZ WBZ WBZA KDKA KYW  
 WHAS WSM WSB WBT WMC  
 WLW

7:30-8:00 Howard Fashion Plates  
 WABC WCAU WNAC WEAN WFBL  
 WJAS

8:00-8:30 Brown-Bill Footlights  
 WABC WADC WCAO WNAC WMAK  
 WKRC WHK WGHP WOWO KMBC  
 WLBW KOIL WCAU WJAS WEAN  
 KMOC WFBL WMAL WHP WAIU  
 WFBM WHEC WCCO WWNC WTAR  
 WDBJ WBRC WDOD WREC WLAC  
 WDSU KRLD KLRA KFJF KFH  
 KLZ KHJ KOIN KLDL KFRC  
 KVI KFPY WISN

8:00-8:30 Triadors  
 WJZ WBZ WBZA KDKA WREN  
 WHAM WJR WLW KWK

8:00-9:00 Cities Service Orchestra  
 WEAH WEEI WTIC WLIT WRC  
 WGR WCAE WTAM WYW KSD  
 WOW WDAF KSTP WTMJ WKY  
 WWJ WOC KOA WFAA WSAI  
 WJAR

8:30-9:00 Eversharp Penmen  
 WABC WFBM WMAQ WFBL WHK  
 WMAK WJAS KMBC KOIL WKRC  
 WNAC WEAN WADC WLBW WCAU  
 WCAO WGHP WOWO KMOX WSPD  
 WMAL WCCO CKGW

8:45-9:00 Famous Loves  
 WJZ WBZ WBZA WHAM KDKA  
 WLW KWK WREN WRVA WBT  
 WJAX WIOD WCFB KFAB

9:00-9:30 Stars of Melody  
 WEAH WJAR WTAG WRC WGY  
 WCAE WWJ KSD WOC WOW

9:00-9:30 Interwoven Pair  
 WJZ WBZ WBZA WHAM KDKA  
 WMC KYW WREN KPCC WOI  
 KOA WHAS WSM WSB WBT  
 WJAX KWK WRVA KSL KPO  
 KGO KOMO KHQ KGW KFI  
 WKY WAPI WSMB WIOD WLW  
 WFAA

9:00-10:00 True Story Hour  
 WABC WCAU WNAC WEAN WKRC  
 WFBL WMAK WCAO WJAS WADC  
 WGHP WMAQ WOWO KMOX KMBC  
 KOIL WSPD WHK WLBW WMAL  
 WHEC WCCO WDBJ WTAR WWNC  
 WLAC WDOD WREC KFJF KRLA  
 KRLD K TSA WDSU KLZ KDYL  
 KHJ KFRC KOIN KVI KFPY

9:30-10:00 Schraderstown Band  
 WEAH WEEI WTIC WJAR WTAG  
 WCSH WGY WGR WCAE WWJ  
 WSAI KSD WOC WOW WRC  
 WLIT WFJC WIBO

9:30-10:00 Philco's Theatre Memories  
 WJZ WBZ WBZA WHAM KDKA  
 WJR KYW WKB WREN WTMJ  
 KSTP WEEC WRVA WMC WSB  
 WSMB KPCC WOI KOA KSL  
 WSM WKY WCKY WBT WHAS  
 KPO KGO KFI KGW KOMO

10:00-10:30 Bremer-Tully Time  
 WABC WCAU WNAC WEAN WFBL  
 WMAK WCAO WJAS WADC WKRC  
 WGHP WMAQ KMOC KOIL WSPD  
 WHK WLBW WMAL WISN KMBC  
 WOWO WCCO

10:00-10:30 Planters Pickers  
 WEAH WTIC WJAR WTAG WCSH  
 WLIT WRC WGY WGR WCAE  
 WFJC WWJ WSAI WLS KSD  
 WOW WDAF

10:00-10:30 Armstrong Quakers  
 WJZ WBZ WBZA KDKA WBAP  
 KYW KWK WREN WHAM WJR  
 KSTP WTMJ WEEC WHAS WSM  
 WSB WBT KVOO KPCC WOI  
 WKY WSMB KOA KSL KGO  
 KFI KGW KOMO KHQ WMC

10:30-11:00 Armour Program  
 WJZ WBZ WBZA WHAM KDKA  
 WJR WLW WYW KWK WREN  
 WBT WJAX WHAS WSM WMC  
 WSB WSMB WRVA WFAA KPCC  
 WOI WKY WTMJ KSL KSTP  
 WEEC KOA KPO KGO KFI  
 KGW KOMO KHQ KVOO KTHS

10:30-11:00 Mystery House  
 WEAH WTAG WRC WWJ WOC  
 WGR WCAE

10:30-11:00 Curtis Institute of Music  
 WABC WLAC WCAO WISN WWNC  
 WKBN WLBW WNAC WEAN WSPD  
 WADC WMAQ WMAL WDOD WBR



WJAS WKRC WCAU KOIL KLZ KDYL WMAK KMOX KVI WREC WDBJ	WFBM WBRC WJAS WKRC WFAN KFH KOIL KLZ KFRC WKBW KFPY KMOX KVI WREC WDBJ
11:00-12:00 Hotel St. Regis Orchestra WEAF WTIC WWJ WSAI WFJC WGY WOC	8:30-9:00 Lauderland Lyrics WEAF WEEI WJAR WTAG WCSH WRC WGY WGR WCAE WWJ WSAI WLS KSD WHO WOW WDAF WTMJ KSTP WEBC WRVA WBT WJAX WIOD WHAS WSM WMC WSB WAPI WSMB WKY KTHS WBAP KPRC WOAI KOA
<b>Saturday</b>	
10:00-10:30 Personality Plus WABC WHK WDOD WCAU WCAO WBBM WFBL WLBW WOWO WKBW WMAL WREC WDBJ WWNC KMBC KOIL KVI KMOX KFPY WLAC	9:00-9:30 Graybar's, Mr. and Mrs. WABC WCAU WNAC WEAN WFBL WKBW WCAO WJAS WADC WKRC WGHP WMAQ WOWO KMOX KMBC KOIL WSPD WHK WOBW WMAL WFBM WDBJ WTAR WWNC KFI WLAC WDOD WBRC WREC KRLD KFH KTSa WCCO WISN WDSU KLRA KLZ KDYL KFRC KHJ KOIN KVI KFPY WKBN
10:30-11:00 Columbia Male Trio WABC WHK WDOD WCAU WCAO WGHP WBBM WFBL WJAS WLBW WOWO WKBW WMAL WREC WDBJ WWNC KMBC KOIL KVI KFPY KLZ WLAC	9:00-10:00 General Electric Hour WEAF WEEI WJAR WTAG WCSH WFI WRC WGY WGR WCAE WTAM WWJ WLS KSD WHO WOW WDAF WTMJ WEBC WJAX WHAS WSMB WMC WSB WBT WBAP KPRC WOAI WRVA WSAI KSTP WAPI WKY KOA KPO KGW KOMO KHQ KSL KGO
11:00-11:30 Adventures of Helen and Mary WABC WKRC WDOD WCAU WBBM WFBL WSPD WJAS WLBW WOWO WKBW WMAL WREC WDBJ WWNC KVI KFPY KLZ	9:30-10:00 The Gulbransen Hour WABC WGHP WCAO WHK WJAS KOIL WNAC WKRC WEAN WADC WLBW WCAU WFBL WMAK WMAQ WOWO KMOX KMBC WSPD WMAL WISN
11:30-12:00 Saturday Syncopaters WABC WDOD WFAN WCAO WGHP WBBM WFBL WSPD WJAS WLBW WOWO WKBW WMAL WREC WDBJ WWNC KMBC KVI KFPY KLZ	9:30-10:00 Gillette Program WJZ WBZ WBZA WBAL WHAM KDKA WJR WLW KWK WREN
6:00-6:30 Musical Vespers WABC WHK WKRC WADC WDOD WFAN WFBM WCAO WCCO WBBM WFBL WOWO WKBW WMAQ WREC WDBJ WWNC KVI KFPY KFH	10:00-11:00 Lucky Strike Orchestra WEAF WEEI WJAR WTAG WCSH WFI WRC WGY WGR WCAE WWJ WGN KSD WHO WOW WDAF WIOD KSTP WTMJ WSMB WJAX WHAS WMC WSB WBT WBAP KPRC WOAI WKY WAPI WSAI WFJC KOA KSL KPO KGO KFI KGW KOMO KHQ
6:30-7:00 Nit Wit Hour WABC WHK WGHP WCAO WISN WHP WWNC WKBW WLBW WDOD WFBM WJAS WKRC KOIL KLZ KMBC WKBW KFPY KVI WREC WDBJ	10:00-11:00 Paramount-Publix Hour WABC WCAU WNAC WEAN WFBL WKBW WCAO WJAS WADC WKRC WGHP WOWO KMBC WBBM KOIL WSPD WHK WLBW WMAL WFBM WHEC CFRB WDBJ WTAR WWNC WLAC WDOD WBRC WREC KLRa KFJF KRLD KTSa WCCO WISN WDSU KLZ KDYL KHJ KFRC KOIN KVI KFPY KMOX WIBW WHP
7:00-7:30 "New Business World" WEAF WEEI WJAR WTAG WCSH WRC WGY WGR WCAE WWJ WSAI WOW KSTP WEBC WRVA WBT WJAX WHAS WMC WSMB WBAP KOA	10:00-11:00 Chicago Civic Opera WJZ WBZ WBZA WBAL WHAM KDKA WJR KWK WREN
7:30-8:00 Phil Spitalny's Music WEAF WEEI WFI WRC WWJ WSAI WHO WSM WGY WPTF KOA WCAE WJAR	11:00-11:30 Guy Lombardo Canadians WABC WKRC WISN WDOD WCAU WCAO WGHP WFBL WSPD WJAS WLBW WOWO WKBW WNAC WEAN WMAL WMAQ WREC WDBJ WWNC KDYL KMBC KOIL KVI KFPY KLZ
8:00-8:15 Guy Lombardo Canadians WABC WHK WLAC WOWO WGHP WCAO WISN WWNC WKBW WLBW WNAC WEAN WSPD WADC WMAL WDOD WFBM WBRC WJAS WKRC WCAU KFH KOIL KLZ KMBC KFRC WKBW KFPY KMOX KVI WREC WDBJ	11:30-12:00 Hotel Paramount Orchestra WABC WOWO WGHP WCAO WISN WHP WWNC WLBW WNAC WEAN WSPD WMAL WDOD WBRC WKRC WCAU KOIL KLZ KDYL WKBW KFPY KVI WREC WDBJ
8:00-8:30 Lyric Famous Challengers WEAF WEEI WJAR WTAG WCSH WFI WRC WGY WGR WCAE WWJ WSAI KYW KSD WHO WOW WDAF KTHS WAPI WFJC WPTF WJAX KSTP WTMJ WEBC WIOD WHAS WSM WMC WSB WBT WSMB WBAP KPRC WOAI WKY KOA KSL KGO KFI KGW KOMO KHQ KPO WRVA	8:15-8:30 Babson Finance Period WABC WFBL WEAN WBBM WNAC WKRC WMAL WCAO WSPD WADC WKBW WLBW WOWO WJAS WCCO WCAU KMBC KOIL WGHP WHK KMOX WJJD
8:30-9:00 Dixie Echoes WABC WLAC WCCO WOWO WGHP WCAO WISN WWNC WLBW WNAC WEAN WSPD WADC WMAL WDOD	11:30-12:00 Charles Strickland's Orchestra WEAF WCAE WHO WWJ WDAF WKY WIOD KSD

# AIR-LINE DISTANCES

Atlanta, Ga.	1273	1070	774	1967	638	1577	1126	1248	1417	932	893	1360	228	968	561	803	588	773	1252	1492	717	663	1174	938	1710	980	895
Baltimore, Md.	575	1830	933		495	583	368	550	1208	738	595	1293	1112	923	750	688	901	498	947	286	675	1935	317	335	610	905	1790
Boston, Mass.	2055	358			1525	273	603	423	305	1508	913	398	1750	1143	1239	1245	1154	964	808	682	962	2313	498	792	958	948	1947
Buffalo, N. Y.	2266				1610	1072	1453	1663	1754	637	1155	1671	969	975	1263	1538	934	1384	1367	2098	1158	663	1623	1506	2368	1140	2522
Chicago, Ill.	1881	398	849	737	500	1766	1159	613	2087	1304	1574	1598	1415	1302	922	1015	1250	2590	823	1133	1258	1125	1124	1100	1335	1706	
Cincinnati, Ohio	454	392	175		1368	762	218	1690	923	1221	1289	1019	956	560	880	802	2195	483	802	1814	1791	268	461	1190	356	1348	
Cleveland, Ohio	249	307			918	310	236	1249	571	820	954	566	585	367	861	413	1741	268	461	1190	356	1348					
Denver, Colo.	218	1090	509	234	1333	818	839	897	742	569	589	628	541	1942	92	410	957	603	1513								
Des Moines, Iowa	1223	617	94	1521	838	1047	1102	1398	268	1445	471	287	1013	650	1543	1025	923	1370	1093	777	1100	1335	1706				
Detroit, Mich.	607	1153	554	642	643	925	353	749	970	1468	555	828	1035	878	1732	699	670										
El Paso, Tex.	545	980	397		640	851	256	488	458	1024	180	1433	477	485	1338	235	1070										
Fargo, N. Dak.	1475	745			1018	1111	800	761	427	832	643	1976	315	621	1156	542	1550										
Fort Worth, Tex.	1161	543	723	577	1062	1422	1481	836	702	1253	978	1662	1156	1115	1219	619											
Houston, Mich.	283	544	273	1093	943	460	1212	751	448	1150	870	1312															
Houston, Tex.	808	375	1277		799	877	1423	807	492	941	1087	1595															
Houston, Ark.	513	666	1178	226	1177	693	591	1468	399	891																	
Jacksonville, Fla.	901	728	326	1437	480	176	933	722	1385																		
Kansas City, Mo.	1216	633	1787	636	830	1545	872	1208																			
Los Angeles, Calif.	952	2153	595	591	328	1192	2070																				
Louisville, Ky.	1352	480	370	1247	413	1117																					
Memphis, Tenn.	1825	1602		2355	1522	910																					
Miami, Fla.	319	923	605	1550																							
Minneapolis, Minn.	878	700	1458		1516	359																					
Missoula, Mont.	1516	359		1070																							

## How To Use Your RADEX

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

Let us assume that the station we are hearing is WEAF in New York. First we must ascertain the frequency for this station. Look it up under WEAF in the Index by Call Letters or under New York in the Index by States and Cities. In either of these indexes we find that the frequency of WEAF is 660. Now we turn to 660 kilocycles in the Index by Frequencies and Dial Numbers. 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 kilocycles) 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.

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

We now have found that the dial numbers for 630 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

### INDEX BY FREQUENCIES AND DIAL NUMBERS

590 kilocycles 508.2 meters	76 74	Louis Weaver, Inc. Peterson Western University Edison Elec. Illuminating Co. Woodward of the World Kempshall Missionary College
600 kilocycles 499.7 meters	75 73	Abilene Power & Paper Co. Phillips N. S. Thomas Airline Radio Corp. Monogrammatic Radio Co., Inc. Rehoboth College Virginia School of Music W.R.I.C., Inc. Travelers Insurance Co.
610 kilocycles 491.5 meters	74 72	Don Lee, Inc. Kansas City Star Co. Raymond Broadcasting Co., Inc. Cleveland Star, Inc. Unity School of Christianity
620 kilocycles 483.6 meters	73 71	Biological Equipment Co. Wagon Publishing Co. Tampa Publishing Co. Ballou College, Inc. Thompson E. Guernsey Milwaukee Journal
630 kilocycles 475.9 meters	72 70	Worship of the Air, Inc. M. A. Lewis Co. State Marketing Bureau
640 kilocycles 468.5 meters		Fairle C. Anthony, Inc. American Insurance Union
650 kilocycles 461.3 meters	70 68	National Life & Accident Ins. Co.
660 kilocycles 454.3 meters	69 67	Omaha Grain Exchange National Broadcasting Co., Inc.
670 kilocycles 447.5 meters	68 66	Chicago Daily News, Inc.
680 kilocycles 440.9 meters	67 65	Hale Bros. & The Chronicle Duhon Life Insurance Co.

# IN STATUTE MILES

Marshall, Tenn.	1117 1030	New Orleans, La.	1610 1696	New York, N. Y.	518 718 1748	Philadelphia, Pa.	330 1498 2015	Pittsburgh, Pa.	1107 1628	St. Louis, Mo.	938 483 893 1823 1178	Salt Lake City, Utah	467 1580 2133 840 2180	San Francisco, Calif.	731 1858 2451 278 2341	Schenectady, N. Y.	1389 292 516 2120 405	Seattle, Wash.	1036 2099 2696 150 2508	Shreveport, La.	764 1028 1889 742 1648	Spokane, Wash.	548 1960 863 917 542	Springfield, Mass.	1064 2110 282 1083 33	Vermillion, S. Dak.	1433 290 2196 973 2045	Washington, D.C.	1410 2279 79 1314 392	Albuquerque, N. Mex.	218 427 747 507 753 815 663	Atlanta, Ga.	1592 520 1022 2172 470	Baltimore, Md.	2002 194 446 2367 128	Boise, Idaho	733 1863 2282 349 2060	Boston, Mass.	2295 478 100 2553 471	Brownsville, Tex.	975 1317 1675 1770 2015	Buffalo, N. Y.	662 1701 2298 249 2130	Chicago, Ill.	259 1260 1855 702 1743	Cincinnati, Ohio	308 1450 2037 605 1974	Cleveland, Ohio	490 1567 2163 408 2035	Denver, Colo.	793 372 946 1618 1020	Des Moines, Iowa	270 952 1547 1012 1470	Detroit, Mich.	452 1490 2087 467 1945	El Paso, Tex.	1033 689 993 1930 1373	Fargo, N. Dak.	658 865 1447 1157 1206	Fort Worth, Tex.	568 977 1454 1445 1598	Galveston, Tex.	697 1849 1693 1487 1938	Hartings, Nebr.	455 708 1297 1267 1288	Hot Springs, Ark.	325 1116 1648 1175 1759	Jacksonville, Fla.	591 1242 1833 776 1588	Kansas City, Mo.	755 1840 2375 960 2450	Los Angeles, Calif.	238 922 1500 1107 1505	Lexington, Ky.	1585 577 345 2445 956	Memphis, Tenn.	242 1400 1983 695 1945	Miami, Fla.	242 1250 1800 1010 1897	Minneapolis, Minn.	1067 2028 2603 1229 2740	Nashville, Tenn.	464 988 1585 975 1403	New Orleans, La.	1331 435 786 1978 395	New York, N. Y.	253 1390 1958 820 1973	Norfolk, Va.	599 1433 1923 1259 2098	Omaha, Nebr.	873 1972 2568 142 2419	Philadelphia, Pa.	771 1925 2510 426 2440	Phoenix, Ariz.	456 862 1386 1354 1523	Pittsburgh, Pa.	352 833 1425 1133 1372	Portland, Me.	808 1923 2518 205 2362	Portland, Ore.	1270 504 652 2152 1112	Richmond, Va.	561 1670 2264 350 2145	St. Louis, Mo.	1094 2127 2725 197 2513	Salt Lake City, Utah	1723 636 536 2405 143	San Francisco, Calif.	699 1850 2436 406 2362	Seattle, Wash.	1158 1738 898 1722	Schenectady, N. Y.	592 1950 697	Shenectady, N. Y.	2548 680	Shreveport, La.	2363 1290 219 86 1165 313	Spokane, Wash.	1820 229 2445 1732 2335	Springfield, Mass.	1621 1333 726 1035	Vermillion, S. Dak.	2216 1055 2105	Washington, D.C.	1242 321	Albuquerque, N. Mex.	1177 1030	Atlanta, Ga.	1610 1696	Chicago, Ill.	518 718 1748	Cincinnati, Ohio	330 1498 2015	Cleveland, Ohio	1107 1628	Denver, Colo.	938 483 893 1823 1178	Des Moines, Iowa	467 1580 2133 840 2180	Detroit, Mich.	731 1858 2451 278 2341	Fargo, N. Dak.	1389 292 516 2120 405	Fort Worth, Tex.	1036 2099 2696 150 2508	Galveston, Tex.	764 1028 1889 742 1648	Hartings, Nebr.	548 1960 863 917 542	Hot Springs, Ark.	1064 2110 282 1083 33	Jacksonville, Fla.	1433 290 2196 973 2045	Kansas City, Mo.	1410 2279 79 1314 392	Lexington, Ky.	218 427 747 507 753 815 663	Los Angeles, Calif.	1592 520 1022 2172 470	Memphis, Tenn.	2002 194 446 2367 128	Miami, Fla.	733 1863 2282 349 2060	Minneapolis, Minn.	2295 478 100 2553 471	Nashville, Tenn.	975 1317 1675 1770 2015	New Orleans, La.	662 1701 2298 249 2130	New York, N. Y.	259 1260 1855 702 1743	Norfolk, Va.	308 1450 2037 605 1974	Omaha, Nebr.	490 1567 2163 408 2035	Philadelphia, Pa.	793 372 946 1618 1020	Phoenix, Ariz.	270 952 1547 1012 1470	Pittsburgh, Pa.	452 1490 2087 467 1945	Portland, Me.	1033 689 993 1930 1373	Portland, Ore.	658 865 1447 1157 1206	Richmond, Va.	568 977 1454 1445 1598	St. Louis, Mo.	697 1849 1693 1487 1938	Seattle, Wash.	455 708 1297 1267 1288	Shenectady, N. Y.	325 1116 1648 1175 1759	Shreveport, La.	591 1242 1833 776 1588	Spokane, Wash.	755 1840 2375 960 2450	Springfield, Mass.	238 922 1500 1107 1505	Vermillion, S. Dak.	1585 577 345 2445 956	Washington, D.C.	242 1400 1983 695 1945	Albuquerque, N. Mex.	242 1250 1800 1010 1897	Atlanta, Ga.	1067 2028 2603 1229 2740	Chicago, Ill.	464 988 1585 975 1403	Cincinnati, Ohio	1331 435 786 1978 395	Cleveland, Ohio	253 1390 1958 820 1973	Denver, Colo.	599 1433 1923 1259 2098	Des Moines, Iowa	873 1972 2568 142 2419	Detroit, Mich.	771 1925 2510 426 2440	El Paso, Tex.	456 862 1386 1354 1523	Fargo, N. Dak.	352 833 1425 1133 1372	Fort Worth, Tex.	808 1923 2518 205 2362	Galveston, Tex.	1270 504 652 2152 1112	Hartings, Nebr.	561 1670 2264 350 2145	Hot Springs, Ark.	1094 2127 2725 197 2513	Jacksonville, Fla.	1723 636 536 2405 143	Kansas City, Mo.	699 1850 2436 406 2362	Lexington, Ky.	1158 1738 898 1722	Los Angeles, Calif.	592 1950 697	Memphis, Tenn.	2548 680	Miami, Fla.	2363 1290 219 86 1165 313	Minneapolis, Minn.	1820 229 2445 1732 2335	Nashville, Tenn.	1621 1333 726 1035	New Orleans, La.	2216 1055 2105	New York, N. Y.	1242 321	Norfolk, Va.	218 427 747 507 753 815 663	Omaha, Nebr.	1592 520 1022 2172 470	Philadelphia, Pa.	2002 194 446 2367 128	Phoenix, Ariz.	733 1863 2282 349 2060	Pittsburgh, Pa.	2295 478 100 2553 471	Portland, Me.	975 1317 1675 1770 2015	Portland, Ore.	662 1701 2298 249 2130	Richmond, Va.	259 1260 1855 702 1743	St. Louis, Mo.	308 1450 2037 605 1974	Seattle, Wash.	490 1567 2163 408 2035	Shenectady, N. Y.	793 372 946 1618 1020	Shenectady, N. Y.	270 952 1547 1012 1470	Shenectady, N. Y.	452 1490 2087 467 1945	Shenectady, N. Y.	1033 689 993 1930 1373	Shenectady, N. Y.	658 865 1447 1157 1206	Shenectady, N. Y.	568 977 1454 1445 1598	Shenectady, N. Y.	697 1849 1693 1487 1938	Shenectady, N. Y.	455 708 1297 1267 1288	Shenectady, N. Y.	325 1116 1648 1175 1759	Shenectady, N. Y.	591 1242 1833 776 1588	Shenectady, N. Y.	755 1840 2375 960 2450	Shenectady, N. Y.	238 922 1500 1107 1505	Shenectady, N. Y.	1585 577 345 2445 956	Shenectady, N. Y.	242 1400 1983 695 1945	Shenectady, N. Y.	242 1250 1800 1010 1897	Shenectady, N. Y.	1067 2028 2603 1229 2740	Shenectady, N. Y.	464 988 1585 975 1403	Shenectady, N. Y.	1331 435 786 1978 395	Shenectady, N. Y.	253 1390 1958 820 1973	Shenectady, N. Y.	599 1433 1923 1259 2098	Shenectady, N. Y.	873 1972 2568 142 2419	Shenectady, N. Y.	771 1925 2510 426 2440	Shenectady, N. Y.	456 862 1386 1354 1523	Shenectady, N. Y.	352 833 1425 1133 1372	Shenectady, N. Y.	808 1923 2518 205 2362	Shenectady, N. Y.	1270 504 652 2152 1112	Shenectady, N. Y.	561 1670 2264 350 2145	Shenectady, N. Y.	1094 2127 2725 197 2513	Shenectady, N. Y.	1723 636 536 2405 143	Shenectady, N. Y.	699 1850 2436 406 2362	Shenectady, N. Y.	1158 1738 898 1722	Shenectady, N. Y.	592 1950 697	Shenectady, N. Y.	2548 680	Shenectady, N. Y.	2363 1290 219 86 1165 313	Shenectady, N. Y.	1820 229 2445 1732 2335	Shenectady, N. Y.	1621 1333 726 1035	Shenectady, N. Y.	2216 1055 2105	Shenectady, N. Y.	1242 321	Shenectady, N. Y.	218 427 747 507 753 815 663	Shenectady, N. Y.	1592 520 1022 2172 470	Shenectady, N. Y.	2002 194 446 2367 128	Shenectady, N. Y.	733 1863 2282 349 2060	Shenectady, N. Y.	2295 478 100 2553 471	Shenectady, N. Y.	975 1317 1675 1770 2015	Shenectady, N. Y.	662 1701 2298 249 2130	Shenectady, N. Y.	259 1260 1855 702 1743	Shenectady, N. Y.	308 1450 2037 605 1974	Shenectady, N. Y.	490 1567 2163 408 2035	Shenectady, N. Y.	793 372 946 1618 1020	Shenectady, N. Y.	270 952 1547 1012 1470	Shenectady, N. Y.	452 1490 2087 467 1945	Shenectady, N. Y.	1033 689 993 1930 1373	Shenectady, N. Y.	658 865 1447 1157 1206	Shenectady, N. Y.	568 977 1454 1445 1598	Shenectady, N. Y.	697 1849 1693 1487 1938	Shenectady, N. Y.	455 708 1297 1267 1288	Shenectady, N. Y.	325 1116 1648 1175 1759	Shenectady, N. Y.	591 1242 1833 776 1588	Shenectady, N. Y.	755 1840 2375 960 2450	Shenectady, N. Y.	238 922 1500 1107 1505	Shenectady, N. Y.	1585 577 345 2445 956	Shenectady, N. Y.	242 1400 1983 695 1945	Shenectady, N. Y.	242 1250 1800 1010 1897	Shenectady, N. Y.	1067 2028 2603 1229 2740	Shenectady, N. Y.	464 988 1585 975 1403	Shenectady, N. Y.	1331 435 786 1978 395	Shenectady, N. Y.	253 1390 1958 820 1973	Shenectady, N. Y.	599 1433 1923 1259 2098	Shenectady, N. Y.	873 1972 2568 142 2419	Shenectady, N. Y.	771 1925 2510 426 2440	Shenectady, N. Y.	456 862 1386 1354 1523	Shenectady, N. Y.	352 833 1425 1133 1372	Shenectady, N. Y.	808 1923 2518 205 2362	Shenectady, N. Y.	1270 504 652 2152 1112	Shenectady, N. Y.	561 1670 2264 350 2145	Shenectady, N. Y.	1094 2127 2725 197 2513	Shenectady, N. Y.	1723 636 536 2405 143	Shenectady, N. Y.	699 1850 2436 406 2362	Shenectady, N. Y.	1158 1738 898 1722	Shenectady, N. Y.	592 1950 697	Shenectady, N. Y.	2548 680	Shenectady, N. Y.	2363 1290 219 86 1165 313	Shenectady, N. Y.	1820 229 2445 1732 2335	Shenectady, N. Y.	1621 1333 726 1035	Shenectady, N. Y.	2216 1055 2105	Shenectady, N. Y.	1242 321
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before un-  
after an eve-  
ing or two, we have  
lanks filled on every  
age. We are now able to  
at our dials for any frequency  
e desire and consequently any  
tation we may want whether we have  
ver received it before or not.

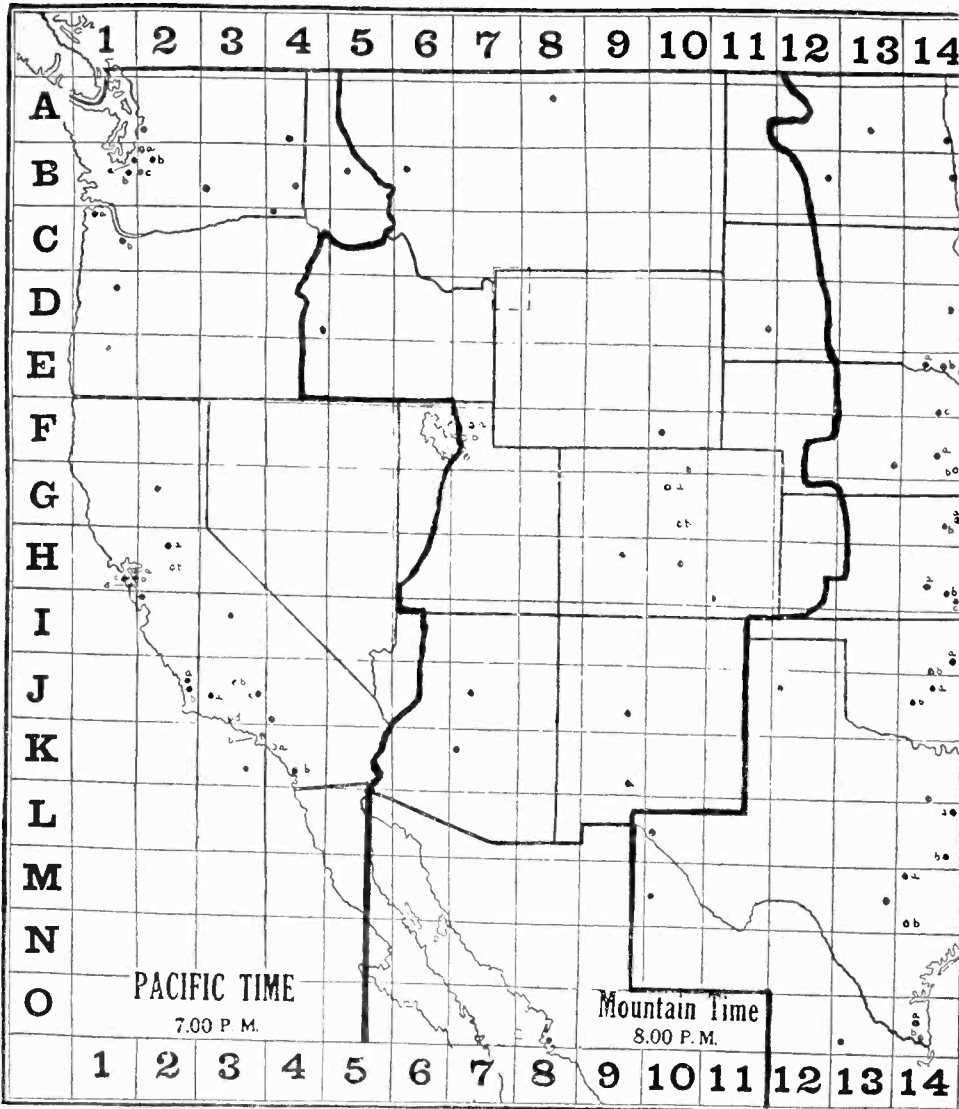
Our index now becomes of great value to us  
identifying programs. Let us say that we hear  
music at 67-65 on our dials. We refer to our  
index by Frequencies and Dial Numbers and we  
nd that we are in tune to 680 kilocycles. On this  
ave there are two stations: KPO at San Fran-  
cisco and WPTF at Raleigh, N. C. Both of these  
ations have 5000 watts in power. But knowing  
hich is the closer to our set, we can tell almost  
nvariably which station we are hearing. The  
adio Commission has had to give the same fre-  
quency in most cases to several stations but they  
ave distributed them geographically so they  
ould not interfere. When two stations in the  
ame locality have the same frequency, they are  
equired to divide time. In this case of course it  
is not possible to tell which one of the two sta-  
tions is broadcasting at the particular moment  
ve hear it but we do know it is one or the other of  
hem.

The second column in the Frequencies, s  
s we have seen, gives the power of the station as  
easured 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 provid-  
ing 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 Fre-  
quencies 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 de-  
sired. Take a pair of shears and cut along the  
dotted line, as shown.



The Radex Press,  
P. O. Box 143, Cleveland, Ohio

Begin With No. 34  
35

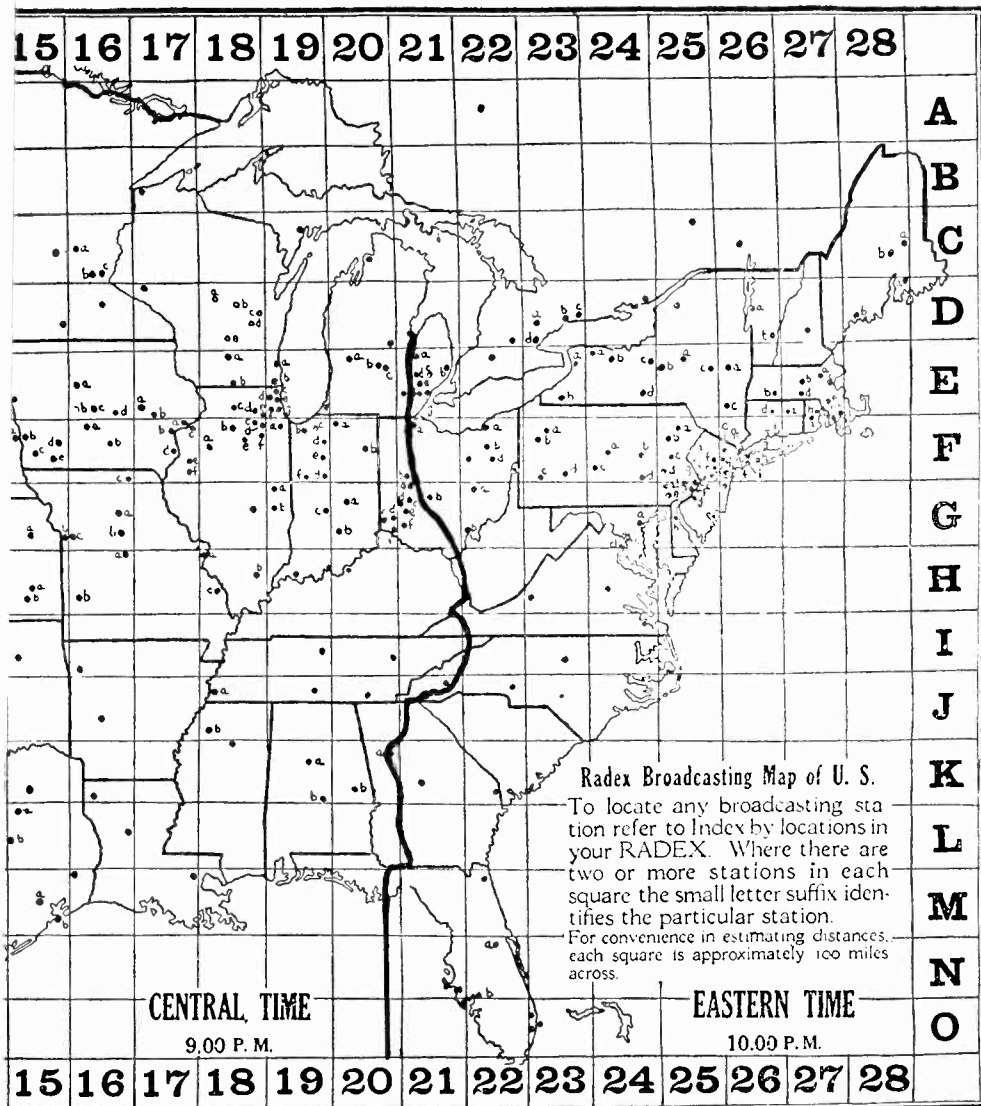
Renewal or  
New Subscription

Please enter my subscription for one year (ten issues) for which I enclose \$1.75.  
Also send me leatherette cover for which I enclose 50c. (Cross out if not wanted.)

Write Name Plainly .....

Street and No. ....

City and State .....



RADEX is published monthly throughout the year with the exception of July and August. The price is 25c per copy or \$1.75 for the year of ten issues. If you desire to be up-to-date in radio and to be kept informed of the frequent changes in stations, please fill in the coupon on this page and mail it at once.

In answer to many requests we have had prepared a beautiful leatherette cover stamped in gold. This cover is not only an ornament to even the finest set but it protects your RADEX from wear and gives a solid backing for making entries. The price of this cover is 50c or we will send one free for two yearly subscriptions. Send your own and a friend's subscription and we will send you one of these beautiful covers free.

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### NOTICE OF COPYRIGHT

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

### 540 kilocycles 555.6 meters

CKX	500	Brandon, Manitoba
XFA	50	Mexico City

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Manitoba Telephone System  
Sria. de Agricultura y Fomento

### 550 kilocycles 545.1 meters

KFDY	1000	Brookings, S. D.
KFUO	500	St. Louis, Mo.
KFYR	500	Bismarck, N. D.
KOAC	1000	Corvallis, Ore.
KSD	500	St. Louis, Mo.
WGR	1000	Buffalo, N. Y.
WKRC	500	Cincinnati, Ohio
KEY	105	Merida, Yucatan

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S. D. State College  
Concordia Theological Seminary  
Hoskins-Meyer  
State Agricultural College  
Pulitzer Publishing Co.  
Radio Station WGR Inc.  
J. S. Boyd  
Partido Socialista del Sureste

### 560 kilocycles 535.4 meters

KFDM	500	Beaumont, Texas
KFEQ	2500	St. Joseph, Mo.
KLZ	1000	Dupont, Colo.
KTAB	1000	Oakland, Cal.
WFI	500	Philadelphia, Pa.
WLIT	500	Philadelphia, Pa.
WNOX	1000	Knoxville, Tenn.
WOI	500	Ames, Iowa
WQAM	1000	Miami, Fla.

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Magnolia Petroleum Co.  
Scroggin & Co. Bank  
Reynolds Radio Co., Inc.  
Associated Broadcasters  
Strawbridge & Clothier  
Lit Brothers  
Sterchi Bros.  
Iowa State College  
Miami Brdctsg. Co.

### 570 kilocycles 526.0 meters

KGKO	250	Wichita Falls, Tex.
KMTR	500	Hollywood, Cal.
KUOM	500	Missoula, Mont.
KXA	500	Seattle, Wash.
WEAO	750	Columbus, Ohio
WIBO	1000	Chicago, Ill.
WKBN	500	Youngstown, Ohio
WMAC	250	Cazenovia, N. Y.
WMCA	500	New York City
WNAX	1000	Yankton, S. D.
WNYC	500	New York City
WPCC	500	Chicago, Ill.
WSYR	250	Syracuse, N. Y.
WWNC	1000	Asheville, N. C.

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Wichita Falls Brdctsg. Co.  
KMTR Radio Corp.  
University of Montana  
American Radio Tel. Co.  
Ohio State University  
Nelson Bros. Bond & Mtg. Co.  
W. P. Williamson, Jr.  
Clive B. Meredith  
Knickerbocker Broadcasting Co., Inc.  
Gurney Seed & Nursery Co.  
Dept. of Plants and Structures  
North Shore Congregational Church  
Clive B. Meredith  
Citizens Brdctsg. Co., Inc.

### 580 kilocycles 516.9 meters

CFCL	500	Toronto, Ont.
CHMA	250	Edmonton, Alta
CJBC	500	Toronto, Ont.
CJCA	500	Edmonton, Alta
CKCL	500	Toronto, Ont.
CKNC	500	Toronto, Ont.
CKUA	500	Edmonton, Alta.
CNRE	500	Edmonton, Alta
KGFX	200	Pierre, S. D.
KSAC	500	Manhattan, Kans
WIBW	500	Topeka, Kansas
WOBW	250	Charleston, W. Va.
WSAZ	250	Huntington, W. Va.
WTAG	250	Worcester, Mass.

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Dominion Battery Co.  
Christian and Missionary Alliance  
Jarvis Street Baptist Church  
The Edmonton Journal, Ltd.  
The Dominion Battery Co.  
Canadian National Carbon Co., Ltd.  
University of Alberta  
Canadian National Railways  
Dana McNeil  
State Agricultural College  
Topeka Brdctsg. Assn. Inc.  
Charleston Radio Brdctsg. Co.  
WSAZ Inc.  
Telegram Publishing Co.

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 590 kilocycles 508.2 meters

KHQ	1000	Spokane, Wash.
WCAJ	500	Lincoln, Nebr.
WEEL	1000	Boston, Mass.
WEMC	1000	Berrien Springs, Mich.
WOW	1000	Omaha, Nebr.
XFI	1000	Mexico City

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Louis Wasmer, Inc.  
Nebraska Wesleyan University  
Edison Elec. Illuminating Co.  
Emmanuel Missionary College  
Woodmen of the World  
Sria. de Industria, Comercio y Trabajo

KCY.S.  
**670**  
MTRS.  
**447.5**  
DIAL

### 600 kilocycles 499.7 meters

CFCH	250	Iroquois Falls, Ont.
CJRM	500	Moose Jaw, Sask.
CJRW	500	Fleming, Sask.
CNRO	500	Ottawa, Ont.
KFSD	500	San Diego, Cal.
WCAC	250	Storrs, Conn.
WCAO	250	Baltimore, Md.
WEBW	350	Beloit, Wis.
WMT	250	Waterloo, Iowa
WOAN	500	Lawrenceburg, Tenn.
WREC	500	Memphis, Tenn.
WSUI	500	Iowa City, Iowa

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Abitibi Power & Paper Co.  
Jas. Richardson & Sons, Ltd.  
Jas. Richardson & Sons, Ltd.  
Canadian National Railways  
Airfan Radio Corp.  
Conn. Agricultural College  
Monumental Radio, Inc.  
Beloit College  
Waterloo Broadcasting Co.  
James D. Vaughan  
WREC, Inc.  
University of Iowa

### 610 kilocycles 491.5 meters

KFRC	1000	San Francisco, Cal.
WDAF	1000	Kansas City, Mo.
WFAN	500	Philadelphia, Pa.
WIP	500	Philadelphia, Pa.

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

### 620 kilocycles 483.6 meters

KFAD	500	Phoenix, Ariz.
KGW	1000	Portland, Ore.
WFLA	1000	Clearwater, Fla.
WJAY	500	Cleveland, Ohio
WLBS	250	Bangor, Me.
WSUN	1000	St. Petersburg, Fla.
WTMJ	1000	Milwaukee, Wis.

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Electrical Equipment Co.  
Oregonian Publishing Co.  
Chamber of Commerce  
Cleveland Radio Brdcastg. Corp.  
Maine Brdcastg. Co., Inc.  
Chamber of Commerce  
Milwaukee Journal

### 630 kilocycles 475.9 meters

CFCT	500	Victoria, B. C.
CJGX	500	Yorkton, Sask.
CNRA	500	Moncton, N. B.
KFEL	250	Denver, Colo.
KFRU	500	Columbia, Mo.
KFXF	250	Denver, Colo.
WGBF	500	Evansville, Ind.
WMAL	250	Washington, D. C.
WOS	500	Jefferson City, Mo.
XFC	350	Jalapa, Ver.

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Victoria Broadcasting Association  
Winnipeg Grain Exchange  
Canadian National Railways  
Eugene P. O'Fallon, Inc.  
Stephens College  
Pikes Peak Broadcasting Co., Inc.  
Evansville on the Air, Inc.  
M. A. Leese  
State Marketing Bureau  
Gobierno Estado de Veracruz

### 640 kilocycles 468.5 meters

KFI	5000	Los Angeles, Cal.
WAIU	500	Columbus, Ohio
XFG	2000	Mexico City

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Earle C. Anthony, Inc.  
American Insurance Union  
Sria. de Guerra y Marina

### 650 kilocycles 461.3 meters

WSM	5000	Nashville, Tenn.
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National Life & Accident Ins. Co.

### 660 kilocycles 454.3 meters

WAAW	500	Omaha, Nebr.
WEAF	50000	New York City

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Omaha Grain Exchange  
National Broadcasting Co., Inc.

### 670 kilocycles 447.5 meters

WMAQ	5000	Chicago, Ill.
XEB	1000	Mexico City

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Chicago Daily News, Inc.  
El Buen Tono, S. A.

CUT OUT ON DOTTED LINES

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 680 kilocycles 440.9 meters

KPO 5000 San Francisco, Cal.  
 WPTF 1000 Raleigh, N. C.

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Hale Bros. & The Chronicle  
 Durham Life Insurance Co.

### 690 kilocycles 434.5 meters

CFAC 500 Calgary, Alta.  
 CFCN 500 Calgary, Alta.  
 CHCA 500 Calgary, Alta.  
 CJCJ 500 Calgary, Alta.  
 CJSC 500 Toronto, Ont.  
 CKCO 100 Ottawa, Ont.  
 CKGW 5000 Toronto, Ont.  
 CNRC 500 Calgary, Alta.  
 CNXR 5000 Toronto, Ont.  
 NAA 1000 Arlington, Va.

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The Calgary Herald  
 Western Broadcasting Co.  
 The Western Farmer  
 Albertan Publishing Co., Ltd.  
 The Evening Telegram  
 Dr. G. M. Geldert  
 Gooderham & Worts, Ltd.  
 Canadian National Railways  
 Canadian National Railways  
 U. S. Navy

### 700 kilocycles 428.3 meters

WLW 5000 Cincinnati, Ohio

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Crosley Radio Corp.

### 710 kilocycles 422.3 meters

KEJK 500 Los Angeles, Cal.  
 WOR 5000 Newark, N. J.

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R. S. MacMillan  
 L. Bamberger & Co.

### 720 kilocycles 416.4 meters

WGN 25000 Chicago, Ill.

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Chicago Tribune

### 730 kilocycles 410.7 meters

CHLS 50 Vancouver, B. C.  
 CHYC 500 Montreal, Que.  
 CKAC 12000 Montreal, Que.  
 CKCD 50 Vancouver, B. C.  
 CKFC 50 Vancouver, B. C.  
 CKMO 50 Vancouver, B. C.  
 CKWX 100 Vancouver, B. C.  
 CMK 4000 Havana, Cuba  
 CNRM 1650 Montreal, Que.  
 XEN 1000 Mexico City

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W. G. Hassell  
 Northern Electric Co., Ltd.  
 La Presse Publishing Co., Ltd.  
 Vancouver Daily Province  
 United Church of Canada  
 Sprout-Shaw Radio Co.  
 A. Holstead & Wm. Hanlon  
 Hotel Plaza  
 Canadian National Railways  
 General Electric, S. A.

### 740 kilocycles 405.2 meters

KMMJ 1000 Clay Center, Neb.  
 WSB 1000 Atlanta, Ga.

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The M. M. Johnson Co.  
 Atlanta Journal Co.

### 750 kilocycles 399.8 meters

WJR 5000 Detroit, Mich.

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WJR, The Goodwill Station, Inc.

### 760 kilocycles 394.5 meters

KVI 1000 Tacoma, Wash.  
 WEW 1000 St. Louis, Mo.  
 WJZ 30000 New York City

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Puget Sound Brdstg. Co.  
 St. Louis University  
 Radio Corp. of America, Inc.

### 770 kilocycles 389.4 meters

KFAB 5000 Lincoln, Nebr.  
 WBBM 25000 Chicago, Ill.  
 WJBT 25000 Chicago, Ill.

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Nebraska Buick Automobile Co.  
 The Atlas Co., Inc.  
 The Atlas Co., Inc.

### 780 kilocycles 384.4 meters

CKY 5000 Winnipeg, Manitoba  
 CNRW 5000 Winnipeg, Manitoba  
 KELW 500 Burbank, Cal.  
 KTM 500 Los Angeles, Cal.  
 WEAN 250 Providence, R. I.  
 WMC 500 Memphis, Tenn.  
 WPOR 500 Norfolk, Va.  
 WTAR 500 Norfolk, Va.

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Manitoba Telephone System  
 Canadian National Railways  
 Earl L. White  
 Pickwick Brdcstg. Corp.  
 The Shepard Co.  
 Memphis Commercial-Appeal  
 WTAR Radio Corp.  
 WTAR Radio Corp.



INDEX BY FREQUENCIES AND DIAL NUMBERS

790 kilocycles 379.5 meters

KGO 7500 Oakland, Cal.  
 WGY 50000 Schenectady, N. Y.  
 6KW 1500 Tuinucu, Cuba

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General Electric Co.  
 General Electric Co.  
 Frank H. Jones

800 kilocycles 374.8 meters

WBAP 50000 Fort Worth, Tex.  
 WFAA 500 Dallas, Texas

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Carter Publications, Inc.  
 News & Journal

810 kilocycles 370.2 meters

WCCO 7500 Minneapolis, Minn.  
 WPCH 500 New York City

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Northwestern Broadcasting Inc.  
 Eastern Broadcasters, Inc.

820 kilocycles 365.6 meters

WHAS 10000 Louisville, Ky.

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Courier-Journal & Times

830 kilocycles 361.2 meters

HHK 1000 Port au Prince, Haiti  
 KOA 12500 Denver, Colo.  
 WHDH 1000 Gloucester, Mass.  
 WRUF 5000 Gainesville, Fla.

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Republic of Haiti  
 General Electric Co.  
 Matheson Radio Co., Inc.  
 University of Florida

840 kilocycles 356.9 meters

CFCA 500 Toronto, Ont.  
 CHCT 1000 Red Deer, Alta.  
 CJBC 1000 Toronto, Ont.  
 CKLC 1000 Red Deer, Alta.  
 CKOW 500 Toronto, Ont.  
 CMC 500 Havana, Cuba  
 CNRT 500 Toronto, Ont.  
 XFX 500 Mexico City

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Star Publishing & Ptg. Co.  
 G. F. Tull & Ardern, Ltd.  
 Jarvis Street Baptist Church  
 Alberta Pacific Grain Co., Ltd.  
 Nestle's Food Co.  
 Cuban Telephone Co.  
 Canadian National Railways  
 Sria. de Educacion Publica

850 kilocycles 352.7 meters

KWKH 10000 Shreveport, La.  
 WWL 5000 New Orleans, La.

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W. K. Henderson  
 Loyola University

860 kilocycles 348.6 meters

KFOZ 250 Hollywood, Cal.  
 WABC 5000 New York City  
 WBOQ 5000 New York City  
 2OK 100 Havana, Cuba  
 7SR 500 Elia, Cuba

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Taft Radio & Brdstg. Co.  
 Atlantic Broadcasting Corp.  
 Atlantic Broadcasting Corp.  
 Merio G. Velez  
 Salvador Rionda

870 kilocycles 344.6 meters

WENR 50000 Chicago, Ill.  
 WLS 50000 Chicago, Ill.

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Great Lakes Brdstg. Co.  
 Agricultural Brdstg. Co.

880 kilocycles 340.7 meters

CHCS 10 Hamilton, Ont.  
 CHML 50 Hamilton, Ont.  
 CHRC 25 Quebec, Que.  
 CJCB 25 Sydney, N. S.  
 CKCI 22.5 Quebec, Que.  
 CKCV 50 Quebec, Que.  
 CKOC 50 Hamilton, Ont.  
 CNRQ 50 Quebec, Que.  
 KFKK 500 Greeley, Colo.  
 KLX 500 Oakland, Cal.  
 KPOF 500 Denver, Colo.  
 WCOC 500 Columbus, Miss.  
 WGBI 250 Scranton, Pa.  
 WQAN 250 Scranton, Pa.

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The Hamilton Spectator  
 Maple Leaf Radio Co.  
 E. Fontaine  
 N. Nathanson  
 Le "Soleil," Ltd.  
 G. A. Vandry  
 Wentworth Radio Supply Co.  
 Canadian National Railways  
 State Teachers College  
 Tribune Publishing Co.  
 Pillar of Fire, Inc.  
 Crystal Oil Co.  
 Scranton Broadcasters, Inc.  
 Scranton Times

KCYS  
 880  
 MTRS.  
 340.7  
 DIAL

CUT OUT ON DOTTED LINES

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 890 kilocycles 336.9 meters

CFBO	50	St. John, N. B.
KFNF	500	Shenandoah, Iowa
KGJF	250	Little Rock, Ark.
KUSD	500	Vermillion, S. D.
WGST	250	Atlanta, Ga.
WILL	250	Urbana, Ill.
WJAR	250	Providence, R. I.
WKAQ	500	San Juan, P. R.
WMAZ	250	Macon, Ga.
WMMN	250	Fairmont, W. Va.

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C. A. Munro, Ltd.  
Henry Field Seed 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.

### 900 kilocycles 333.1 meters

KGBU	500	Ketchikan, Alaska
KHJ	1000	Los Angeles, Cal.
KSEI	250	Pocatello, Idaho
WFBL	750	Syracuse, N. Y.
WJAX	1000	Jacksonville, Fla.
WKY	1000	Oklahoma City
WLBL	2000	Stevens Pt., Wis.
WMAK	750	Buffalo, N. Y.

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Alaska Radio & Service Co.  
Don Lee, Inc.  
KSEI Broadcasting Association  
The Onondaga Co., Inc.  
City of Jacksonville  
WKY Radiophone Co.  
Wisconsin Dept. of Markets  
WMAK Brdctg. System, Inc.

### 910 kilocycles 329.6 meters

CFQC	500	Saskatoon, Sask.
CJGC	500	London, Ont.
CJHS	250	Saskatoon, Sask.
CNRL	500	London, Ont.
CNRS	500	Saskatoon, Sask.

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The Electric Shop, Ltd.  
Free Press Printing Co., Ltd.  
Radio Service, Ltd.  
Canadian National Railways  
Canadian National Railways

### 920 kilocycles 325.9 meters

KOMO	1000	Seattle, Wash.
KPRC	1000	Houston, Tex.
WAAF	500	Chicago, Ill.
WBSO	250	Wellesley Hills, Mass.
WWJ	1000	Detroit, Mich.
XEX	500	Mexico City
XFF	250	Chihuahua, Chih.

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Fisher's Blend Station, Inc.  
Houston Printing Co.  
Drovers Journal Publishing Co.  
Babson Statistical Organization  
The Detroit News  
Excelsior, Cla. Editorial, S. A.  
Gobierno Estado de Chihuahua

### 930 kilocycles 322.4 meters

CHNS	500	Halifax, N. S.
CKIC	50	Wolfville, N. S.
KFWI	500	San Francisco, Cal.
KFWM	500	Oakland, Cal.
KGBZ	500	York, Nebr.
KMA	500	Shenandoah, Iowa
WBRC	500	Birmingham, Ala.
WDBJ	250	Roanoke, Va.
WIBG	50	Elkins Park, Pa.

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Halifax Herald, Ltd.  
Acadia University  
Radio Entertainments, Inc.  
Oakland Educational Society  
Dr. George R. Miller  
May Seed & Nursery Co.  
Birmingham Broadcasting Co.  
Richardson-Wayland Elec. Corp.  
St. Pauls P. E. Church

### 940 kilocycles 319.0 meters

KGU	1000	Honolulu, Hawaii
KOIN	1000	Portland, Ore.
WCSH	500	Portland, Maine
WDAY	1000	Fargo, N. D.
WFIW	1000	Hopkinsville, Ky.
WHA	750	Madison, Wis.

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Marion A. Mulrony  
KOIN, Inc.  
Congress Square Hotel Co.  
WDAY, Inc.  
The Acme Mills, Inc.  
University of Wisconsin

### 950 kilocycles 315.6 meters

KFWB	1000	Hollywood, Cal.
KGHL	500	Billings, Mont.
KMBC	1000	Independence, Mo.
WHB	500	Kansas City, Mo.
WRC	500	Washington, D. C.
2RK	20	Havana, Cuba

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Warner Bros. Broadcasting Corp.  
Northwestern Auto Supply Co.  
Midland Broadcasting Co., Inc.  
Sweeney Automobile School Co.  
Radio Corp. of America  
Raoul Karman

INDEX BY FREQUENCIES AND DIAL NUMBERS

960 kilocycles 312.3 meters

CFCY 250 Charlottetown, P. E. I.  
 CFRB 4000 Toronto, Ont.  
 CHCK 30 Charlottetown, P. E. I.  
 CHWC 500 Pilot Butte, Sask.  
 CJBC 5000 Toronto, Ont.  
 CJBR 500 Regina, Sask.  
 CKCK 500 Regina, Sask.  
 CNRR 500 Regina, Sask.  
 XBE 101 Pueblo, Pue.

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The Island Radio Co.  
 Rogers-Majestic Corp., Ltd.  
 W. E. Burke  
 R. H. Williams & Sons  
 Jarvis St. Baptist Church  
 Cooperative Wheat Producers  
 Leader Pub. Co., Ltd.  
 Canadian Nat'l. Railways  
 Ramon Huerta G.

970 kilocycles 309.1 meters

KJR 5000 Seattle, Wash.  
 KTHS 10000 Hot Springs, Ark.  
 XEH 101 Monterey, N. L.

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Ralph A. Horr, Receiver  
 Chamber of Commerce  
 Ing. Constantino de Tarnava

980 kilocycles 305.9 meters

KDKA 5000 Pittsburgh, Pa.

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Westinghouse Elec. & Mfg. Co.

990 kilocycles 302.8 meters

WBZ 15000 Springfield, Mass.  
 WBZA 500 Boston, Mass.

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Westinghouse Elec. & Mfg. Co.  
 Westinghouse Elec. & Mfg. Co.

1000 kilocycles 299.8 meters

KFVD 250 Culver City, Cal.  
 WHO 5000 Des Moines, Iowa  
 WOC 5000 Davenport, Iowa  
 XEI 101 Morelia, Mich.

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Los Angeles Brdcastg. Co.  
 Bankers Life Co.  
 Palmer School of Chiropractic  
 Carlos Gutierrez M.

1010 kilocycles 296.8 meters

CFLC 50 Prescott, Ont.  
 CKCR 50 Brantford, Ont.  
 CKSH 50 St. Hyacinthe, Que.  
 KGGF 500 Picher, Okla.  
 KQW 500 San Jose, Cal.  
 WHN 250 New York City  
 WNAD 500 Norman, Okla.  
 WPAP 250 New York City  
 WQAO 250 New York City  
 WRNY 250 New York City

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Radio Association  
 John Patterson  
 City of St. Hyacinthe  
 D. L. Connell, M. D.  
 First Baptist Church  
 Marcus Loew Booking Agency  
 University of Oklahoma  
 Calvary Baptist Church  
 Calvary Baptist Church  
 Aviation Radio Station, Inc.

1020 kilocycles 293.9 meters

KFKX 5000 Chicago, Ill.  
 KYW 5000 Chicago, Ill.  
 WRAX 250 Philadelphia, Pa.

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Westinghouse Elec. & Mfg. Co.  
 Westinghouse Elec. & Mfg. Co.  
 Berachah Church, Inc.

1030 kilocycles 291.1 meters

CFCF 1650 Montreal, Que.  
 CJOR 50 Sea Island, B. C.  
 CNRV 500 Vancouver, B. C.

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Canadian Marconi Co.  
 G. C. Chandler  
 Canadian National Railways

1040 kilocycles 288.3 meters

KRLD 10000 Dallas, Texas  
 WKAR 1000 East Lansing, Mich.  
 WKEN 1000 Buffalo, N. Y.

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KRLD, Radio Corp.  
 Michigan Agricultural College  
 Radio Station WKEN, Inc.

1050 kilocycles 285.5 meters

KFKB 5000 Milford, Kansas  
 KNX 25000 Hollywood, Cal.  
 2MG 20 Havana, Cuba

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John R. Brinkley, M. D.  
 Western Broadcast Co.  
 M. y G. Salas

KCYS.  
 1050  
 MTRS.  
 285.5  
 DIAL

CUT OUT ON DOTTED LINES

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1060 kilocycles 282.8 meters

KWJJ	500	Portland, Ore.
WBAL	10000	Baltimore, Md.
WJAG	1000	Norfolk, Nebr.
WTIC	50000	Hartford, Conn.

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Wilbur Jerman  
Consolidated Gas, Elec. & Pwr. Co.  
Norfolk Daily News  
Travelers Brdcastg. Service Corp.

### 1070 kilocycles 280.2 meters

KJBS	100	San Francisco, Cal.
WAAT	300	Jersey City, N. J.
WCAZ	50	Carthage, Ill.
WDZ	100	Tuscola, Ill.
WEAR	1000	Cleveland, Ohio
WTAM	50000	Cleveland, Ohio

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Julius Brunton & Sons Co.  
Bremer Broadcasting Corp.  
Carthage College  
James L. Bush  
WTAM and WEAR, Inc.  
WTAM and WEAR, Inc.

### 1080 kilocycles 277.6 meters

WBT	5000	Charlotte, N. C.
WCBD	5000	Zion, Ill.
WMBI	5000	Chicago, Ill.

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Station WBT, Inc.  
Wilbur Glenn Voliva  
Moody Bible Institute

### 1090 kilocycles 275.1 meters

KFQA	5000	St. Louis, Mo.
KMOX	5000	St. Louis, Mo.
2UF	10	Havana, Cuba

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Voice of St. Louis, Inc.  
Voice of St. Louis, Inc.  
Benito V. Ferro

### 1100 kilocycles 272.6 meters

KGDM	50	Stockton, Cal.
WLWL	5000	New York City
WPG	5000	Atlantic City, N. J.

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E. F. Peffer  
Missionary Society of St. Paul  
Municipality of Atlantic City

### 1110 kilocycles 270.1 meters

KSOO	2000	Sioux Falls, S. D.
WRVA	5000	Richmond, Va.
2TW	20	Havana, Cuba

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Sioux Falls Broadcast Assn.  
Larus & Bros. Co., Inc.  
Roberto E. Ramirez

### 1120 kilocycles 267.7 meters

CFJC	15	Kamloops, B. C.
CFRC	500	Kingston, Ont.
CHGS	25	Summerside, P. E. I.
CJOC	50	Lethbridge, Alta.
CKPR	50	Midland, Ont.
KFSG	500	Los Angeles, Cal.
KMIC	500	Inglewood, Cal.
KRSC	50	Seattle, Wash.
KUT	500	Austin, Texas
WDBO	1000	Orlando, Fla.
WDEL	250	Wilmington, Del.
WHAD	250	Milwaukee, Wis.
WIOD	500	Miami Beach, Fla.
WISN	250	Milwaukee, Wis.
WTAW	500	College Station, Texas

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N. S. Dalgleish & Sons  
Queen's University  
R. T. Holman, Ltd.  
Harold R. Carson  
Midland Brdcastg. Corp.  
Echo Park Evang. Assn.  
Dalton's, Inc.  
Radio Sales Corp.  
KUT Broadcasting Co.  
Rollins College, Inc.  
WDEL, Inc.  
Marquette University  
Isle of Dreams Brdcastg. Co.  
Evening Wisconsin Co.  
Agricultural & Mec. College

### 1130 kilocycles 265.3 meters

KSL	5000	Salt Lake City
WJJD	20000	Mooseheart, Ill.
WÖV	1000	New York City
XEf	105	Oaxaca, Oax.

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Radio Service Corp. of Utah  
Loyal Order of Moose  
International Brdcastg. Corp.  
Federico Zorrila

### 1140 kilocycles 263.0 meters

KVOO	5000	Tulsa, Okla.
WAPI	5000	Birmingham, Ala.

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Southwestern Sales Corp.  
Alabama Polytechnic Institute

### 1150 kilocycles 260.7 meters

WHAM	5000	Rochester, N. Y.
6BY	200	Cienfuegos, Cuba

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Stromberg-Carlson Tel. Mfg. Co.  
Jose Ganduxé

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1160 kilocycles 258.5 meters

WOWO 10000 Ft. Wayne, Ind.  
 WWVA 5000 Wheeling, W. Va.

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Main Auto Supply Co.  
 West Virginia Brdcstg. Corp.

### 1170 kilocycles 256.3 meters

KTNT 5000 Muscatine, Iowa  
 WCAU 10000 Philadelphia, Pa.  
 ZOL 100 Havana, Cuba

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Norman Baker  
 Universal Broadcasting Co.  
 Oscar C. Orta

### 1180 kilocycles 254.1 meters

KEX 5000 Portland, Ore.  
 KOB 10000 State College, N. M.  
 WDJY 1000 Minneapolis, Minn.  
 WGBS 500 New York City  
 WHDI 500 Minneapolis, Minn.

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Western Broadcasting Co.  
 College of Agriculture  
 Dr. George W. Young  
 General Broadcasting System, Inc.  
 Wm. Hood Dunwoody Indus. Inst.

### 1190 kilocycles 252.0 meters

WICC 500 Bridgeport, Conn.  
 WOAI 5000 San Antonio, Texas

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Bridgeport Broadcasting Station, Inc.  
 Southern Equipment Co.

### 1200 kilocycles 249.9 meters

KFHA 100 Gunnison, Colo.  
 KFJB 100 Marshalltown, Iowa  
 KFKZ 15 Kirksville, Mo.  
 KFWF 100 St. Louis, Mo.  
 KFXM 100 San Bernardino, Cal.  
 KGCU 100 Mandan, N. D.  
 KGDE 50 Fergus Falls, Minn.  
 KGDY 15 Oldham, S. D.  
 KGEK 50 Yuma, Colo.  
 KGEW 100 Fort Morgan, Cal.  
 KGJF 100 Los Angeles, Colo.  
 KGFK 50 Hallock, Minn.  
 KGHI 100 Little Rock, Ark.  
 KGY 10 Lacey, Wash.  
 KPPC 50 Pasadena, Cal.  
 KSMR 100 Santa Maria, Cal.  
 KSVS 100 Bellingham, Wash.  
 KWG 100 Stockton, Cal.  
 KXO 100 El Centro, Cal.  
 WAB1 100 Bangor, Maine  
 WABZ 100 New Orleans, La.  
 WBBY 75 Charleston, S. C.  
 WBBZ 100 Ponca City, Okla.  
 WCAT 100 Rapid City, S. D.  
 WCAZ 100 Burlington, Vt.  
 WCLO 100 Kenosha, Wis.  
 WCOD 100 Harrisburg, Pa.  
 WEFS 100 Gloucester, Mass.  
 WFBC 50 Knoxville, Tenn.  
 WHBC 10 Canton, Ohio  
 WHBY 100 West De Pere, Wis.  
 WIBX 100 Utica, N. Y.  
 WIL 100 St. Louis, Mo.  
 WJBC 100 La Salle, Ill.  
 WJBL 100 Decatur, Ill.  
 WJBW 30 New Orleans, La.  
 WKJC 100 Lancaster, Pa.  
 WLAP 30 Louisville, Ky.  
 WLBG 100 Ettrick, Va.  
 WMAY 100 St. Louis, Mo.  
 WNBO 100 Washington, Pa.  
 WNBW 5 Carbondale, Pa.  
 WNBX 10 Springfield, Vt.  
 WORC 100 Worcester, Mass.  
 WRAF 100 La Porte, Ind.  
 WRBL 50 Columbus, Ga.  
 WVAE 100 Hammond, Ind.  
 XEA 101 Guadalajara, Jal.  
 XES 250 C. Lerdo, Dgo.  
 ZBB 15 Havana, Cuba

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Western College of Colorado  
 Marshall Electric Co., Inc.  
 State Teachers College  
 St. Louis Truth Center, Inc.  
 J. C. and E. W. Lee  
 Mandan Radio Association  
 Jaren Drug Co.  
 J. Albert Loesch and George W. Wright  
 Beehler Elec. Equipment Co.  
 City of Fort Morgan  
 Ben S. McGlashan  
 Lautzenheiser & Mitchell  
 Berean Bible Class  
 St. Martin's College  
 Pasadena Presbyterian Church  
 Santa Maria Valley R. R. Co.  
 KVOS, Inc.  
 Portable Wireless Tel. Co.  
 E. R. Irey and F. M. Bowles  
 First Universalist Church  
 Coliseum Place Baptist Church  
 Washington Light Infantry  
 C. L. Carrell  
 State School of Mines  
 University of Vermont  
 C. E. Whitmore  
 Norman R. Hoffman  
 Matheson Radio Co., Inc.  
 First Baptist Church  
 St. John's Catholic Church  
 St. Norbert's College  
 WIBX, Inc.  
 Missouri Broadcasting Corp.  
 Hummer Furniture Co.  
 Wm. Gushard Dry Goods Co.  
 Charles C. Carlson, Jr.  
 Kirk Johnson & Co.  
 American Brdcstg. Corp. of Ky.  
 Robert Allen Gamble  
 Kingshighway Pres. Church  
 John Brownlee Springs  
 Home Cut Glass & China Co.  
 First Congregational Church  
 K. & B. Electric Co.  
 The Radio Club, Inc.  
 David Parmer  
 Hammond-Calumet Brdcstg. Co  
 Alberto Palos Sauza  
 Cerveceria de Durango, S. A.  
 Bernardo Barrie

KCYS.  
**1200**  
 MTRS.  
**249.9**  
 DIAL

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

1210 kilocycles 247.8 meters

CFCO	50	Chatham, Ont.
CFNB	50	Fredericton, N. B.
CHWK	5	Chilliwack, B. C.
CKMC	15	Cobalt, Ont.
CKPC	50	Preston, Ont.
KDFN	100	Casper, Wyo.
KDLR	100	Devils Lake, N. D.
KFOR	100	Lincoln, Nebr.
KFVS	100	Cape Girardeau, Mo.
KGCR	100	Watertown, S. D.
KMJ	100	Fresno, Cal.
KPCB	100	Seattle, Wash.
KPO	100	Seattle, Wash.
KWEA	100	Shreveport, La.
WBAX	100	Wilkes-Barre, Pa.
WCBS	100	Springfield, Ill.
WCOH	100	Yonkers, N. Y.
WCRW	100	Chicago, Ill.
WDWF	100	Cranston, R. I.
WEBE	100	Cambridge, Ohio
WEBQ	100	Harrisburg, Ill.
WEDC	100	Chicago, Ill.
WGBB	100	Freeport, N. Y.
WGCM	100	Gulfpport, Miss
WHBF	100	Rock Island, Ill.
WHBU	100	Anderson, Ind.
WIBA	100	Madison, Wis.
WINR	100	Bay Shore, N. Y.
WJBI	100	Red Bank, N. J.
WJBU	100	Lewisburg, Pa.
WJBY	50	Gadsden, Ala.
WJW	100	Mansfield, Ohio
WLCI	50	Ithaca, N. Y.
WLSI	100	Cranston, R. I.
WMAN	50	Columbus, Ohio
WMBC	100	Richmond, Va.
WOCL	25	Jamestown, N. Y.
WOMT	100	Manitowoc, Wis.
WPAW	100	Pawtucket, R. I.
WRBO	100	Greenville, Miss.
WRBU	100	Gastonia, N. C.
WSBC	100	Chicago, Ill.
WSIX	100	Springfield, Tenn.
WTAX	50	Streator, Ill.

Western Ontario "Better Radio" Club  
 James S. Neill & Sons, Ltd.  
 Chilliwack Brdcastg. Co., Ltd.  
 R. L. MacAdam  
 Wallace Russ  
 Donald Lewis Hathaway  
 Radio Electric Co.  
 Howard A. Shuman  
 Hirsch Battery & Radio Co.  
 Cutler's Radio Brdcastg. Service  
 The Fresno Bee  
 Westcoast Brdcastg Co.  
 Westcoast Brdcastg Co.  
 William E. Antony  
 John H. Stenger, Jr.  
 H. L. Dewing & Chas. Messter  
 Westchester Brdcastg. Corp.  
 Clinton R. White  
 Dutee W. Flint  
 Roy W. Waller  
 First Trust & Savings Bank  
 Emil Denemark, Inc.  
 Harry H. Carman  
 Southern Land Co., Inc.  
 Beardsley Speciality Co.  
 Citizens Bank  
 Capital Times-Strand Theatre  
 Radiotel Mfg. Co., Inc.  
 Robert S. Johnson  
 Bucknell University  
 Charles J. Black  
 Mansfield Broadcasting Assn.  
 Lutheran Assn. of Ithaca  
 The Lincoln Studios, Inc.  
 W. E. Heskett  
 Havens & Martin, Inc.  
 A. E. Newton  
 Francis M. Kadow  
 Shartenburg & Robinson Co.  
 J. Pat Scully  
 A. J. Kirby Music Co.  
 World Battery Co., Inc.  
 638 Tire & Vulcanizing Co.  
 Williams Hardware Co.

1220 kilocycles 245.8 meters

KFKU	1000	Lawrence, Kans.
WCAD	500	Canton, N. Y.
WCAE	500	Pittsburgh, Pa.
WREN	1000	Lawrence, Kans.

University of Kansas  
 St. Lawrence University  
 Kaufman & Baer Co., Inc.  
 Jenny Wren Co.

1230 kilocycles 243.8 meters

KFIO	100	Spokane, Wash.
KFQD	100	Anchorage, Alaska
KGGM	250	Albuquerque, N. Mex.
KYA	1000	San Francisco, Cal.
WBIS	1000	Boston, Mass.
WFBM	1000	Indianapolis, Ind.
WNAC	1000	Boston, Mass.
WPSC	500	State College, Pa.
WSBT	500	South Bend, Ind.

Spokane Broadcasting Corp.  
 Anchorage Radio Club  
 New Mexico Broadcasting Co.  
 F. C. Dahlquist, Receiver  
 Shepard-Norwell Co.  
 Indianapolis Power & Light Co.  
 Shepard-Norwell Co.  
 Pennsylvania State College  
 South Bend Tribune

1240 kilocycles 241.8 meters

KTAT	1000	Ft. Worth, Texas
WDAB	1000	Tampa, Fla.
WGHP	750	Detroit, Mich.
WJAD	1000	Waco, Texas
WRBC	500	Valparaiso, Ind.

Texas Air Transport Brdcast. Co.  
 Tampa Publishing Co.  
 American Brdcastg. Corp.  
 Frank P. Jackson  
 Immanuel Lutheran Church

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1250 kilocycles 239.9 meters

KFMX	1000	Northfield, Minn.
KFOX	1000	Long Beach, Cal.
KIDO	1000	Boise, Idaho
KXL	500	Portland, Ore.
WAAM	1000	Newark, N. J.
WCAL	1000	Northfield, Minn.
WDSU	1000	New Orleans, La.
WGCP	250	Newark, N. J.
WGMS	500	Minneapolis, Minn.
WLB	500	Minneapolis, Minn.
WODA	1000	Paterson, N. J.
WRHM	1000	Minneapolis, Minn.
WTOC	500	Savannah, Ga.

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Carleton College  
Nichols & Warinner, Inc.  
Boise Brdcstg. Station  
KXL Broadcasters, Inc.  
WAAM, Inc.  
St. Olaf College  
Jos. H. Uhalt  
May Radio Broadcast Corp.  
University of Minnesota  
Washburn-Crosby Co.  
Richard E. O'Dea  
Rosedale Hospital Co., Inc.  
Chamber of Commerce

### 1260 kilocycles 238.0 meters

KOIL	1000	Council Bluffs, Iowa
KRGV	500	Harlingen, Texas
KVOA	500	Tucson, Ariz.
KWWG	500	Brownsville, Texas
WLBW	500	Oil City, Pa.

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Mona Motor Oil Co.  
Valley Radio-Electric Corp.  
Robert M. Riculfi  
Chamber of Commerce  
Radio-Wired Program Corp.

### 1270 kilocycles 236.1 meters

KFUM	1000	Colorado Spgs., Colo.
KGCA	50	Decorah, Iowa
KOL	1000	Seattle, Wash.
KTW	1000	Seattle, Wash.
KWLC	100	Decorah, Iowa
WASH	500	Grand Rapids, Mich.
WEAI	500	Ithaca, N. Y.
WFBR	250	Baltimore, Md.
WJDX	500	Jackson, Miss.
WOOD	500	Grand Rapids, Mich.

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W. D. Corley  
Charles W. Greenley  
Seattle Brdcstg. Co., Inc.  
First Presbyterian Church  
Luther College  
WASH Broadcasting Corp.  
Cornell University  
Baltimore Radio Show, Inc.  
Lamar Life Insurance Co.  
Walter B. Stiles, Inc.

### 1280 kilocycles 234.2 meters

WCAM	500	Camden, N. J.
WCAP	500	Asbury Park, N. J.
WCFI	1000	Chicago, Ill.
WDOD	1000	Chattanooga, Tenn.
WOAX	500	Trenton, N. J.
WRR	500	Dallas, Texas
2LR	50	Havana, Cuba

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City of Camden  
Radio Industries Broadcast Co.  
Chicago Federation of Labor  
Chattanooga Radio Co., Inc.  
Franklyn J. Wolff  
City of Dallas  
Jose Lara

### 1290 kilocycles 232.4 meters

KDYL	1000	Salt Lake City
KFUL	500	Galveston, Texas
KLCN	50	Blytheville, Ark.
KTSA	1000	San Antonio, Texas
WBC	1000	Duluth, Minn.
WJAS	1000	Pittsburgh, Pa.
WNBZ	50	Saranac Lake, N. Y.

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Intermountain Brdcstg. Corp.  
Will H. Ford  
C. L. Lintzenich  
Lone Star Broadcast Co.  
Head of Lake Brdcstg. Co.  
Pittsburgh Radio Supply House  
Smith & Mace

### 1300 kilocycles 230.6 meters

KFH	500	Wichita, Kansas
KFJR	500	Portland, Ore.
KGEF	1000	Los Angeles, Cal.
KTBI	750	Los Angeles, Cal.
KTBR	500	Portland, Ore.
WBBR	1000	Rossville, N. Y.
WEVD	500	New York City
WHAP	1000	New York City
WHAZ	500	Troy, N. Y.
WQO	1000	Kansas City, Mo.

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Radio Station KFH Co.  
Ashley C. Dixon & Son  
Trinity Methodist Church  
Bible Institute of Los Angeles  
M. E. Brown  
Peoples Pulpit Association  
Debs Memorial Radio Fund, Inc.  
Defenders of Truth Society, Inc.  
Rensselaer Polytechnic Institute  
Unity School of Christianity

### 1310 kilocycles 228.9 meters

KFBK	100	Sacramento, Cal.
KFGQ	100	Boone, Iowa
KFJY	100	Ft. Dodge, Iowa

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Jas. McClatchy Co.  
Boone Biblical College  
C. S. Tunwall

KCYS.  
**1310**  
MTRS.  
**228.9**  
DIAL

CUT OUT ON DOTTED LINES

## INDEX BY FREQUENCIES AND DIAL NUMBERS

KFPL	100	Dublin, Texas	C. C. Baxter
KFPM	15	Greenville, Texas	The New Furniture Co.
KFUP	100	Denver, Colo.	Fitzsimmons General Hospital
KFXJ	50	Edgewater, Colo.	R. G. Howell
KFXR	100	Oklahoma City	Exchange Ave. Baptist Church
KGCX	100	Wolf Point, Mont.	First State Bank of Vida
KGEZ	100	Kalispell, Mont.	Chamber of Commerce
KGFW	50	Ravenna, Nebr.	Otto F. Sothman and Roy H. Connell
KGHG	50	McGehee, Ark.	Chas. W. McCollum
KMED	50	Medford, Ore.	Mrs. W. J. Virgin
KRMD	50	Shreveport, La.	Robert M. Dean
KTSL	100	Shreveport, La.	Houseman Sheet Metal Works, Inc.
KTSM	100	El Paso, Texas	W. S. Bledsoe & W. T. Blackwell
KWCR	100	Cedar Rapids, Iowa.	Harry F. Paar
KXRO	75	Aberdeen, Wash.	KXRO, Inc.
WAGM	50	Royal Oak, Mich.	Robert L. Miller
WBOW	100	Terre Haute, Ind.	Banks of Wabash, Inc.
WBRE	100	Wilkes-Barre, Pa.	Louis G. Baltimore
WCLS	100	Joliet, Ill.	WCLS, Inc.
WDAH	100	El Paso, Texas	Trinity Methodist Church
WEBR	100	Buffalo, N. Y.	Howell Broadcasting Co., Inc.
WFBG	100	Altoona, Pa.	Wm. F. Gable Co.
WFDF	100	Flint, Mich.	Frank D. Fallain
WFKD	50	Philadelphia, Pa.	Foulkrod Radio Engineering Co.
WGAL	15	Lancaster, Pa.	Lancaster Electric Supply Co.
WGH	100	Newport News, Va.	Virginia Brdcastg. Co., Inc.
WIBU	100	Poynette, Wis.	William C. Forrest
WJAC	100	Johnstown, Pa.	Johnstown Automobile Co.
WJAK	50	Marion, Ind.	Marion Brdcastg. Co.
WJDZ	100	Winston-Salem, N. C.	Winston-Salem Journal Co.
WKAV	100	Laconia, N. H.	Laconia Radio Club
WKBB	100	Joliet, Ill.	Sanders Bros.
WKBC	100	Birmingham, Ala.	R. B. Broyles Furn. Co.
WKBS	100	Galesburg, Ill.	Permil N. Nelson
WLBC	50	Muncie, Ind.	Donald A. Burton
WMBL	100	Lakeland, Fla.	Benford's Radio Studios
WNAT	100	Philadelphia, Pa.	Albert A. Walker
WNBH	100	New Bedford, Mass.	New Bedford Broadcasting Co.
WNBJ	50	Knoxville, Tenn.	Lonsdale Baptist Church
WOBT	15	Union City, Tenn.	Tittsworth's Radio & Music Shop
WOL	100	Washington, D. C.	American Broadcasting Co.
WRAW	100	Reading, Pa.	Avenue Radio & Electric Shop
WRBI	20	Tifton, Ga.	Kent's Furniture and Music Store
WRK	100	Hamilton, Ohio	S. W. Doron & J. C. Slade
WSAJ	100	Grove City, Pa.	Grove City College
WSJS	100	Winston-Salem, N. C.	Winston-Salem Journal Co.

### 1320 kilocycles 227.1 meters

KGHF	250	Pueblo, Colo.
KGIQ	250	Twin Falls, Idaho
KID	250	Idaho Falls, Idaho
WADC	1000	Akron, Ohio
WSMB	500	New Orleans, La.

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C. P. Ritchie & J. E. Finch  
Radio Broadcasting Corp.  
Jack W. Duckworth, Jr.  
Allen T. Simmons  
Saenger Theatre & Maison Blanche

### 1330 kilocycles 225.4 meters

KGB	250	San Diego, Cal.
KSCJ	1000	Sioux City, Iowa
WDRG	500	New Haven, Conn.
WSAI	500	Cincinnati, Ohio
WTAQ	1000	Eau Claire, Wis.

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

### 1340 kilocycles 223.7 meters

KFPW	50	Carterville, Mo.
KFPY	500	Spokane, Wash.
KMO	500	Tacoma, Wash.
WCOA	500	Pensacola, Fla.
WSPD	1000	Toledo, Ohio

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Rev. Lannie W. Stewart  
Symons Broadcasting Co.  
KMO, Inc.  
City of Pensacola  
Toledo Broadcasting Co.

### 1350 kilocycles 222.1 meters

KWK	1000	St. Louis, Mo.
WBNY	250	New York City
WCDA	250	New York City
WKBQ	250	New York City
WMSG	250	New York City

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Greater St. Louis Brdcastg. Corp.  
Baruchrome Corp.  
Italian Educ. Brdcastg. Co., Inc.  
Standard Cahill Co., Inc.  
Madison Square Garden



INDEX BY FREQUENCIES AND DIAL NUMBERS

1360 kilocycles 220.4 meters

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KFBB 500 Great Falls, Mont.  
 KGER 100 Long Beach, Cal.  
 KGIR 250 Butte, Mont.  
 KPSN 1000 Pasadena, Cal.  
 WGES 500 Chicago, Ill.  
 WJKS 500 Gary, Ind.  
 WLX 500 Lexington, Mass.  
 WMAF 500 S. Dartmouth, Mass.  
 WQBC 300 Utica, Miss.

Buttery Broadcast, Inc.  
 C. Merwin Dobyns  
 Symons Broadcasting Co.  
 Pasadena Star-News  
 Oak Leaves Brdstg. Station, Inc.  
 Johnson-Kennedy Radio Corp.  
 Lexington Air Stations  
 Round Hills Radio Corp.  
 Chamber of Commerce

1370 kilocycles 218.7 meters

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KCRC 100 Enid, Okla.  
 KFBL 50 Everett, Wash.  
 KFJI 100 Astoria, Ore.  
 KFJM 500 Grand Forks, N. D.  
 KFJZ 100 Ft. Worth, Texas  
 KFLX 100 Galveston, Texas  
 KGAR 100 Tucson, Ariz.  
 KGBX 100 St. Joseph, Mo.  
 KGCI 100 San Antonio, Texas  
 KGDA 50 Dell Rapids, S. D.  
 KGFG 100 Oklahoma City  
 KGFL 50 Raton, N. M.  
 KGKL 100 San Angelo, Texas  
 KGRC 100 San Antonio, Texas  
 KIT 100 Yakima, Wash.  
 KLO 100 Ogden, Utah  
 KOH 100 Reno, Nevada  
 KOOS 50 Marshfield, Ore.  
 KRE 100 Berkeley, Cal.  
 KVL 100 Seattle, Wash.  
 KWKC 100 Kansas City, Mo.  
 KZM 100 Hayward, Cal.  
 WBBL 100 Richmond, Va.  
 WCBM 100 Baltimore, Md.  
 WELK 100 Philadelphia, Pa.  
 WFBJ 100 Collegeville, Minn.  
 WGL 100 Fort Wayne, Ind.  
 WHBD 100 Bellefontaine, Ohio  
 WHBQ 100 Memphis, Tenn.  
 WHDF 100 Calumet, Mich.  
 WIBM 100 Jackson, Mich.  
 WJBK 50 Ypsilanti, Mich.  
 WJBO 100 New Orleans, La.  
 WJDW 100 Emory, Va.  
 WMBO 100 Auburn, N. Y.  
 WMBR 100 Tampa, Fla.  
 WRAK 50 Erie, Pa.  
 WRBT 100 Wilmington, N. C.  
 WRJN 100 Racine, Wis.  
 WSVS 50 Buffalo, N. Y.

Champlin Refining Co.  
 Leese Bros.  
 KFJI Broadcasters Inc  
 University of North Dakota  
 H. C. Meacham  
 George Roy Clough  
 Tucson Motor Service Co.  
 Foster-Hall Tire Co.  
 Liberto Radio Sales Co.  
 Home Auto Co.  
 Faith Tabernacle Assn.  
 Hubbard & Murphy  
 KGKL Inc., Opr. by Ragsdale Auto  
 Eugene J. Roth  
 Carl E. Haymond  
 Peery Building Co.  
 Jay Peters  
 H. H. Hanseth  
 First Congregational Church  
 Arthur C. Dailey  
 Wilson Duncan Brdstg. Co.  
 Leon P. Tenney  
 Grace Covenant Presbyterian Church  
 Baltimore Brdstg. Corp.  
 Howard R. Miller  
 St. John's University  
 Fred C. Zieg  
 F. P. Moler  
 Broadcasting Station WHBQ, Inc.  
 Upper Michigan Brdstg. Co.  
 C. L. Carrell  
 James F. Hopkins  
 Valdemar Jensen  
 Emory & Henry College  
 Radio Service Laboratories  
 F. J. Reynolds  
 C. R. Cummins  
 Wilmington Radio Association  
 Racine Broadcasting Corp.  
 Seneca Vocational School

1380 kilocycles 217.3 meters

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KOV 500 Pittsburgh, Pa.  
 KSO 500 Clarinda, Iowa  
 WKBH 1000 La Crosse, Wis.  
 WSMK 200 Dayton, Ohio

Doubleday-Hill Electric Co.  
 Berry Seed Co.  
 Joseph Callaway  
 Stanley M. Krohn, Jr.

1390 kilocycles 215.7 meters

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KLRA 1000 Little Rock, Ark.  
 KOY 500 Phoenix, Ariz.  
 KUOA 1000 Fayetteville, Ark.  
 KWSC 500 Pullman, Wash.  
 WHK 1000 Cleveland, Ohio

Arkansas Broadcasting Co.  
 Nielson Radio Supply Co.  
 University of Arkansas  
 State College of Washington  
 Radio Air Service Corp.

KCYS.  
 1390  
 MTRS.  
 215.7  
 DIAL

CUT OUT ON  
 DOTTED LINES

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1400 kilocycles 214.2 meters

KOCW	250	Chickasha, Okla.
WBBC	500	Brooklyn, N. Y.
WCGU	500	Coney Island, N. Y.
WCMA	500	Culver, Ind.
WKBF	500	Indianapolis, Ind.
WLTH	500	Brooklyn, N. Y.
WSGH	500	Brooklyn, N. Y.

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College for Women  
Brooklyn Broadcasting Corp.  
U. S. Broadcasting Corp.  
Culver Military Academy  
Indianapolis Broadcasting, Inc.  
The Voice of Brooklyn, Inc.  
Amateur Radio Specialty Co.

### 1410 kilocycles 212.6 meters

KFLV	500	Rockford, Ill.
KGRS	1000	Amarillo, Texas
WBCMI	500	Bay City, Mich.
WDAG	250	Amarillo, Texas
WHBL	500	Sheboygan, Wis.

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Rockford Broadcasters Inc.  
Gish Radio Service  
James E. Davidson  
National Radio & Brdcastg. Corp.  
Press Pub. Co. & C. L. Carrell

### 1420 kilocycles 211.1 meters

KFIF	100	Portland, Ore.
KFIZ	100	Fond du Lac, Wis.
KFOU	100	Holy City, Cal.
KFOW	100	Seattle, Wash.
KFXD	50	Jerome, Idaho
KFXV	100	Flagstaff, Ariz.
KFYO	100	Abilene, Texas
KGFF	100	Alva, Okla.
KGGC	50	San Francisco, Cal.
KGIW	100	Trinidad, Colo.
KGIX	100	Las Vegas, Nevada
KGKX	100	Sand Point, Idaho
KICK	100	Red Oak, Iowa
KLPM	100	Minot, N. Dak.
KORE	100	Eugene, Ore.
KTAP	100	San Antonio, Texas
KTUE	5	Houston, Texas
WEDH	30	Erie, Pa.
WHDL	10	Tupper Lake, N. Y.
WHIS	100	Bluefield, W. Va.
WIAS	100	Ottumwa, Iowa
WIBR	50	Steubenville, Ohio
WILM	100	Wilmington, Del.
WKBP	50	Battle Creek, Mich.
WLBK	100	Kansas City, Kas.
WLEY	100	Lexington, Mass.
WMBC	100	Detroit, Mich.
WMBH	100	Joplin, Mo.
WMRJ	10	Jamaica, N. Y.
WPOE	30	Patchogue, N. Y.
WQBZ	60	Weirton, W. Va.
WSSH	100	Boston, Mass.
WTBO	50	Cumberland, Md.

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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 Brdcastg. Co.  
Trinidad Creamery Co., Inc.  
Las Vegas, Nevada Radio Corp.  
C. E. Twiss and F. H. McCann  
Red Oak Radio Corp.  
E. C. Reincke  
Eugene Broadcasting Station  
Alamo Brdcastg. Co.  
Uhalt Electric  
Erie Dispatch-Herald  
George Franklin Bissell  
Daily Telegraph  
Poling Electric Co.  
George W. Robinson  
Delaware Broadcasting Co., Inc.  
Enquirer-News Co.  
WLBK Broadcasting Co.  
Lexington Air Stations  
Michigan Broadcasting Co., Inc.  
Edwin Dudley Aber  
Peter J. Prinz  
Nassau Broadcasting Corp.  
J. H. Thompson  
Tremont Temple Baptist Church  
Cumberland Broadcasting Co.

### 1430 kilocycles 209.7 meters

KPLA	1000	Los Angeles, Cal.
WBAK	500	Harrisburg, Pa.
WBRL	500	Manchester, N. H.
WCAH	500	Columbus, Ohio
WGBC	500	Memphis, Tenn.
WHF	500	Harrisburg, Pa.
WNBR	500	Memphis, Tenn.

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Pacific Development Radio Co., Inc.  
Penna. State Police  
Booth Radio Laboratories  
Commercial Radio Service Co.  
First Baptist Church  
Pennsylvania Brdcastg. Co.  
John Ulrich

### 1440 kilocycles 208.2 meters

KLS	250	Oakland, Cal.
WABO	500	Rochester, N. Y.
WCBA	250	Allentown, Pa.
WHEC	500	Rochester, N. Y.

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Warner Bros.  
Hickson Electric Co.  
B. B. Musselman  
Hickson Electric Co.

## INDEX BY FREQUENCIES AND DIAL NUMBERS

**WMBD** 500 Peoria Heights, Ill.  
**WNRC** 250 Greensboro, N. C.  
**WOKO** 500 Poughkeepsie, N. Y.  
**WSAN** 250 Allentown, Pa.  
**WTAD** 500 Quincy, Ill.

Peoria Heights Radio Laboratory  
 Wayne M. Nelson  
 Hudson Valley Broadcasting Company  
 Allentown Call Publishing Co.  
 Ills. Stock Medicine Brdctg. Corp.

### 1450 kilocycles 206.8 meters

**KTBS** 1000 Shreveport, La.  
**WBMS** 250 Fort Lee, N. J.  
**WCSO** 500 Springfield, Ohio  
**WFJC** 500 Akron, Ohio  
**WIBS** 250 Elizabeth, N. J.  
**WKBO** 250 Jersey City, N. J.  
**WNJ** 250 Newark, N. J.  
**WSAR** 250 Fall River, Mass.  
**WTFI** 250 Toccoa, Ga.

Elliott & Steere  
 WBMS Broadcasting Corp.  
 Wittenberg College  
 W. F. Jones Broadcast, Inc.  
 New Jersey Broadcasting Corp.  
 Camith Corp.  
 Radio Investment Co.  
 Doughty & Welch Electric Co.  
 Toccoa Falls Institute

### 1460 kilocycles 205.4 meters

**KSTP** 10000 St. Paul, Minn.  
**WJSV** 10000 Mt. Vernon Hills, Va.

National Battery Brdctg. Co.  
 Independent Publishing Co.

### 1470 kilocycles 204.0 meters

**KFJF** 5000 Oklahoma City  
**KGA** 5000 Spokane, Wash.  
**WKBW** 5000 Buffalo, N. Y.

National Radio Mfg. Co.  
 Ralph A. Horr, Receiver  
 Churchill Evangelistic Assn.

### 1480 kilocycles 202.6 meters

**WCKY** 5000 Covington, Ky.  
**WJAZ** 5000 Chicago, Ill.  
**WORD** 5000 Chicago, Ill.  
**WSOA** 5000 Forest Park, Ill.

L. B. Wilson, Inc.  
 Zenith Radio Corp.  
 People's Pulpit Association  
 Radiophone Brdctg. Corp.

### 1490 kilocycles 201.2 meters

**KPWF** 5000 Westminster, Cal.  
**WFBL** 750 Syracuse, N. Y.  
**WLAC** 5000 Nashville, Tenn.  
**WTNT** 5000 Nashville, Tenn.

Pacific Western Brdctg. Fed.  
 The Onondaga Co.  
 Life & Casualty Insurance Co.  
 Tennessee Publishing Co.

### 1500 kilocycles 199.9 meters

**KDB** 100 Santa Barbara, Cal.  
**KGDR** 100 San Antonio, Texas  
**KGFI** 100 Corpus Christi, Texas  
**KGHX** 50 Richmond, Texas  
**KGKB** 100 Brownwood, Texas  
**KPJM** 100 Prescott, Ariz.  
**KREJ** 100 Santa Ana, Cal.  
**KUJ** 100 Longview, Wash.  
**KVEP** 15 Portland, Ore.  
**WCLB** 100 Brooklyn, N. Y.  
**WEHS** 100 Evanston, Ill.  
**WHFC** 100 Cicero, Ill.  
**WKBI** 50 Chicago, Ill.  
**WKBV** 100 Brookville, Ind.  
**WKBZ** 50 Ludington, Mich.  
**WLBX** 100 Long Island City, N. Y.  
**WLOE** 100 Boston, Mass.  
**WMBA** 100 Newport, R. I.  
**WMBJ** 100 Pittsburgh, Pa.  
**WMBQ** 100 Brooklyn, N. Y.  
**WMES** 50 Boston, Mass.  
**WMPC** 100 Lapeer, Mich.  
**WNBf** 50 Binghamton, N. Y.  
**WOPi** 100 Bristol, Tenn.  
**WPEN** 100 Philadelphia, Pa.  
**WRBJ** 10 Hattiesburg, Miss.  
**WWRL** 100 Woodside, N. Y.

Santa Barbara Brdctg. Co.  
 The Milan Radio Company, Inc.  
 Eagle Brdctg. Co., Inc.  
 Ft. Bend County School Board  
 Eagle Publishing Co.  
 Miller & Klahn  
 Pacific Western Brdctg. Foundation  
 Columbia Brdctg. Co., Inc.  
 Schaeffer Radio Co.  
 Arthur Faske  
 Victor C. Carlson  
 Triangle Broadcasters  
 Fred L. Schoenwolf  
 Knox Battery & Electric Co.  
 K. L. Ashbacker  
 John N. Brahy  
 Boston Brdctg. Co.  
 LeRoy Joseph Beebe  
 Rev. John W. Sproul  
 Paul J. Gollhofer  
 Mass. Educational Society  
 First M. E. Church  
 Hewitt-Wood Radio Co.  
 Radiophone Service Co.  
 Wm. Penn Broadcasting Co.  
 Woodruff Furniture Co., Inc.  
 Long Island Brdctg. Corp.

**KCYS.**  
**1500**  
**MTRS.**  
**199.9**  
**DIAL**



INDEX BY LOCATIONS WITH MAP KEY

ILLINOIS

Carthage F-17-e	50	WCAZ	1070
Chicago E-19-g	5000	KFKX	1020
	5000	KYW	1020
	500	WAAF	920
	25000	WBBM	770
	1000	WCFL	1280
	100	WCRW	1210
	100	WEDC	1210
	50000	WENR	870
	500	WGES	1360
	25000	WGN	720
	1000	WIBO	570
	5000	WJAZ	1480
	25000	WJBT	780
	50	WKBI	1500
	50000	WLS	870
	5000	WMAQ	870
	5000	WMBI	1080
	5000	WORD	1480
	500	WPCC	570
	100	WSBC	1210
	100	WHFC	1500
	100	WJBL	1200
	100	WEHS	1500
	5000	WSOA	1480
	100	WKBS	1310
	100	WEBQ	1210
	100	WCLS	1310
	100	WKBB	1310
	100	WJBC	1200
	20000	WJJD	1130
	500	WMBD	1440
	500	WTAD	1440
	500	KFLV	1410
	100	WHBF	1210
	100	WCBS	1210
	50	WTAX	1210
	100	WDZ	1070
	250	WILL	890
	5000	WCBD	1080
Cicero			
Decatur G-18			
Evanston E-19			
Forest Park			
Galesburg F-18-a			
Harrisburg H-18-b			
Joliet E-19-f			
La Salle F-18-d			
Mooseheart E-18-e			
Peoria Heights G-18			
Quincy G-17			
Rockford E-18-c			
Rock Island F-17-c			
Springfield G-18			
Streator F-18-e			
Tuscola G-19-b			
Urbana G-19-a			
Zion E-19-c			

INDIANA

Anderson G-20-a	100	WHBU	1210
Brookville G-20	100	WKBV	1500
Culver F-19-d	500	WCMA	1400
Evansville H-19	500	WGBF	630
Fort Wayne F-20-b	100	WGL	1370
	10000	WOWO	1160
	500	WJKS	1360
	100	WWAE	1200
	1000	WFBM	1230
	500	WKBF	1400
	100	WJAK	1200
	50	WJAF	1310
	50	WJBC	1310
	500	WSBT	1230
	100	WBOW	1310
	500	WRBC	1240
Gary F-19			
Hammond F-19			
Indianapolis G-19-c			
La Porte F-19-c			
Marion			
Muncie G-20			
South Bend F-20-a			
Terre Haute G-19			
Valparaiso F-19-b			

IOWA

Ames E-16-c	5000	WOI	560
Boone E-16	100	KFGO	1310
Cedar Rapids E-17-a	100	KWCR	1310
Clarinda E-15-c	500	KSO	1380
Council Bluffs F-15-b	1000	KOIL	1260
Davenport F-17-a	5000	WOC	1000
Decorah D-17	50	KGCA	1270
	100	KWLC	1270
	5000	WHO	1000
	100	KFYJ	1310
	500	WSUI	600
	100	KFJB	1200
	5000	KTNT	1170
Des Moines F-16-a			
Fort Dodge E-16-a			
Iowa City E-17-b			
Marshalltown E-16-d			
Muscatine F-17-b			

Ottumwa F-17	100	WIAS	1420
Red Oak F-15	100	KICK	1420
Shenandoah F-15-c	500	KFNF	890
	500	KMA	930
Sioux City E-15	1000	KSCJ	1330
Waterloo F-17	250	WMT	600

KANSAS

Kansas City	100	WLBK	1420
Lawrence G-15-a	1000	KFKU	1220
	1000	WREN	1220
Manhattan G-14-a	500	KSAC	580
Milford G-14	5000	KFKB	1050
Topeka G-14	500	WIBW	580
Wichita H-14-a	500	KFH	1300

KENTUCKY

Covington	5000	WCKY	1480
Hopkinsville I-19	1000	WFIW	940
Louisville H-20	10000	WHAS	820
	30	WLAP	1200

LOUISIANA

New Orleans M-17	100	WABZ	1200
	1000	WDSU	1250
	100	WJBO	1370
	30	WJBW	1200
	500	WSMB	1320
	5000	WWL	850
	50	KRMD	1310
	1000	KTBS	1450
	100	KTSL	1310
	100	KWEA	1210
	10000	KWKH	850
Shreveport K-16			

MAINE

Bangor C-28-b	100	WABI	1200
	250	WLBZ	620
Portland D-28-b	500	WCSH	940

MARYLAND

Baltimore G-24-a	10000	WBAL	1060
	250	WCAO	600
	100	WCBM	1370
	250	WFBR	1270
Cumberland G-23	50	WTBO	1420

MASSACHUSETTS

Boston E-27-c	1000	WBIS	1230
	500	WBZA	990
	1000	WEEL	590
	100	WLQE	1500
	50	WMES	1500
	1000	WNAC	1230
	100	WSSH	1420
	250	WSAR	1450
	100	WSPS	1200
	1000	WHDH	830
	500	WLEX	1360
	100	WLEY	1420
	100	WNBH	1310
	500	WMAF	1360
	15000	WBZ	990
	250	WBSO	920
	100	WORC	1200
	250	WTAG	580
Fall River E-27			
Gloucester E-27			
Lexington E-27			
New Bedford E-27-g			
S. Dartmouth E-27			
Springfield E-26-b			
Wellesley Hills E-27			
Worcester E-27-b			

MICHIGAN

Battle Creek E-20	50	WKBP	1420
Bay City D-21	500	WBCM	1410
Berrien Spgs. E-19	1000	WEMC	590
Calumet B-18	100	WHDF	1370

INDEX BY LOCATIONS WITH MAP KEY

Detroit E-21-g	750	WGHP	1240	<b>NEBRASKA</b>			
	5000	WJR	750	Clay Center G-14	1000	KMMJ	740
	100	WMBC	1420	Lincoln F-14-b	5000	KFAB	770
	1000	WWJ	920		100	KFOR	1210
East Lansing E-20-b	1000	WKAR	1040	Norfolk E-14-c	500	WCAJ	590
Flint E-21-a	100	WFDL	1310	Omaha F-15-a	1000	WJAG	1060
Grand Rapids E-20-a	500	WASH	1270		500	WAAW	660
	500	WOOD	1270	Ravenna F-13	1000	WOW	590
Jackson E-20	100	WIBM	1370	York F-13	50	KGFV	1310
Lapeer E-21	100	WMPC	1500		500	KGBZ	930
Ludington D-19	50	WKBZ	1500	<b>NEVADA</b>			
Royal Oak E-21-e	50	WAGM	1310	Las Vegas	100	KGIX	1420
Ypsilanti E-21-f	50	WJBK	1370	Reno G-3	100	KOH	1370
<b>MINNESOTA</b>				<b>NEW HAMPSHIRE</b>			
Collegetown C-15	100	WFBJ	1370	Laconia D-27	100	WKAV	1310
Duluth B-17	1000	WEBC	1290	Manchester E-27	500	WBRL	1430
Fergus Falls B-15	50	KGDE	1200	<b>NEW JERSEY</b>			
Hallock A-14	50	KGFK	1200	Asbury Park G-26	500	WCAP	1280
Minneapolis C-16-b	7500	WCCO	810	Atlantic City G-25	5000	WPG	1100
	1000	WDGJ	1180	Camden F-25-f	500	WCAM	1280
	500	WGMS	1250	Elizabeth F-26-h	250	WBS	1450
	500	WFBI	1180	Fort Lee F-26	250	WBMS	1450
	500	WLB	1250	Jersey City F-26-d	300	WAAT	1070
	1000	WRHM	1250	Newark F-25-h	250	WKBO	1450
Northfield D-16	1000	KFMX	1250		1000	WAAM	1250
St. Paul C-16-c	1000	KCAL	1250		250	WGCP	1250
	10000	KSTP	1460		250	WNJ	1450
<b>MISSISSIPPI</b>					5000	WOR	710
Columbus K-18	500	WCOC	880	Paterson F-26-c	1000	WDA	1250
Greenville K-17	100	WRBQ	1210	Red Bank G-26	100	WJBI	1210
Gulfport M-18	100	WGCM	1210	Trenton F-25	500	WOAX	1280
Hattiesburg L-18	10	WRBJ	1500	<b>NEW MEXICO</b>			
Jackson	500	WJDX	1270	Albuquerque	250	KGGM	1230
Utica L-17	300	WQBC	1360	Raton I-11	50	KGFL	1370
<b>MISSOURI</b>				State College K-9	10000	KOB	1180
Cartersville	50	KFPW	1340	<b>NEW YORK</b>			
Cp. Girardeau H-18-c	100	KFVS	1210	Auburn E-24	100	WMBO	1370
Columbia G-16-b	500	KFRU	630	Bay Shore F-26-h	100	WINR	1210
Independence G-16-c	1000	KMBC	950	Binghamton E-25	50	WNBF	1500
Jefferson City H-16-a	500	WOS	630	Brooklyn F-26-f	500	WBBC	1400
Joplin H-16	100	WMBH	1420		250	WCDA	1350
Kansas City G-15-b	100	KWKC	1370		100	WCLB	1500
	1000	WDAF	610		500	WLTH	1400
	500	WHB	950	Buffalo E-23-a	100	WMBQ	1500
	1000	WOQ	1300		500	WSGH	1400
Kirksville F-16-c	15	KFKZ	1200		100	WEBR	1310
St. Joseph G-15	2500	KFEQ	560		1000	WGR	550
	100	KGBX	1370		5000	WKBW	1470
St. Louis H-18-a	5000	KFOA	1090		1000	WKEN	1040
	500	KFUO	550		750	WMAK	900
	100	KFWF	1200		50	WSV	1370
	5000	KMOX	1090	Canton D-25	500	WCAD	1220
	500	KSD	550	Cazenovia E-25-b	250	WMAC	570
	1000	KWK	1350	Coney Island F-26	500	WCGU	1400
	1000	WEW	760	Freeport F-26-1	100	WGBB	1210
	100	WIL	1200	Ithaca E-24-d	500	WEAI	1270
	100	WMAY	1200		50	WLCI	1210
<b>MONTANA</b>				Jamaica F-26-f	10	WMRJ	1420
Billings C-8	500	KGHL	950	Jamestown E-23-b	25	WOCL	1210
Butte C-7	250	KGIR	1360	Long Island City F-26	100	WLBX	1500
Great Falls A-8	500	KFBB	1360				
Kalispell A-5	100	KGEZ	1310				
Missoula B-6	500	KUOM	570				
Wolf Point	100	KGCX	1310				

INDEX BY LOCATIONS WITH MAP KEY

New York City F-26	5000	WABC	850
	250	WBNY	1350
	5000	WBOQ	860
	50000	WEAF	660
	500	WEVD	1300
	500	WGBS	1180
	1000	WHAP	1300
	250	WHN	1010
	30000	WJZ	760
	250	WKBQ	1350
	5000	WLWL	1100
	500	WMCA	570
	250	WMSG	1350
	500	WNYC	570
	1000	WOV	1130
	250	WPAP	1010
	500	WPCH	810
	250	WQAO	1010
	250	WRNY	1010
	30	WPOE	1420
Patchogue			
Poughkeepsie F-26-a	500	WOKO	1440
Rochester E-24-b	500	WABO	1440
	5000	WHAM	1150
	500	WHEC	1440
Rossville F-26	1000	WBBR	1300
Saranac Lake D-26	50	WNBZ	1290
Schenectady E-25-c	50000	WGY	790
Syracuse E-24-c	750	WFBL	900
	250	WSYR	570
Troy E-21-a	500	WHAZ	1300
Tupper Lake D-25	10	WHDL	1420
Utica E-25-a	100	WIBX	1200
Woodside F-26	100	WWRL	1500
Yonkers E-26	100	WCOH	1210

NORTH CAROLINA

Asheville J-21	1000	WWNC	570
Charlotte J-22	5000	WBT	1080
Gastonia J-22	100	WRBU	1210
Greensboro J-22	250	WNRC	1440
Raleigh I-23	1000	WPTF	680
Wilmington J-24	50	WRBT	1370
Winston-Salem	100	WJDZ	1310
	100	WSJS	1310

NORTH DAKOTA

Bismarck B-12	500	KFYR	550
Devils Lake A-13	100	KDLR	1210
Fargo B-14	1000	WDAY	940
Grand Forks A-14	500	KFJM	1370
Mandan B-12	100	KGCU	1200
Minot A-12	100	KLPM	420

OHIO

Akron F-22-b	1000	WADC	1320
	500	WFJC	1450
Bellefontaine G-21-a	100	WHBD	1370
Cambridge F-22	100	WEBE	1210
Canton F-22-d	10	WHBC	1200
Cincinnati G-20-e	500	WKRC	550
	50000	WLW	700
	500	WSAI	1330
Cleveland F-22-a	1000	WEAR	1070
	1000	WHK	1390
	500	WJAY	620
	50000	WTAM	1070
Columbus G-21-b	500	WAUI	640
	500	WCAH	1430
	750	WEAO	570
	50	WMAN	1210
Dayton G-21-e	200	WSMK	1380
Hamilton G-20-d	100	WRK	1310
Mansfield F-21	100	WJW	1210
Springfield G-21-c	500	WCSO	1450

Stuebenville F-22	50	WIBR	1420
Toledo F-21-a	1000	WSPD	1340
Youngstown F-22	500	WKBN	570

OKLAHOMA

Alva I-13	100	KGFF	1420
Chickasha J-14-b	250	KOCW	1400
Enid I-14	100	KCRC	1370
Norman J-14-a	500	WNAD	1010
Oklahoma I-14-b	5000	KFJF	1470
	100	KFXR	1310
	100	KGFG	1370
	1000	WKY	900
Picher I-15	500	KGGF	1010
Ponca City I-14	100	WBBZ	1200
Tulsa I-15	5000	KVOO	1140

OREGON

Astoria C-1-a	100	KFJI	1370
Corvallis D-1	1000	KOAC	550
Eugene D-1	100	KORE	1420
Marshfield E-1	50	KOOS	1370
Medford E-1	50	KMED	1310
Portland C-1-b	5000	KEX	1180
	100	KFIF	1420
	500	KFJR	1300
	1000	KGW	620
	1000	KOIN	940
	500	KTBR	1300
	15	KVEP	1500
	500	KWJJ	1060
	500	KXL	1250

PENNSYLVANIA

Allentown F-25-c	250	WCBA	1440
	250	WSAN	1440
Altoona F-24-c	100	WFBG	1310
Carbondale F-25	5	WNBW	1200
Elkins Park G-25-c	50	WIBG	930
Erie E-23	30	WEDH	1420
	50	WRAK	1370
Grove City F-23-b	100	WSAJ	1310
Harrisburg F-24-d	500	WBAK	1430
	100	WCOD	1200
	500	WHP	1430
Johnstown F-23-d	100	WJAC	1310
Lancaster G-25-a	15	WGAL	1310
	100	WKJC	1200
Lewisburg F-24-b	100	WJBU	1210
Oil City F-23-a	500	WLBW	1260
Philadelphia G-25-d	10000	WCAU	1170
	100	WELK	1370
	500	WFAN	610
	500	WFI	560
	50	WFKD	1310
	500	WIP	610
	500	WLIT	560
	100	WNAT	1310
	100	WPEN	1500
	250	WRAX	1020
Pittsburgh F-23-c	50000	KDKA	980
	500	KOV	1380
	500	WCAE	1220
	1000	WJAS	1290
	100	WMBJ	1500
Reading F-25-d	100	WRBW	1310
Scranton F-25-a	250	WGBI	880
	250	WQAN	880
	500	WPSC	1230
State College F-24-a	100	WNBO	1200
Washington F-23	100	WBAX	1210
Wilkes-Barre F-25-b	100	WBRE	1310

INDEX BY LOCATIONS WITH MAP KEY

<b>PORTO RICO</b>				<b>San Antonio M-14-a</b>			
San Juan	500	WKAQ	890	100	KGCI	1370	
<b>RHODE ISLAND</b>				100	KGDR	1500	
Cranston F-27-a	100	WDFW	1210	100	KGRC	1370	
Newport F-27	100	WLSI	1210	100	KTAP	1420	
Pawtucket E-27	100	WMBM	1500	1000	KTSA	1290	
Providence E-27-h	250	WPAW	1210	5000	WQAI	1190	
	250	WEAN	780	1000	WJAD	1240	
	250	WJAR	890	250	KGKO	570	
<b>SOUTH CAROLINA</b>				<b>UTAH</b>			
Charleston K-23	75	WBBY	1200	Ogden F-7-b	100	KLO	1370
<b>SOUTH DAKOTA</b>				Salt Lake City F-7-c	1000	KDYL	1290
Brookings D-14	1000	KFDY	550	5000	KSL	1130	
Dell Rapids D-14	50	KGDA	1370	<b>VERMONT</b>			
Oldham D-14	15	KGDY	1200	Burlington D-26-a	100	WCAX	1200
Pierre D-12	200	KGFX	580	Springfield D-26-b	10	WNBX	1200
Rapid City D-11	100	WCAT	1200	<b>VIRGINIA</b>			
Sioux Falls D-14	2000	KSOO	1150	Arlington G-24-d	1000	NAA	690
Vermillion E-14-b	500	KUSD	890	Ermony	100	WJDW	1370
Watertown	100	KGCR	1210	Ettrick	100	WLBG	1200
Yankton E-14-a	1000	WNAX	570	Mt. Vernon Hills	1000	WJSV	1460
<b>TENNESSEE</b>				Newport News	100	WGH	1310
Bristol	100	WOPI	1500	Norfolk I-24	500	WPOR	780
Chattanooga J-20	1000	WDOD	1280	500	WTAR	780	
Knoxville I-20	50	WFBC	1200	100	WBBL	1370	
	50	WNBK	1310	100	WMBG	1210	
	1000	WNOX	560	5000	WRVA	1110	
Lawrenceburg J-19	500	WOAN	600	250	WDBJ	930	
Memphis J-18-a	500	WGBC	1430	<b>WASHINGTON</b>			
	100	WHBQ	1370	Aberdeen B-1	75	KXRO	1310
	500	WMC	780	Bellingham A-1	100	KVOS	1200
	500	WNER	1430	Everett A-2	50	KFBL	1370
	500	WREC	600	Lacey B-2-b	10	KGY	1200
Nashville I-19	5000	WLAC	1490	Longview B-1	100	KUJ	1500
	5000	WSM	650	Pullman B-4	500	KWSC	1390
	5000	WTNT	1490	Seattle B-2-a	100	KFQW	1420
Springfield I-19	100	WSIX	1210	5000	KJR	970	
Union City I-18	15	WOBT	1310	1000	KOL	1270	
<b>TEXAS</b>				1000	KOMO	920	
Abilene	100	KFYO	1420	100	KPCB	1210	
Amarillo J-12	1000	KGRS	1410	100	KPQ	1210	
	250	WDAG	1410	50	KRSC	1120	
Austin L-14-b	500	KUT	1120	1000	KTW	1270	
Beaumont M-16	500	KFDM	560	100	KVL	1370	
Brownsville O-14-b	500	KFWG	1260	500	KXA	570	
Brownwood L-13	100	KGKB	1500	100	KFIO	1230	
College Sta. M-13	500	WTAW	1120	500	KFPY	1390	
Corpus Christi	100	KGFI	1500	5000	KGA	1470	
Dallas L-15-a	10000	KRLD	1040	1000	KHQ	590	
	500	WFAA	800	Tacoma B-1-a	500	KMO	1340
	500	WRR	1280	1000	KVI	760	
	100	KFPL	1310	100	KIT	1370	
Dublin K-14	100	KTSM	1310	<b>WEST VIRGINIA</b>			
El Paso L-10	100	WDAH	1310	Bluefield	100	WHIS	1420
	100	KFJZ	1370	Charleston H-22	250	WOBU	580
Fort Worth L-14-a	1000	KTAT	1240	Fairmount G-23	250	WMMN	890
	50000	WBAP	800	Huntington G-22	250	WSAZ	580
	100	KFLX	1370	Weirton G-22	60	WOBZ	1420
Galveston M-15-b	500	KFUL	1290	5000	WVVA	1160	
	15	KFPM	1310	<b>WISCONSIN</b>			
Greenville K-15	500	KRGV	1260	Beloit E-18-b	350	WEBW	600
Harlingen O-14	1000	KPRC	920	Eau Claire D-17	1000	WTAQ	1330
Houston M-15-a	5	KTUE	1420	Fond du Lac D-18-d	100	KFIZ	1420
	50	KGHX	1500	Kenosha E-19	100	WCLO	1200
Richmond M-15	100	KGKL	1370	La Crosse E-17	1000	WKBH	1380
San Angelo M-12	100			Madison E-18-2	750	WHA	940
				100	WIBA	1210	
				100	WOMT	1210	



INDEX BY LOCATIONS WITH MAP KEY

Milwaukee E-19-a	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
Poynette D-18-e	100	WIBU	1310
Racine E-19	100	WRJN	1370
Sheboygan C-18	500	WHBL	1410
Stevens Pt. D-18-b	2000	WLBL	900
West De Pere D-19	100	WHBY	1200

WYOMING

Casper	100	KDFN	1210
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CANADA

ALBERTA

Calgary	500	CFAC	690
	500	CFCN	690
	500	CHCA	690
	500	CJ CJ	690
	500	CNRC	690
Edmonton	250	CHMA	580
	500	CJCA	580
	500	CKUA	580
	500	CNRE	580
Lethbridge	50	CJOC	1120
Red Deer	1000	CHCT	840
	1000	CKLC	840

BRITISH COLUMBIA

Chilliwack	5	CHWK	1210
Kamloops	15	CFJC	1120
Sea Island	50	CJOR	1030
Vancouver	50	CHLS	730
	50	CKCD	730
	50	CKFC	730
	50	CKMO	730
	100	CKWX	730
	500	CNRT	1030
Victoria	500	CFCT	630

MANITOBA

Brandon	500	CKX	540
Winnipeg	5000	CKY	780
	5000	CNRW	780

NEW BRUNSWICK

Fredericton	50	CFNB	1210
Moncton	500	CNRA	630
St. John	50	CFBO	890

NOVA SCOTIA

Halifax	500	CHNS	930
Sydney	50	CJCB	880
Wolfville	50	CKIC	930

ONTARIO

Brantford	50	CKCR	1010
Chatham	50	CFCO	1210
Cobalt	15	CKMC	1210
Hamilton	10	CHCS	880
	50	CHML	880
	50	CKOC	880
Iroquois Falls	250	CFCH	600
Kingston	500	CFRC	1120
London	500	CJGC	910
	500	CNRL	910
Midland	50	CKPR	1120
Ottawa	100	CKCO	690
	500	CNRO	600
Prescott	50	CFLC	1010
Preston	50	CKPC	1210
Toronto	500	CFCA	840
	500	CFCL	580

Toronto	4000	CFRB	960
	500	CJBC	580
	1000	CJBC	840
	5000	CJBC	960
	500	CJSC	690
	500	CKCL	580
	5000	CKGW	690
	500	CKNC	580
	500	CKOW	840
	500	CNRT	840
	5000	CNXR	690

PRINCE EDWARD ISLAND

Charlottetown	250	CFCY	960
	30	CHCK	960
Summerside	25	CHGS	1120

QUEBEC

Montreal	1650	CFCF	1030
	500	CHYC	730
	12000	CKAC	730
	1650	CNRM	730
Quebec	25	CHRC	880
	22	CKCI	880
	50	CKCV	880
	50	CNRO	880
St. Hyacinthe	50	CKSH	1010

SASKATCHEWAN

Fleming	500	CJRW	600
Moose Jaw	500	CJRM	600
Pilot Butte	500	CHWC	960
Regina	500	CJBR	960
	500	CKCK	960
	500	CNRR	960
Saskatoon	500	CFQC	910
	250	CJHS	910
	500	CNRS	910
Yorkton	500	CJGX	630

HAITI

Port au Prince	1000	HHK	830
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MEXICO

Chihuahua	250	XFF	920
C. Lerdo, Dgo	250	XES	1200
Guadalajara, Jal.	101	XEA	1200
Jalapa, Ver.	350	XFC	630
Merida, Yucatan	105	XEY	550
Mexico City	1000	XEB	670
	1000	XEN	730
	500	XEX	920
	50	XFA	540
	2000	XFG	640
	1000	XFI	590
	500	XFX	840
Monterrey, N. L.	101	XEH	970
Morelia, Mich.	101	XEI	1000
Oaxaca, Oax.	105	XEF	1130
Puebla, Pue.	101	XEE	960

CUBA

Cienfuegos	200	6BY	1150
Elia	500	7SR	860
Havana	500	CMC	840
	4000	CMK	730
	15	2BB	1200
	50	2LR	1280
	20	2MG	1050
	100	2OK	860
	100	2OL	1170
	20	2RK	950
	20	2TW	1110
	10	2UF	1090
Tuinucu	1500	6KW	790

**CFAC** 690  
 Calgary, Alta.  
**CFBO** 890  
 St. John, N. B.  
**CFCA** 840  
 Toronto, Ont.  
**CFCF** 1030  
 Montreal, Que.  
**CFCH** 600  
 Iroq's Falls, Ont.  
**CFCL** 580  
 Toronto, Ont.  
**CFCN** 690  
 Calgary, Alta.  
**CFCO** 1210  
 Chatham, Ont.  
**CFCT** 630  
 Victoria, B. C.  
**CFCY** 960  
 Ch'lottet'n,P.E.I.  
**CFJC** 1120  
 Kamloops, B. C.  
**CFLC** 1010  
 Prescott, Ont.  
**CFNB** 1210  
 Fredericton, N.B.  
**CFQC** 910  
 Saskatoon, Sask.  
**CFRB** 960  
 Toronto, Ont.  
**CFRC** 1120  
 Kingston, Ont.  
**CHCA** 690  
 Calgary, Alta.  
**CHCK** 960  
 Ch'lottet'n,P.E.I.  
**CHCS** 880  
 Hamilton, Ont.  
**CHCT** 840  
 Red Deer, Alta.  
**CHGS** 1120  
 Sum'rside, P.E.I.  
**CHLS** 730  
 Vancouver, B.C.  
**CHMA** 580  
 Edmonton, Alta.  
**CHML** 880  
 Hamilton, Ont.  
**CHNS** 930  
 Halifax, N.S.  
**CHRC** 880  
 Quebec, Que.  
**CHWC** 960  
 Pilot Butte, Sask.  
**CHWK** 1210  
 Chilliwack, B.C.  
**CHYC** 730  
 Montreal, Que.  
**CJBC**580-840-960  
 Toronto, Ont.  
**CJBR** 960  
 Regina, Sask.  
**CJCA** 580  
 Edmonton, Alta.  
**CJCB** 880  
 Sydney, N.S.  
**CJ CJ** 690  
 Calgary, Alta.  
**CJGC** 910  
 London, Ont.  
**CJGX** 630  
 Yorkton, Sask.  
**CJHS** 910  
 Saskatoon, Sask.  
**CJOC** 1120  
 Lethbridge, Alta.

**CJOR** 1030  
 Sea Island, B. C.  
**CJRM** 600  
 Moose Jaw, Sask.  
**CJRW** 600  
 Fleming, Sask.  
**CJSC** 690  
 Toronto, Ont.  
**CKAC** 730  
 Montreal, Que.  
**CKCD** 730  
 Vancouver, B.C.  
**CKCI** 880  
 Quebec, Que.  
**CKCK** 960  
 Regina, Sask.  
**CKCL** 580  
 Toronto, Ont.  
**CKCO** 690  
 Ottawa, Ont.  
**CKCR** 1010  
 Brantford, Ont.  
**CKCV** 880  
 Quebec, Que.  
**CKFC** 730  
 Vancouver, B.C.  
**CKGW** 690  
 Toronto, Ont.  
**CKIC** 930  
 Wolfville, N.S.  
**CKLC** 840  
 Red Deer, Alta.  
**CKMC** 1210  
 Cobalt, Ont.  
**CKMO** 730  
 Vancouver, B.C.  
**CKNC** 580  
 Toronto, Ont.  
**CKOC** 880  
 Hamilton, Ont.  
**CKOW** 840  
 Toronto, Ont.  
**CKPC** 1210  
 Preston, Ont.  
**CKPR** 1120  
 Midland, Ont.  
**CKSH** 1010  
 St. H'cinthe, Que.  
**CKUA** 580  
 Edmonton, Alta.  
**CKWX** 730  
 Vancouver, B.C.  
**CKX** 540  
 Brandon, Man.  
**CKY** 780  
 Winnipeg, Man.  
**CMC** 840  
 Havana, Cuba  
**CMK** 730  
 Havana, Cuba  
**CNRA** 630  
 Moncton, N.B.  
**CNRC** 690  
 Calgary, Alta.  
**CNRE** 580  
 Edmonton, Alta.  
**CNRL** 910  
 London, Ont.  
**CNRM** 730  
 Montreal, Que.  
**CNRO** 600  
 Ottawa, Ont.  
**CNRQ** 880  
 Quebec, Que.  
**CNRR** 960  
 Regina, Sask.  
**CNRS** 910  
 Saskatoon, Sask.

**CNRT** 840  
 Toronto, Ont.  
**CNRV** 1030  
 Vancouver, B.C.  
**CNWC** 780  
 Winnipeg, Man.  
**CNXR** 690  
 Toronto, Ont.  
**HHK** 830  
 Port au Prince, H.  
**KCRC** 1370  
 Oklahoma City  
**KDB** 1500  
 S. Barbara, Cal.  
**KDFN** 1210  
 Casper, Wyo.  
**KDKA** 980  
 Pittsburgh, Pa.  
**KDLR** 1210  
 Devils Lake, N.D.  
**KDYL** 1290  
 Salt Lake City  
**KEJK** 710  
 Los Angeles, Cal.  
**KELW** 780  
 Burbank, Cal.  
**KEX** 1180  
 Portland, Ore.  
**KFAB** 770  
 Lincoln, Nebr.  
**KFAD** 620  
 Phoenix, Ariz.  
**KFBB** 1360  
 Great Fls, Mont.  
**KFBK** 1310  
 Sacramento, Cal.  
**KFBL** 1370  
 Everett, Wash.  
**KFDM** 560  
 Beaumont, Tex.  
**KFDY** 550  
 Brookings, S.D.  
**KFEL** 630  
 Denver, Colo.  
**KFEQ** 560  
 St. Joseph, Mo.  
**KFGQ** 1310  
 Boone, Iowa  
**KFH** 1300  
 Wichita, Kansas  
**KFHA** 1200  
 Gunnison, Colo.  
**KFI** 640  
 Los Angeles, Cal.  
**KFIF** 1420  
 Portland, Ore.  
**KFIO** 1230  
 Spokane, Wash.  
**KFIZ** 1420  
 Fond du Lac, Wis.  
**KFJB** 1200  
 Marshalltown, Ia.  
**KFJF** 1470  
 Oklahoma City  
**KFJI** 1370  
 Astoria, Ore.  
**KFJM** 1370  
 Grd. Forks, N.D.  
**KFJR** 1300  
 Portland, Ore.  
**KFJY** 1310  
 Fort Dodge, Ia.  
**KFJZ** 1370  
 Ft. Worth, Tex.  
**KFKA** 880  
 Greeley, Colo.  
**KFKB** 1050  
 Milford, Kansas

KFKU 1220 Lawrence, Kans.	KFYR 550 Bismarck, N.D.	KGIQ 1320 Twin Falls, Ida.
KFKX 1020 Chicago, Ill.	KGA 1470 Spokane, Wash.	KGIR 1360 Butte, Mont.
KFKZ 1200 Kirksville, Mo.	KGAR 1370 Tucson, Ariz.	KGIW 1420 Trinidad, Colo.
KFLV 1410 Rockford, Ill.	KGB 1330 San Diego, Cal.	KGIX 1420 Las Vegas, Nev.
KFLX 1370 Galveston, Tex.	KGBU 900 Ketchikan, Al'tka	KGJF 890 Little Rock, Ark.
KFMX 1250 N'thfield, Minn.	KGBX 1370 St. Joseph, Mo.	KGKB 1500 Brownwood, Tex.
KFNF 890 Shenandoah, Ia.	KGBZ 930 York, Nebr.	KGKL 1370 San Angelo, Tex.
KFOR 1210 Lincoln, Nebr.	KGCA 1270 Decorah, Iowa	KGKO 570 Wichita Flls, Tex.
KFOX 1250 Long Beach, Cal.	KGCI 1370 San Ant'nio, Tex.	KGKX 1420 Sand Point, Ida.
KFPL 1310 Dublin, Texas	KGCR 1210 Watertown, S.D.	KGO 790 Oakland, Cal.
KFPM 1310 Greenville, Tex.	KGCU 1200 Mandan, N.D.	KGRC 1370 San Antonio, Tex.
KFPW 1340 Carterville, Mo.	KGCX 1310 Wolf P't, Mont.	KGRS 1410 Amarillo, Texas
KFPY 1340 Spokane, Wash.	KGDA 1370 Dell Rapids, S.D.	KGU 940 Honolulu, Hawaii
KFQA 1090 St. Louis, Mo.	KGDE 1200 Ferg's F'lls, Minn	KGW 620 Portland, Ore.
KFQD 1230 Anchorage, Alas.	KGDM 1100 Stockton, Cal.	KGY 1200 Lacey, Wash.
KFQU 1420 Holy City, Cal.	KGDR 1500 San Antonio, Tex.	KHJ 900 Los Angeles, Cal.
KFQW 1420 Seattle, Wash.	KGDY 1200 Oldham, S.D.	KHQ 590 Spokane, Wash.
KFQZ 860 Hollywood, Cal.	KGEF 1300 Los Angeles, Cal.	KICK 1420 Red Oak, Iowa
KFRC 610 San F'nscisco, Cal.	KGFK 1200 Yuma, Colo.	KIB 1320 Idaho Falls, Ida.
KFRU 630 Columbia, Mo.	KGER 1360 Long Beach, Cal.	KIDO 1250 Boise, Idaho
KFSD 600 San Diego, Cal.	KGFW 1200 Ft. Morgan, Colo.	KIT 1370 Yakima, Wash.
KFSG 1120 Los Angeles, Cal.	KGEZ 1310 Kalispell, Mont.	KJBS 1070 San F'nscisco, Cal.
KFUL 1290 Galveston, Tex.	KGFF 1420 Alva, Okla.	KJR 970 Seattle, Wash.
KFUM 1270 Col. Spgs., Colo.	KGFG 1370 Oklahoma City	KLCN 1290 Blytheville, Ark.
KFUO 550 St. Louis, Mo.	KGFI 1500 C'pus Ch'sti, Tex.	KLO 1370 Ogden, Utah
KFUP 1310 Denver, Colo.	KGFJ 1200 Los Angeles, Cal.	KLPM 1420 Minot, N. Dak.
KFVD 1000 Culver City, Cal.	KGFK 1200 Hallock, Minn.	KLRA 1390 Little Rock, Ark.
KFVS 1210 Cape Gir'rd'u, Mo	KGFL 1370 Raton, N. M.	KLS 1440 Oakland, Cal.
KFWB 950 Hollywood, Cal.	KGFW 1310 Ravenna, Nebr.	KLX 880 Oakland, Cal.
KFWF 1200 St. Louis, Mo.	KGFX 580 Pierre, S.D.	KLZ 560 Dupont, Colo.
KFWI 930 San F'nscisco, Cal.	KGGC 1420 San F'nscisco, Cal.	KMA 930 Shenandoah, Ia.
KFWM 930 Oakland, Cal.	KGGF 1010 Picher, Okla.	KMBC 950 Indep'd'nce, Mo.
KFXD 1420 Jerome, Idaho	KGGM 1230 Alb'q'rque, N.M.	KMED 1310 Medford, Ore.
KFXE 630 Denver, Colo.	KGHF 1320 Pueblo, Colo.	KMIC 1120 Inglewood, Cal.
KFXJ 1310 Edgewater, Colo.	KGHG 1310 McGehee, Ark.	KMJ 1210 Fresno, Cal.
KFXM 1200 San Ber'd'no, Cal.	KGHI 1200 Little Rock, Ark.	KMMJ 740 Clay Ctr., Nebr.
KFXR 1310 Oklahoma City	KGHL 950 Billings, Mont.	KMO 1340 Tacoma, Wash.
KFXY 1420 Flagstaff, Ariz.	KGHX 1500 Richmond, Tex.	KMOX 1090 St. Louis, Mo.
KFYO 1420 Abilene, Texas		

**KMTR** 570  
 Hollywood, Cal.  
**KNX** 1050  
 Los Angeles, Cal.  
**KOA** 830  
 Denver, Colo.  
**KOAC** 550  
 Corvallis, Ore.  
**KOB** 1180  
 State Coll., N.M.  
**KOCW** 1400  
 Chickasha, Okla.  
**KOH** 1370  
 Reno, Nevada  
**KOIL** 1260  
 Council Bluffs, Ia.  
**KOIN** 940  
 Portland, Ore.  
**KOL** 1270  
 Seattle, Wash.  
**KOMO** 920  
 Seattle, Wash.  
**KOOS** 1370  
 Marshfield, Ore.  
**KORE** 1420  
 Eugene, Ore.  
**KOY** 1390  
 Phoenix, Ariz.  
**KPCB** 1210  
 Seattle, Wash.  
**KPJM** 1500  
 Prescott, Ariz.  
**KPLA** 1430  
 Los Angeles, Cal.  
**KPO** 680  
 San F'nccisco, Cal.  
**KPOF** 880  
 Denver, Colo.  
**KPPC** 1200  
 Pasadena, Cal.  
**KPQ** 1210  
 Seattle, Wash.  
**KPRC** 920  
 Houston, Texas  
**KPSN** 1360  
 Pasadena, Cal.  
**KQV** 1380  
 Pittsburgh, Pa.  
**KQW** 1010  
 San Jose, Cal.  
**KPWF** 1490  
 Westminster, Cal.  
**KRE** 1370  
 Berkeley, Cal.  
**KREG** 1500  
 Santa Ana, Cal.  
**KRGV** 1260  
 Harlingen, Texas  
**KRLD** 1040  
 Dallas, Texas  
**KRMD** 1310  
 Shreveport, La.  
**KRSC** 1120  
 Seattle, Wash.  
**KSAC** 580  
 Manh'tt'n, Kans.  
**KSCJ** 1330  
 Sioux City, Ia.  
**KSD** 550  
 St. Louis, Mo.  
**KSEI** 900  
 Pocatello, Idaho  
**KSL** 1130  
 Salt Lake City  
**KSMR** 1200  
 Santa Maria, Cal.

**KSO** 1380  
 Clarinda, Iowa  
**KSOO** 1110  
 Sioux Falls, S.D.  
**KSTP** 1460  
 St. Paul, Minn.  
**KTAB** 560  
 Oakland, Cal.  
**KTAP** 1420  
 San Antonio, Tex.  
**KTAT** 1240  
 Ft. Worth, Tex.  
**KTBI** 1300  
 Los Angeles, Cal.  
**KTBR** 1300  
 Portland, Ore.  
**KTBS** 1450  
 Shreveport, La.  
**KTHS** 970  
 Hot Spgs., Ark.  
**KTM** 780  
 Los Angeles, Cal.  
**KTNT** 1170  
 Muscatine, Iowa  
**KTSA** 1290  
 San Antonio, Tex.  
**KTSL** 1310  
 Shreveport, La.  
**KTSM** 1310  
 El Paso, Texas  
**KTUE** 1420  
 Houston, Texas  
**KTW** 1270  
 Seattle, Wash.  
**KUJ** 1500  
 Longview, Wash.  
**KUOA** 1390  
 Fayetteville, Ark.  
**KUOM** 570  
 Missoula, Mont.  
**KUSD** 890  
 Vermillion, S. D.  
**KUT** 1120  
 Austin, Texas  
**KVEP** 1500  
 Portland, Ore.  
**KVI** 760  
 Tacoma, Wash.  
**KVL** 1370  
 Seattle, Wash.  
**KVOA** 1260  
 Tucson, Arizona  
**KVOO** 1140  
 Tulsa, Okla.  
**KVOS** 1200  
 Bellingh'm, Wash.  
**KWCR** 1310  
 Cedar Rapids, Ia.  
**KWEA** 1210  
 Shreveport, La.  
**KWG** 1200  
 Stockton, Cal.  
**KWJJ** 1060  
 Portland, Ore.  
**KWK** 1350  
 St. Louis, Mo.  
**KWKC** 1370  
 Kansas City, Mo.  
**KWKH** 850  
 Shreveport, La.  
**KWLC** 1270  
 Decorah, Iowa  
**KWSC** 1390  
 Pullman, Wash.  
**KWWG** 1260  
 Brownsville, Tex.

**KXA** 570  
 Seattle, Wash.  
**KXL** 1250  
 Portland, Ore.  
**KXO** 1200  
 El Centro, Cal.  
**KXRO** 1310  
 Aberdeen, Wash.  
**KYA** 1230  
 San F'nccisco, Cal.  
**KYW** 1020  
 Chicago, Ill.  
**KZM** 1370  
 Hayward, Cal.  
**NAA** 690  
 Arlington, Va.  
**WAAF** 920  
 Chicago, Ill.  
**WAAM** 1250  
 Newark, N. J.  
**WAAT** 1070  
 Jersey City, N.J.  
**WAAW** 660  
 Omaha, Nebr.  
**WABC** 860  
 New York City  
**WABI** 1200  
 Bangor, Maine  
**WABO** 1440  
 Rochester, N.Y.  
**WABZ** 1200  
 New Orleans, La.  
**WADC** 1320  
 Akron, Ohio  
**WAGM** 1310  
 Royal Oak, Mich.  
**WAIU** 640  
 Columbus, Ohio  
**WAPI** 1140  
 Birmingham, Ala.  
**WASH** 1270  
 Gr. Rapids, Mich.  
**WHAK** 1430  
 Harrisburg, Pa.  
**WBAL** 1060  
 Baltimore, Md.  
**WBAP** 800  
 Fort Worth, Tex.  
**WBAX** 1210  
 Wilkes-Barre, Pa.  
**WBBC** 1400  
 Brooklyn, N. Y.  
**WBBL** 1370  
 Richmond, Va.  
**WBBM** 770  
 Chicago, Ill.  
**WBRR** 1300  
 Rossville, N. Y.  
**WBYY** 1200  
 Charleston, S.C.  
**WBZZ** 1200  
 Ponca City, Okla.  
**WBCM** 1410  
 Bay City, Mich.  
**WBIS** 1230  
 Boston, Mass.  
**WBMS** 1450  
 Fort Lee, N.J.  
**WBNY** 1350  
 New York City  
**WBOQ** 860  
 New York City  
**WBOW** 1310  
 Terre Haute, Ind.  
**WBRC** 930  
 Birmingham, Ala.

WBRE 1310  
 Wilkes-Barre, Pa.  
 WBRL 1430  
 Manchester, N.H.  
 WBSO 920  
 Well'yH's, Mass  
 WBT 1080  
 Charlotte, N.C.  
 WBZ 990  
 Springfield, Mass.  
 WBZA 990  
 Boston, Mass.  
 WCAC 600  
 Storrs, Conn.  
 WCAD 1220  
 Canton, N.Y.  
 WCAE 1220  
 Pittsburgh, Pa.  
 WCAH 1430  
 Columbus, Ohio  
 WCAJ 590  
 Lincoln, Nebr.  
 WCAL 1250  
 Northfield, Minn.  
 WCAM 1280  
 Camden, N.J.  
 WCAO 600  
 Baltimore, Md.  
 WCAP 1280  
 Asbury Pk., N.J.  
 WCAT 1200  
 Rapid City, S.D.  
 WCAU 1170  
 Philadelphia, Pa.  
 WCAX 1200  
 Burlington, Vt.  
 WCAZ 1070  
 Carthage, Ill.  
 WCBA 1440  
 Allentown, Pa.  
 WCBD 1080  
 Zion, Ill.  
 WCBM 1370  
 Baltimore, Md.  
 WCBS 1210  
 Springfield, Ill.  
 WCCO 810  
 Minneap., Minn.  
 WCDA 1350  
 New York City  
 WCFL 1280  
 Chicago, Ill.  
 WCGU 1400  
 Coney Is., N.Y.  
 WCKY 1480  
 Covington, Ky.  
 WCLB 1500  
 Brooklyn, N.Y.  
 WCLO 1200  
 Kenosha, Wis.  
 WCLS 1310  
 Joliet, Ill.  
 WCMA 1400  
 Culver, Ind.  
 WCOA 1340  
 Pensacola, Fla.  
 WCOB 880  
 Columbus, Miss.  
 WCOD 1200  
 Harrisburg, Pa.  
 WCOH 1210  
 Yonkers, N.Y.  
 WCRW 1210  
 Chicago, Ill.  
 WCSH 940  
 Portland, Maine  
 WCSO 1450  
 Springfield, Ohio

WDAE 1240  
 Tampa, Fla.  
 WDAF 610  
 Kansas City, Mo.  
 WDAG 1410  
 Amarillo, Texas  
 WDAH 1310  
 El Paso, Texas  
 WDAY 940  
 Fargo, N. D.  
 WDBJ 930  
 Roanoke, Va.  
 WDBO 1120  
 Orlando, Fla.  
 WDEL 1120  
 Wilmington, Del.  
 WDBG 1180  
 Minneap., Minn.  
 WDOD 1280  
 Chattan'ga, Tenn  
 WDRC 1330  
 N. Haven, Conn.  
 WDSU 1250  
 New Orleans, La.  
 WDFW 1210  
 Cranston, R.I.  
 WDZ 1070  
 Tuscola, Ill.  
 WEF 660  
 New York City  
 WEAI 1270  
 Ithaca, N.Y.  
 WEAN 780  
 Providence, R.I.  
 WEOA 570  
 Columbus, Ohio  
 WEAR 1070  
 Cleveland, Ohio  
 WEBC 1290  
 Duluth, Minn.  
 WEBE 1210  
 Cambridge, Ohio  
 WEBQ 1210  
 Harrisburg, Ill.  
 WEBR 1310  
 Buffalo, N.Y.  
 WEBW 600  
 Beloit, Wis.  
 WEDC 1210  
 Chicago, Ill.  
 WEDH 1420  
 Erie, Pa.  
 WEEI 590  
 Boston, Mass.  
 WEHS 1500  
 Evanston, Ill.  
 WELK 1370  
 Philadelphia, Pa.  
 WEMC 590  
 Ber'n Spgs., Mich  
 WENR 870  
 Chicago, Ill.  
 WEPS 1200  
 Gloucester, Mass.  
 WEVD 1300  
 New York City  
 WEW 760  
 St. Louis, Mo.  
 WFAA 800  
 Dallas, Texas  
 WFAN 610  
 Philadelphia, Pa.  
 WFBC 1200  
 Knoxville, Tenn.  
 WFBG 1310  
 Altoona, Pa.

WFBJ 1370  
 Coll'geville, Minn.  
 WFBL 900-1490  
 Syracuse, N.Y.  
 WFBM 1230  
 Indianapolis, Ind.  
 WFBR 1270  
 Baltimore, Md.  
 WFDF 1310  
 Flint, Mich.  
 WFI 560  
 Philadelphia, Pa.  
 WFIW 940  
 Hopkinsville, Ky.  
 WFJC 1450  
 Akron, Ohio  
 WFKD 1310  
 Philadelphia, Pa.  
 WFLA 620  
 Clearwater, Fla.  
 WGAL 1310  
 Lancaster, Pa.  
 WGBB 1210  
 Freeport, N.Y.  
 WGBC 1430  
 Memphis, Tenn.  
 WGBF 630  
 Evansville, Ind.  
 WGBI 880  
 Scranton, Pa.  
 WGBS 1180  
 New York City  
 WGCM 1210  
 Gulfport, Miss.  
 WGCP 1250  
 Newark, N.J.  
 WGES 1360  
 Chicago, Ill.  
 WGH 1310  
 Newp't News, Va.  
 WGHP 1240  
 Detroit, Mich.  
 WGL 1370  
 Ft. Wayne, Ind.  
 WGMS 1250  
 Minneap., Minn.  
 WGN 720  
 Chicago, Ill.  
 WGR 550  
 Buffalo, N.Y.  
 WGST 890  
 Atlanta, Ga.  
 WGY 790  
 Schneck'd'y, N.Y.  
 WHA 940  
 Madison, Wis.  
 WHAD 1120  
 Milwaukee, Wis.  
 WHAM 1150  
 Rochester, N.Y.  
 WHAP 1300  
 New York City  
 WHAS 820  
 Louisville, Ky.  
 WHAZ 1300  
 Troy, N.Y.  
 WHB 950  
 Kansas City, Mo.  
 WHBC 1200  
 Canton, Ohio  
 WHBD 1370  
 Bellefontaine, O.  
 WHBF 1210  
 Rock Island, Ill.  
 WHBL 1410  
 Sheboygan, Wis.

WHBQ 1370						WJAX 900						WKJC 1200					
Memphis, Tenn.						Jacksonville, Fla.						Lancaster, Pa.					
WHBU 1210						WJAY 620						WKRC 550					
Anderson, Ind.						Cleveland, Ohio						Cincinnati, O.					
WHBY 1200						WJAZ 1480						WKY 900					
W. De Pere, Wis.						Chicago, Ill.						Oklahoma City					
WHDF 1370						WJBC 1200						WLAC 1490					
Calumet, Mich.						La Salle, Ill.						Nashville, Tenn.					
WHDH 830						WJBI 1210						WLAP 1200					
Gloucester, Mass.						Red Bank, N.J.						Louisville, Ky.					
WHDI 1180						WJBK 1370						WLB 1250					
Minneapolis, Minn.						Ypsilanti, Mich.						Minneapolis, Minn.					
WHDL 1420						WJBL 1200						WLCB 1310					
Tupper Lake, N.Y.						Decatur, Ill.						Muncie, Ind.					
WHEC 1440						WJBO 1370						WLB 1420					
Rochester, N.Y.						New Orleans, La.						Kansas City, Kas.					
WHFC 1500						WJBT 770						WLBG 1200					
Chicago, Ill.						Chicago, Ill.						Ettrick, Va.					
WHIS 1420						WJBU 1210						WLBL 900					
Bluefield, W.Va.						Lewisburg, Pa.						Stevens Pt., Wis.					
WHK 1390						WJBW 1200						WLBW 1260					
Cleveland, Ohio						New Orleans, La.						Oil City, Pa.					
WHN 1010						WJBY 1210						WLBX 1500					
New York City						Gadsden, Ala.						L.I. City, N.Y.					
WHO 1000						WJDW 1370						WLBZ 620					
Des Moines, Ia.						Emory, Va.						Bangor, Me.					
WHP 1430						WJDX 1270						WLCI 1210					
Harrisburg, Pa.						Jackson, Miss.						Ithaca, N.Y.					
WIAS 1420						WJDZ 1310						WLEX 1360					
Ottumwa, Iowa						Winst.-Sal., N.C.						Lexington, Mass.					
WIBA 1210						WJJD 1130						WLEY 1420					
Madison, Wis.						Mooseheart, Ill.						Lexington, Mass.					
WIBG 930						WJKS 1360						WLIT 560					
Elkins Park, Pa.						Gary, Ind.						Philadelphia, Pa.					
WIBM 1370						WJR 750						WLOE 1500					
Jackson, Mich.						Detroit, Mich.						Boston, Mass.					
WIBO 570						WJSV 1460						WLS 870					
Chicago, Ill.						Mt. Vern. H'ls, Va.						Chicago, Ill.					
WIBR 1420						WJW 1210						WLSI 1210					
Steubenville, O.						Mansfield, Ohio						Cranston, R.I.					
WIBS 1450						WJZ 760						WLTH 1400					
Elizabeth, N.J.						New York City						Brooklyn, N.Y.					
WIBU 1310						WKAQ 890						WLW 700					
Poynette, Wis.						San Juan, P.R.						Cincinnati, Ohio					
WIBW 580						WKAR 1040						WLWL 1100					
Topeka, Kansas						E. Lansing, Mich.						New York City					
WIBX 1200						WKAV 1310						WMAC 570					
Utica, N.Y.						Laconia, N.H.						Cazenovia, N.Y.					
WICC 1190						WKBB 1310						WMAF 1360					
Bridgeport, Conn.						Joliet, Ill.						S. D'rtm'th, Mass.					
WIL 1200						WKBC 1310						WMAK 900					
St. Louis, Mo.						Birmingham, Ala.						Buffalo, N.Y.					
WILL 890						WKBF 1400						WMAL 630					
Urbana, Ill.						Indianapolis, Ind.						Washington, D.C.					
WILM 1420						WKBH 1380						WMAN 1210					
Wilmington, Del.						La Crosse, Wis.						Columbus, Ohio					
WINR 1210						WKBI 1500						WMAQ 670					
Bay Shore, N.Y.						Chicago, Ill.						Chicago, Ill.					
WIOD 1120						WKBN 570						WMAY 1200					
Miami Bch., Fla.						Youngstown, O.						St. Louis, Mo.					
WIP 610						WKBO 1450						WMAZ 890					
Philadelphia, Pa.						Jersey City, N.J.						Macon, Ga.					
WISN 1120						WKB 1420						WMBA 1500					
Milwaukee, Wis.						Battle Crk., Mich.						Newport, R.I.					
WJAC 1310						WKBQ 1350						WMB 1420					
Johnstown, Pa.						New York City						Detroit, Mich.					
WJAD 1240						WKB 1310						WMBD 1440					
Waco, Texas						Galesburg, Ill.						Peoria Hgts., Ill.					
WJAG 1060						WKBV 1500						WMBG 1210					
Norfolk, Nebr.						Brookville, Ind.						Richmond, Va.					
WJAK 1310						WKBW 1470						WMBH 1420					
Marion, Ind.						Buffalo, N.Y.						Joplin, Mo.					
WJAR 890						WKBZ 1500						WMBI 1080					
Providence, R.I.						Ludington, Mich.						Chicago, Ill.					
WJAS 1290						WKEN 1040						WMBJ 1500					
Pittsburgh, Pa.						Grand Isl'd, N.Y.						Pittsburgh, Pa.					

WMBL 1310 Lakeland, Fla.	WOL 1310 Washington, D.C.	WRC 950 Washington, D.C.
WMBO 1370 Auburn, N.Y.	WOMT 1210 Manitowoc, Wis.	WREC 600 Memphis, Tenn.
WMBQ 1500 Brooklyn, N.Y.	WOOD 1270 Gr. Rapids, Mich.	WREN 1220 Lawrence, Kans.
WMBR 1370 Tampa, Fla.	WOPI 1500 Bristol, Tenn.	WRHM 1250 Minneap., Minn.
WMC 780 Memphis, Tenn.	WOQ 1300 Kansas City, Mo.	WRJN 1370 Racine, Wis.
WMCA 570 New York City	WOR 710 Newark, N. J.	WRK 1310 Hamilton, Ohio
WMES 1500 Boston, Mass.	WORC 1200 Worcester, Mass.	WRNY 1010 New York City
WMMN 890 Fairmont, W.Va.	WORD 1480 Chicago, Ill.	WRR 1280 Dallas, Texas
WMPC 1500 Lapeer, Mich.	WOS 630 Jeff's'n City, Mo.	WRUF 830 Gainesville, Fla.
WMRJ 1420 Jamaica, N.Y.	WOV 1130 New York City	WRVA 1110 Richmond, Va.
WMSG 1350 New York City	WOW 590 Omaha, Nebr.	WSAI 1330 Cincinnati, Ohio
WMT 600 Waterloo, Iowa	WOWO 1160 Ft. Wayne, Ind.	WSAJ 1310 Grove City, Pa.
WNAC 1230 Boston, Mass.	WPAP 1010 New York City	WSAN 1440 Allentown, Pa.
WNAD 1010 Norman, Okla.	WPAW 1210 Pawtucket, R.I.	WSAR 1450 Fall River, Mass.
WNAT 1310 Philadelphia, Pa.	WPCC 570 Chicago, Ill.	WSAZ 580 Hunt'gton, W.Va.
WNAX 570 Yankton, S.D.	WPCH 810 New York City	WSB 740 Atlanta, Ga.
WNBFB 1500 Bingh'mt'n, N.Y.	WPEN 1500 Philadelphia, Pa.	WSBC 1210 Chicago, Ill.
WNBH 1310 New B'd'f'd, Mass.	WPG 1100 Atl'ntic City, N.J.	WSBT 1230 South Bend, Ind.
WNBK 1310 Knoxville, Tenn.	WPOE 1420 Patchogue, N.Y.	WSGH 1400 Brooklyn, N.Y.
WNBO 1200 Washington, Pa.	WPOR 780 Norfolk, Va.	WSIX 1210 Springfield, Tenn.
WNBR 1430 Memphis, Tenn.	WPSC 1230 State College, Pa.	WSJS 1310 Winst.-Sal., N. C.
WNBW 1200 Carbondale, Pa.	WPTF 680 Raleigh, N.C.	WSM 600 Nashville, Tenn.
WNBX 1200 Springfield, Vt.	WQAM 560 Miami, Fla.	WSMB 1320 New Orleans, La.
WNBZ 1290 SaranacL'ke, N.Y.	WQAN 880 Scranton, Pa.	WSMK 1380 Dayton, Ohio
WNJ 1450 Newark, N.J.	WQAO 1010 New York City	WSOA 1480 Forest Park, Ill.
WNOX 560 Knoxville, Tenn.	WQBC 1360 Utica, Miss.	WSPD 1340 Toledo, Ohio
WNRC 1440 Greensboro, N.C.	WQBZ 1420 Weirton, W. Va.	WSSH 1420 Boston, Mass.
WNYC 570 New York City	WRAF 1200 La Porte, Ind.	WSUI 600 Iowa City, Ia.
WOAI 1190 San Antonio, Tex.	WRAK 1370 Erie, Pa.	WSUN 620 St. Petersb'g, Fla.
WOAN 600 Law'nceb'g, Tenn.	WRAW 1310 Reading, Pa.	WSVS 1370 Buffalo, N.Y.
WOAX 1280 Trenton, N.J.	WRAX 1010 Philadelphia, Pa.	WSYR 570 Syracuse, N.Y.
WOBT 1310 Union City, Tenn.	WRBC 1240 Valparaiso, Ind.	WTAD 1440 Quincy, Ill.
WOBU 580 Charlest'n, W. Va.	WRBI 1310 Tifton, Ga.	WTAG 580 Worcester, Mass.
WOC 1000 Davenport, Iowa	WRBJ 1500 Hattiesburg, Miss.	WTAM 1070 Cleveland, Ohio
WOCL 1210 Jamestown, N.Y.	WRBL 1200 Columbus, Ga.	WTAQ 1330 Eau Claire, Wis.
WODA 1250 Paterson, N.J.	WRBQ 1210 Greenville, Miss.	WTAR 780 Norfolk, Va.
WOI 560 Ames, Iowa	WRBT 1370 Wilmington, N.C.	WTAW 1120 College Sta., Tex.
WOKO 1440 P'ghkeepsie, N.Y.	WRBU 1210 Gastonia, N.C.	WTAX 1210 Streator, Ill.

WTBO 1420		WWRL 1500		XEX 920	
Cumberland, Md.		Woodside, N.Y.		Mexico City	
WTFI 1450		WWVA 1160		XEY 550	
Toccoa, Ga.		Wheeling, W.Va.		Merida, Yucatan	
WTIC 1060		XEA 1200		XFA 540	
Hartford, Conn.		Guadalajara, Jal.		Mexico City	
WTMJ 620		XEB 670		XFC 630	
Milwaukee, Wis.		Mexico City		Jalapa, Ver.	
WTNT 1490		XEE 960		XFF 920	
Nashville, Tenn.		Pueblo, Pue.		Chihuahua, Chih.	
WTOC 1250		XEF 1130		XFG 640	
Savannah, Ga.		Oaxaca, Oax.		Mexico City	
WWAE 1370		XEH 970		XFI 590	
Hammond, Ind.		Monterey, N.L.		Mexico City	
WWJ 920		XEI 1000		XFX 840	
Detroit, Mich.		Morelia, Mich.		Mexico City	
WWL 850		XEN 730			
New Orleans, La.		Mexico City			
WWNC 570		XES 1200			
Asheville, N. C.		C. Lerdo, Dgo.			

## The Short Wave Stations

Call	Station	Owner	City and State	Meters	Watts
1 XAA	WRAH	Stanley N. Read	Providence, R. I.		7.5
1 XAE	WBZ	Westinghouse Elec. & Mfg. Co.	Springfield, Mass.	70.0	
1 XAF	WEEI	Edison Elec. Illuminating Co.	Boston, Mass.		
1 XAG		Edison Elec. Illuminating Co.	Boston, Mass.		
1 XY	WBRL	Booth Radio Laboratories	Tilton, N. H.	105-109	250
2 XA	WRMU	Yacht, "MU-1" Grebe Co.	New York		
2 XAC	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAD	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAE	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAF	WGY	General Electric Co.	Schenectady, N. Y.	32.7	
2 XAG	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAH	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAK	WGY	General Electric Co.	Schenectady, N. Y.		
2 XAL	WRNY	Aviation Radio Station, Inc.	New York	30.91	500
2 XAO		Atlantic Broadcasting Co.	New York	105.9	100
2 XAO	WOR	L. Bamberger Co.	Newark, N. J.	65.4	50
2 XAW	WGY	General Electric Co.	Schenectady, N. Y.		
2 XBA	WAAM	WAAM, Inc.	Newark, N. J.	65.18	50
2 XBF		Chas. G. Ungar	Coney Island, N. Y.	54.02	150
2 XE	WABC	Atlantic Broadcasting Co.	Richmond Hill, N. Y.	21.1	50
2 XZ		National Broadcasting Co.	Bellmore, L. I.	49.15	50000
3 XK		C. Francis Jenkins Labs	Washington, D. C.		
3 XL		Radio Corp. of America	Bound Brook, N. J.	59.96	30000
3 XN		Bell Telephone Laboratory	Whippany, N. J.		
4 XE		William Justice Lee	Winter Park, Fla.	200.	250
6 XA	KNX	Los Angeles Express	Los Angeles, Cal.	107.1	100
6 XAF	KNRC	Clarence B. Juneau	Santa Monica, Cal.	108.2	100
6 XAI	KGGM	Los Angeles Radio Club	Los Angeles, Cal.	66.04	50
6 XAK	KFWH	F. W. Morse	Chico, Cal.	108.2	50
6 XAL	KFOZ	L. E. Taft	Hollywood, Cal.	66.04	50
6 XAN	KRLO	Freeman Lang	Los Angeles, Cal.	105.9	250
6 XAR	KJBS	J. Brunton & Sons	San Francisco, Cal.	32.	50
6 XAU	KHJ	Times-Mirror Co.	Los Angeles, Cal.	104.1	50
6 XAZ		Nelson Radio Co.	San Diego, Cal.	106.	50
6 XBA	KFSG	Air-Fan Radio Corp.	Los Angeles, Cal.	108.2	250
6 XBE	KFBC	W. K. Azbill	San Diego, Cal.		
6 XBH	KFQV	W. E. Riker	Holy City, Cal.	31-106	50
6 XBR	KFWB	Warner Bros. Picture Studio	Los Angeles, Cal.	40-105	50
6 XBX	KFVD	McWhinnie Elec. Co.	Venice, Cal.	105.	50
7 XAB	KFPY	Symons Investment Co.	Spokane, Wash.	105.9	
7 XAO	KWJJ	Wilbur Jerman, Inc.	Portland, Ore.	53-54	100
7 XC	KJR	Northwest Radio Service	Seattle, Wash.		
7 XO		Northwest Radio Service	Seattle, Wash.		
8 XAC	WHAM	Stromberg-Carlson Tel. Mfg. Co.	Rochester, N. Y.		
8 XAL	WLW	Crosley Radio Corp.	Cincinnati, Ohio	52.05	500
8 XOA	WJR	WJR, Inc.	Detroit, Mich.	32.	75
8 XF	WHK	Radio Air Service Corp.	Cleveland, Ohio	66.04	500
8 XJ	WEAO	Ohio State University	Columbus, Ohio	54.02	250
8 XK	KDKA	Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.	62.5.	40000
8 XP	KDKA	Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.	10-150	5000
9 XAB	WNAL	R. J. Rockwell	Omaha, Nebr.	105.	50
9 XU	KOIL	Mona Motor Oil Co.	Council Bluffs, Iowa	61.06	500



## Radio Gossip

Cecil Underwood spends his working hours announcing at the San Francisco studios but his hobby is aviation and he is out to become a licensed pilot.

\* \* \*

Memory Lane artists are replenishing their wardrobes.

Depicting life in the mid-west 25 years ago, this striking dramalogue inspires many requests from newspapers and magazines for photographs, so every member of the cast must boast the conventional costume of a quarter-century ago.

\* \* \*

Yes, the voices of the KGO "Morning Glories" have been heard often before by the NBC System audience. The new harmony due is Imelda Montagne, who has been singing with the Pepper Maids, and Peggy Chapman, contralto soloist with the Pacific Vagabonds and Musical Muskateers.

\* \* \*

Vaughn de Leath, originator of the "crooning" type of singing now so popular, has returned to New York from her home, "The Hitching Post," in Connecticut. She has moved into an apartment on Fifty-fifth Street, just around the corner from the NBC studios, from which she broadcasts regularly.

\* \* \*

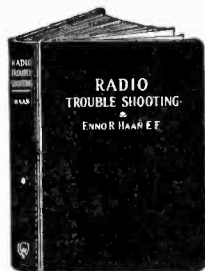
No matter how important the broadcast, the doors to the NBC studios from which it goes on the air can never be locked. This is not a superstition, but a fire regulation. In order to keep "crashers" out of the studios—and radio has its crashers—every door is guarded. Signs also advise passers-by that the studio is "on the air" and not open to visitors.

\* \* \*

Julian Oliver, famous radio tenor, has returned from a summer tour of his native Spain and Italy with a blushing bride. Oliver met his bride in Rome this summer, and they were married in Paris, September 14. As Carmen De Blasco, Mrs. Oliver won first prize in the Atlantic City beauty contest of 1925, which she entered as Miss Mexico City.

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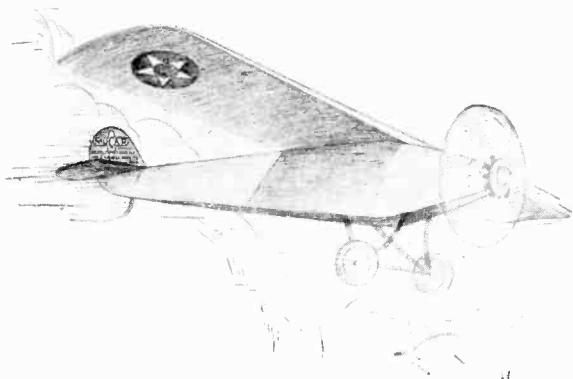
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