THE DECEMBER 1929

RADIO INDEX

The Radio Fan's Own Magazine

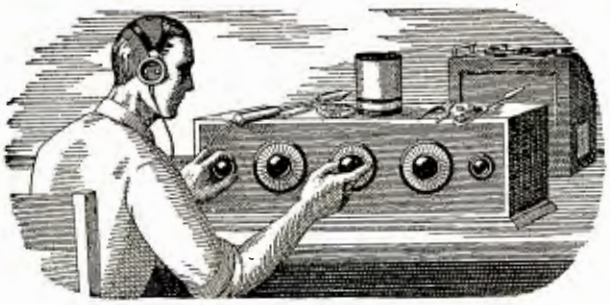
That Schoolgirl's Complexion

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 skimping along on starvation wages, just barely making both ends meet. It was the same old story — a little job, a salary just as small as 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 NUMBER 34

Contents

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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.

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.

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 watercress. 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 lonesome, 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

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 Scribbler'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.
KFEL and KFXF, Denver, from 940 to 630.
KPSN, Pasadena, from 950 to 1360.
WCFL, 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.
WSUN, St. Peterburg, from 1240 to 620.
WJAX, Jacksonville, from 1260 to 900.
WDAY, Fargo, from 1280 to 940.
WEBC, Duluth-Superior, from 1280 to 1290.
WIBW, Topeka, from 1300 to 580.
WEHS, Evanston, from 1310 to 1500.
WHFC, Cicero, from 1301 to 1500.
WKBI, Chicago, from 1310 to 1500.
KGB, San Diego, from 1360 to 1330.
KGER, Long Beach, from 1370 to 1360
WTOC, 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 D X

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 Connersville, 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

THIS 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 citzen'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.

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

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

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.

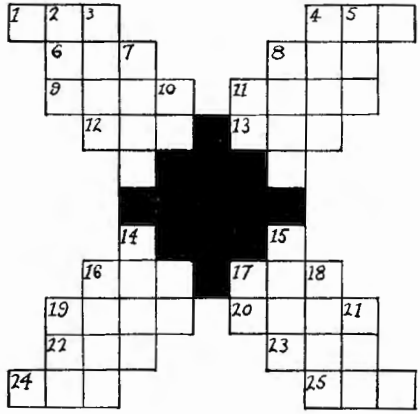
The police dispatcher, seated before the switchboard at Police Headquarters, plugs in on the radio station, located miles across the city, when he receives

(*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 keys.
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

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

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-circuited 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

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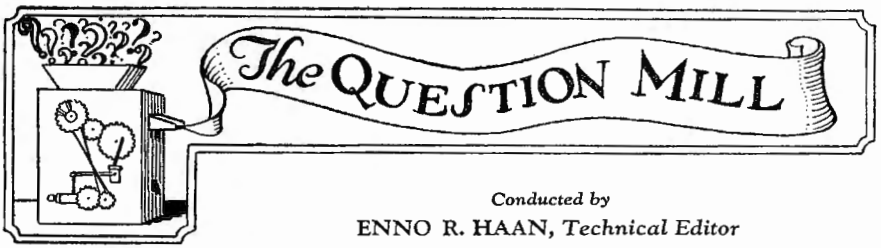

Conducted by

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 substitution 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 Atwater 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 U X 199 tubes every few weeks, which is quite expensive upkeep. This set is equipped with five U X 199 tubes fed in series from a power pack using a Raytheon type B H 80-milliampere tube. The B-supply also uses a B H 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 K D K A 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

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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 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 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 Mc Namee.

Third row: Reinald Werrenrath, Harry Spier, and Atwater Kent Quartette.

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 correctly 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 Whitney Trio, who are heard regularly over Station WMAQ.
Robert, Pianist
Noreen, Violinist
Grace, Cellist

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 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.

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 cureent. 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 4½ volts, and for 135 volts, a C-bias of from 7½ 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

STANDARDS 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, WEEI, 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"

ALMOST 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*)

Broadcasting Stations of the World

A List of the Principal Foreign Stations

We suggest that you cut this list out and save it as it will not appear regularly

SOUTH AMERICA

		Meters	*Watts*
Argentina			
Buenos Aires	LOJ	270	1000
	LOL	236	2000
	LON	210	5000
	LOO	252	1000
	LOQ	261.8	3000
	LOR	344.8	1000
	LOS	291.2	5000
	LOT	400	1000
	LOV	361.5	1000
	LOW	303	1000
	LOX	380	1000
	LOY	315.2	1000
	LOZ	330	1000
La Plata	LOP	425	1000
Brazil			
Rio de Janeiro	SQAA	400	2000
Sao Paulo	SQBO	225.4	1000
	SQAG	360	1000
Chile			
Concepcion	CMAI	345	1500
Santiago	CMAD	320	1000
Peru			
Lima	OAX	360	1500
Uruguay			
Montevideo	CWOA	428.4	1000
Venezuela			
Caracas	AYRE	375	1000

EUROPE

Austria			
Vienna	ORV	517.2	14000
Belgium			
Brussels	BAV	508.5	1500
Czechoslovakia			
Brunn	OKB	441.2	2400
Kosice	OKK	263	2000
Prague	OKP	384.9	5000
France			
Lyon	YN	480	1000
	YR	290	5000
Paris	FL	500	20000
	FPTT	458	1000
Toulouse	MRD	260	1000
Germany			
Berlin	AFT	2900	8000
Hungary			
Budapest	MT1	555.6	2000
Irish Free State			
Cork	6CK	400	1000
Dublin	2RN	319.1	1500
Italy			
Milan	IMI	315.8	7000
Naples	INA	333.3	1500
Rome	IRO	449	3000
Latvia			
Riga	KCX	526.3	2000
Netherlands			
Hilversum	HDO	1060	1000
Spain			
Barcelona	EAJ1	344.8	1000
	EAJ13	462	1000
Bilboa	EAJ9	434.8	1000
Cadiz	EAJ3	400	1000
Cartagena	EAJ16	330	1000
Madrid	EAJ7	375	1200
San Sebastian	EAJ8	297	3000
Sweden			
Motala	SASG	1380	30000
Stockholm	SASA	454.5	1000
Switzerland			
Zurich	H9XD	500	1500
United Kingdom			
Aberdeen	2BD	500	1500
Belfast	2BE	306.1	1500
Birmingham	5IT	326.1	1500
Bournemouth	6BM	491.8	1500
Cardiff	5WA	353	1500
Daventry	5XX	1600	16000
Glasgow	5SC	405.4	1500
London	2LO	361.4	3000
Manchester	2ZY	384.6	1500
Newcastle	5NO	312.5	1500

EUROPE-ASIA

Russia			
Artemovsk	RA56	790	1200
Astrakhan	RA26	700	1000
Baku	RA45	750	4000
Erivan	RA49	1050	1200
Gomel	RA39	925	1200
Kharkov	RA43	475	4000
Kiev	RA45	775	1200
Koursk	RA34	575	1000
Krasnodar	RA38	513	1000
Leningrad	RA42	1000	10000
Minsk	RA18	860	1200
Moscow	RA1	1450	40000
Nizhni-Novgorod	RA13	840	1800
Novorossisk	RA32	1117	4000
Odessa	RA40	975	1200
Orenburg	RA25	640	1000
Petrozavodsk	RA46	765	2000
Rostov-on-Don	RA14	820	4000
Samara	RA22	900	1200
Stalino	RA77	730	1200
Stavropol	RA20	550	1200
Tashkent	RA27	715	2000
Tiflis	RA11	870	4000
Tver	RA44	690	1200
Vladivostok	RA17	480	1500
Vologda	RA41	875	1200

ASIA

China			
Mukden	COMK	425	2000
Chosen			
Seoul	JODK	357	1000
Hong Kong			
Victoria	GOW	300	1500
Shanghai	KRC	329	5000

		Meters	Watts
India			
Bombay	7BY	357.1	3000
Cacutta	7CA	370.4	3000
Japan			
Dairen	JQAK	395	1000
Hiroshima	JOFK	353	10000
Keijo	JODK	366	1000
Nagoya	JOCK	370	1000
Osaka	JOBK	400	10000
Sapporo	JOIK	361	10000
Sendai	JOHK	390	10000
Tokio	JOAK	345	10000
Kwangtung			
Dairen	JQAK	395	5000
	OCEANIA		
Australia			
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; Cleveland; 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 objectional 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 WCSH
WCAE WWJ WOW WDAF WTMJ
KSTP WEBC 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 WCSH
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 WEBC 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 WFBM WFBL WSPD WOWO
WMAK WMAL WMAQ WREC WDBJ
WWNC KDYL KOIL KVI KMOX
KFPY KLZ WLAC WCAO

4:00-4:30 Musical Album
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 WBZA WHAM KDKA
WJR KYW KWK WREN WTMJ
KSTP WEBC KOA KSL WDAF
WRC WLW WMAQ

Sunday

9:00-10:00 Morning Musicale
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 Bells
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 WEBC 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 WLBW
WOWO WKBW WNAC WEAN WMAL
WMAC 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 McKesson News Reel
WABC WNAC W AN WFBL WKBW
WJAS WADC WKRC WGHP WOWO
KMBC KOIL WSPD WHK WLBW
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 WLBW 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 I-T-Scalers
WABC WJAS WNAC WEAN WHK
WSPD WCAU WFBL KOIL KMBC
WKBW WADC WKRC WGHP WOWO
WLBW 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
WREN

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 WLBW 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 KWK
WTMJ WEBC KSTP WHAS WSB
WSM KOA WMC KSL WSMB

7:45-8:00 "The World's Business"
WABC WKRC WADC WISN WDOD
WFAN WFBM WCAO WCCO WFBL
WJAS WLBW 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 WLBW 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 WOW
WLS WDAF WIOD WHAS WEBC
WMC WSB WSMB WKY KTHS
KPRC WOAI WOC KVOO

8:30-9:00 Sonatron Program
WABC WCAU WEAN WFBL WCAO
WJAS WADC WKRC WOWO KMOX
KMBC KOIL WHK WLBW 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 WLBW WLAC
WMAL WDBJ WTAR WWNC WDOD
WBRC WREC KLRA KFJF KRLD
KTSA WDSU WCCO WISN KLZ
KDYL WFBM WIBW CFRB 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 WOW 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 WOWO 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
WOWO WMAK WNAC WEAN WMAL
WMAQ WREC WDBJ WWNC KOIL
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 WOW 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
WOWO WMAK WMAL WREC WDBJ
WWNC KDYL KOIL KVI KMOX
WLAC

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

11:15-11:30 Elizabeth Fellows' Menu Club
WABC WDOD WCAU ECAO WBBM
WFBL WLBW WOWO 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 WOWO 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
WOWO 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 His 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
WFBM

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
KYW 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 WOWO 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
WMAK WCAO WJAS WADC WKRC
WGHP WMAQ WOWO KMOX KMBC
KOIL WSPD WHK WLBW WMAL
WFBM

10:30-11:30 Voice of Columbia
WABC WHK WLAC WCCO WOWO
WGHP WCAO WISN WWNC WKBN
WLBW 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 WBZ WBZA 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
WEAF WTIC WGR WFJC WWJ
WMC

11:30-12:00 Abe Lyman's Orchestra
WABC WCCO WOWO WGHP WCAO
WISN WWNC WKBN WLBW 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 WLBW WOWO WKBW
WMAL WREC WDBJ WWNC 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 WWNC WLAC
WKRC WIBW WKBW KOIL KFRC
WBBM WDBJ WREC WBRC 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
WWNC KMBC KVI KMOX KFPY
KLZ

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

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

7:00-7:30 Jeddo Highlanders
WJZ WBZ WBZA WHAM

7:15-7:30 Universal Safety Series
WEAF WJAR WTAG WCSH WRC
WSAI WDAF WRVA WPTF WBT
WHAS WSMB WKY KTHS WOAI
KOA WFI WCAE WOW WEBC
WJAX WIOD WSM KVOO KSL
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
WEAF WEEI WJAR WTAG WCSH
WGY WGR

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

8:00-8:30 Blackstone Plantation
WABC WCAU WNAC WEAN WFBL
WKBW WCAO WJAS WGHP KMBC
KOIL WLBW 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 WBZ WBZA 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
WEAF 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 WLBW WMAL WBBM KMBC
WCAO WGHP WSPD WAIU WJAS

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

9:00-10:00 Eveready Hour
WEAF WEEI WFI WRC WGY
WGR WCAE WTAM WWJ WGN
KSD WHO WDAF KSTP WEBC
WHAS WSM WMC WSB KVOO
WOAI 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 WLBW WMAL WCCO
KLZ KDYL KLRA WDBJ WTAR
WWNC WLAC WDOD WBRC WREC
KFJF KTSA WISN WDSU WFBM
KRLD WKRC KFRC KHJ KOIN
KVI KFPY KFH

9:30-10:00 Dutch Masters Minstrels
WJZ WBZ WBZA 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 WLBW WMAL
WFBM KLRA KFJF KRLD KTSA
WCCO WISN WIBW

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

10:00-10:30 Williams Oilomatics
WJZ WBZ WBZA WBAL WHAM
KDKA KWK WREN WGN

10:30-11:00 Freed Orchestradians
WJZ WBZ WBZA 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 WWNC WLBW
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
WEAF 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 WSMB
WFAA KPRC WOAI 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 WDOD WBRC
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 WDOD WFBM WBRC 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 Manhatters
WJZ KWK WREN WBAL

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

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

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

11:00-11:30 Milady's Mirror
WABC WDOD 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 WBRC
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 WKRC 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 WBZA KDKA KWK
KSTP WEBC WLS WJR WTMJ

7:30-8:00 Westinghouse Salute
WJZ WBZ WBZA WHAM KDKA
KYW WJR KWK WREN WEBC
WRVA WPTF WBT WJAX WIOD
WHAS WSM WMC WSB WSMB
KVOO WKY WOAI KOA KFAB
WCKY KSL KGO KGW KOMO
KFI KHQ KPRC 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 WDOD
WFBM WJAS WKRC WCAU KOIL
KLZ KDYL KFRC WKBW KFPY
KMOX KVI WAIU WREC WDBJ

8:00-8:30 The Yeast Foamers
WJZ WBZ WBZA 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 KPRC WOAI 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
WOAI KPRC WKY WLS WFAA

8:30-9:00 Slyvania Foresters
WJZ WBZ WBZA WHAM KDKA
KWK WREN WLW 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 WBZA WHAM KDKA
KYW KWK WREN WCKY

9:00-9:30 Halsey Stuart Program
WEAF WEEI WJAR WTAG WCSH
WLIT WRC WGY WCAE WWJ
WSAI KSD WOC WOW KSTP
WBT WJAX WHAS WMC WSB
WSMB KVOO KPRC WOAI 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 WOW WDAF WSMB
KSTP WTMJ WHAS WSM WMC
WSB WBT WJAX KVOO KPRC
WOAI 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 CJGC

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

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

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

WMAL WDOD WFBM WBRC WJAS
WKRC WCAU KOIL KLZ KDYL
WMAK KMOX KVI WREC WDBJ

11:00-12:00 Show Boat
WABC WHK WKRC WISN WDOD
WCAU WCAO WCCO WGHP WFBL
WSPD WJAS WLBW WMAK WNAC
WEAN WMAL WMAQ WREC WDBJ
WWNC KOIL KVI KFPY KFH
KLZ

11:30-12:00 Phil Spitalny's Music
WEAF WWJ KSD WEBC WOW

Thursday

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

10:30-11:30 Morning Merrymakers
WABC WHK WADC WDOD WCAU
WCAO WGHP WBBM WFBL WLBW
WOWO WKBW WMAL WREC WDBJ
WWNC KMBC KOIL KVI KFPY
KLZ WLAC

11:00-11:15 "Your Child"
WEAF WTAG WJAR WRC WGY
WCAE KSD WOC KSTP WBT
WJAX WSM KVOO KPRC WKY

11:30-11:45 Du Barry Beauty Talk
WABC WCAU WNAC WEAN WFBL
WCAO WJAS WADC WGHP WBBM
WOWO KOIL WHK WLBW WMAL
WRHM WISN WSPD WAIU WKBW
WKRC

5:00-5:15 Ebony Twins
WABC WKRC WISN WDOD WFAN
WCAO WCCO WBBM WFBL WSPD
WOWO WMAL WMAQ WREC WDBJ
WWNC KMBC KVI KMOX KFPY
KLZ

5:00-5:30 R-K-O Program
WEAF WEEI WTIC WJAR WCSH
WLIT WRC WCAE WFJC WSAI
KSD WOC WOW KYW WTAG
WGY WWJ WDAF WGR

6:30-7:00 Civic Repertory Plays
WABC WKRC WISN WDOD WFBM
WCAO WBBM WJAS WLBW WKBW
WMAQ WREC WDBJ WWNC KOIL
KVI KFPY KLZ

7:00-7:30 Mid-Week Hymn Sing
WEAF WCSH WHAS WRC KOA
WMC WJAR

7:30-8:00 Coward Comfort Music
WEAF WEEI WJAR WTAG WCSH

7:30-8:00 The Mediterraneans
WJZ KWK WKY WBZ WBZA
WBAL KDKA WJR WREN WEBC
KPRC KFAB

8:00-8:15 Tower-izers
WABC WFAN WNAC WEAN WFBL
WKBW WCAO WJAS WADC WKRC
WGHP WBBM WOWO KMOX KMBC
KOIL WHK WLBW WMAL WCCO
WISN WSPD

8:00-8:30 Lehn and Fink Serenade
WJZ WBZ WBZA WHAM KDKA
KYW KWK WREN WBAP KPRC
WOAI WKY WBAL WLW

8:00-9:00 Fleischmann Sunshine Hour
WEAF WEEI WTAG WJAR WCSH
WFI WRC WGY WGR WCAE
KSD WFJC WHO WOW WDAF
WWJ WTMJ WPTF WBT WJAX
WIOD WHAS WMC WSB WSMB
WKY WSAI KPRC KOA WEBC
WRVA KSL WOAI WSM KGO
KGW KOMO KHQ WBAP WAPI
KTHS KPO

8:15-8:30 "The Political Situation"
WABC WHK WKRC WADC WISN
WDOD WFAN WCAO WCCO WFBL
WSPD WJAS WLBW WOWO WKBW
WNAC WEAN WMAL WMAQ WREC
WDBJ WWNC KOIL KVI KMOX
KFPY KFH KLZ WLAC WFBM

8:30-9:00 Champion Sparkers
WJZ WBZ WBZA WBAL WHAM
KDKA WLW WLS KWK WREN
WJR KFAB

8:30-9:00 Columbians
WABC WGHP WCAO WISN WWNC
WKBN WLBW WNAC WEAN WSPD
WADC WDOD WBRC WJAS WKRC
KFH KOIL KLZ KDYL WKBW
KFPY KMOX KVI WAIU WREC
WDBJ

9:00-9:30 True Detective Mysteries
WABC WCAU WNAC WEAN WFBL
WKBW WCAO WJAS KMOX KOIL
WLBW WMAL WSPD WHK WADC
WGHP WBBM WOWO WFBM WKRC
WISN WCCO WHEC

9:00-9:30 Seiberling Singers
WEAF WEEI WJAR WTAG WCSH
WFI WRC WGY WGR WCAE
WTAM WWJ WSAI KYW KSD
WHO WOW WDAF WFJC

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

9:30-10:00 Maxwell House Melodies
WJZ WBZ WBZA WBAL WHAM
KDKA WJR WLW KSD WDAF
KSTP WTMJ WEBC WHAS WBAP
WSM WMC WBT KPRC KOA
WHO WOW WJAX WRVA WSB
KYW

10:00-10:30 Temple Hour
WABC WNAC WEAN WFBL WJAS
WADC WGHP WBBM KMOX KMBC
KOIL WSPD WHK WLBW WMAL
WCCO WKRC WKBW WCAU WCAO
WOWO

10:00-11:00 Victor Program
WEAF WEEI WJAR WTAG WCSH
WFI WRC WGY WGR WCAE
WFJC WWJ WSAI KSD WOW
WEBC WRVA WHO WBT WKY
KPRC WOAI KOA KSL WBAP
WJAX WIOD WHAS WSM WMC
WSB WSMB KYW WDAF KVOO
KTHS WTMJ

10:00-11:00 Atwater Kent Program
WJZ WBZ WBZA WBAL WHAM
WJR KWK WREN KDKA WGN
WCKY

10:30-11:00 National Forum
WABC WHK WKRC WADC WISN
WDOD WFAN WCAO WBBM WFBL
WSPD WJAS WLBW WKBW WNAC
WEAN WMAL WMAQ WREC WDBJ
WWNC KDYL KOIL KVI KMOX
KFPY KLZ WLAC

11:00-11:30 Hotel Paramount Orchestra
WABC WKRC WISN WDOD WCAU
WFBM WCAO WBBM WSPD WJAS
WLBW WOWO WKBW WNAC WEAN
WMAQ WREC WDBJ KDYL KOIL
KVI KFPY KFH KLZ WWNC

11:00-11:30 Dream Boat
WABC WOWO WGHP WCAO WISN
WHP WWNC WLBW WSPD WMAL
WDOD WBRC WJAS WKRC WCAU
KFH KOIL KLZ KDYL WKBW
KFPY KVI WREC WDBJ

11:00-12:00 National Grand Opera
WEAF WFI WRC WGY WGR
WTAM WWJ KSD WRVA WHAS
WMC

Friday

10:30-11:00 Walter Kolomoku's Honoluluans

WABC	WHK	WLAC	WOWO	WGHP
WCAO	WHP	WWNC	WKBN	WSPD
WADC	WMAL	WDOD	WJAS	WCAU
KOIL	KLZ	KMBC	WMAK	WBBM
KVI	WREC			

11:00-11:15 Nell Vinick

WABC	WNAC	WEAN	WFBL	WMAK
WCAO	WJAS	WADC	WKRC	WGHP
WOWO	KOIL	WSPD	WLBW	WMAL
WHEC	WFBM	WCAU	WAIU	WBBM

11:00-12:00 NBC Music Hour

WEAF	WJZ	WEEI	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	WTAM	WWJ	WGN	KSD
WHO	WOW	WDAF	KSTP	WTMJ
KOA	WHAS	WSM	WMC	WSB
WBT	KVOO	WFAA	KPRC	WOAI
WJAX	WRVA	WEBC	WBZ	WBZA
WBAL	WHAM	KDKA	WJR	WLW
KYW	KWK	WREN	KFAB	WFJC
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

WEAF	WTAG	WRC	WWJ	KSD
WHO	WOW	WJAX	KSTP	WTMJ
WSM	WRVA	WKY	KOA	KSL
WCSH	WGY	WCAE	WDAF	KPRC
WAPI	WLIT	WTAM	WBT	WBAP
WEBC	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

WEAF	WJAR	WTAG	WCSH	WRC
WGY	WCAE	WTAM	WWJ	

7:00-7:30 Henry-George

WABC	WADC	WMAK	WKRC	WHK
KMBC	KOIL	WJAS	KMOX	WISN
WCCO	WFBL	WMAQ	WFBM	WGBI

7:30-7:45 Broadway Lights

WEAF	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-Bilt Footlights

WABC	WADC	WCAO	WNAC	WMAK
WKRC	WHK	WGHP	WOWO	KMBC
WLBW	KOIL	WCAU	WJAS	WEAN
KMOX	WFBL	WMAL	WHP	WAIU
WFBM	WHEC	WCCO	WWNC	WTAR
WDBJ	WBRC	WDOD	WREC	WLAC
WDSU	KRLD	KLRA	KFJF	KFH
KLZ	KHJ	KOIN	KDYL	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

WEAF	WEEI	WTIC	WLIT	WRC
WGR	WCAE	WTAM	KYW	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	WCFL	KFAB	

9:00-9:30 Stars of Melody

WEAF	WJAR	WTAG	WRC	WGY
WCAE	WWJ	KSD	WOC	WOW

9:00-9:30 Interwoven Pair

WJZ	WBZ	WBZA	WHAM	KDKA
WMC	KYW	WREN	KPRC	WOAI
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	KLRA
KRLD	KTSA	WDSU	KLZ	KDYL
KHJ	KFRC	KOIN	KVI	KFPY
KFH				

9:30-10:00 Schradertown Band

WEAF	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	KWK	WREN	WTMJ
KSTP	WEBC	WRVA	WMC	WSB
WSMB	KPRC	WOAI	KOA	KSL
WSM	WKY	WCKY	WBT	WHAS
KPO	KGO	KFI	KGW	KOMO
KHQ				

10:00-10:30 Bremer-Tully Time

WABC	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	KMOX	KOIL	WSPD
WHK	WLBW	WMAL	WISN	KMBC
WOWO	WCCO			

10:00-10:30 Planters Pickers

WEAF	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	WEBC	WHAS	WSM
WSB	WBT	KVOO	KPRC	WOAI
WKY	WSMB	KOA	KSL	KGO
KFI	KGW	KOMO	KHQ	WMC

10:30-11:00 Armour Program

WJZ	WBZ	WBZA	WHAM	KDKA
WJR	WLW	KYW	KWK	WREN
WBT	WJAX	WHAS	WSM	WMC
WSB	WSMB	WRVA	WFAA	KPRC
WOAI	WKY	WTMJ	KSL	KSTP
WEBC	KOA	KPO	KGO	KFI
KGW	KOMO	KHQ	KVOO	KTHS

10:30-11:00 Mystery House

WEAF	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	WBRC

WJAS WKRC WCAU KOIL KLZ
KDYL WMAK KMOX KVI WREC
WDBJ

11:00-12:00 Hotel St. Regis Orchestra
WEAF WTIC WWJ WSAI WFJC
WGY WOC

Saturday

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

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

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

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
KFRC

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
KLZ

6:30-7:00 Nit Wit Hour
WABC WHK WGHP WCAO WISN
WHP WWNC WKBN WLBW WDOD
WFBM WJAS WKRC KOIL KLZ
KMBC WKBW KFPY KVI WREC
WDBJ

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

7:30-8:00 Phil Spitalny's Music
WEAF WEEI WFI WRC WWJ
WSAI WHO WSM WGY WPTF
KOA WCAE WJAR

8:00-8:15 Guy Lombardo Canadians
WABC WHK WLAC WOWO WGHP
WCAO WISN WWNC WKBN WLBW
WNAC WEAN WSPD WADC WMAL
WDOD WFBM WBRC WJAS WKRC
WCAU KFH KOIL KLZ KMBC
KFRC WKBW KFPY KMOX 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
WFBM WBRC WJAS WKRC WFAN
KFH KOIL KLZ KFRC WKBW
KFPY KMOX KVI WREC WDBJ

8:30-9:00 Launderland 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
KSL

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 KFJF
WLAC WDOD WBRC WREC KRLD
KFH KTSA WCCO WISN WDSU
KLRA KLZ KDYL KFRC KHJ
KOIN KVI KFPY WKBN

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
KFI

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

9:30-10:00 Gillette Program
WJZ WBZ WBZA WBAL WHAM
KDKA WJR WLW KWK WREN

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
KEBC

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

10:00-11:00 Chicago Civic Opera
WJZ WBZ WBZA WBAL WHAM
KDKA WJR KWK WREN WCKY

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

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

11:30-12:00 Charles Strickland's Orchestra
WEAF WCAE WHO WWJ WDAF
WKY WIOD KSD

AIR-LINE DISTANCES

	Atlanta, Ga.	Baltimore, Md.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Buffalo, N. Y.	Chicago, Ill.	Cincinnati, Ohio	Cleveland, Ohio	Denver, Colo.	Des Moines, Iowa	Detroit, Mich.	El Paso, Tex.	Fargo, N. Dak.	Fort Worth, Tex.	Galveston, Tex.	Hastings, Nebr.	Hot Springs, Ark.	Houghton, Mich.	Jacksonville, Fla.	Kansas City, Mo.	Los Angeles, Calif.	Louisville, Ky.	Memphis, Tenn.	Miami, Fla.	Minneapolis, Minn.	Missoula, Mont.
Atlanta, Ga.		1273	1670	774	1967	838	1577	1126	1248	1417	332	633	1360	228	968	561	803	588	773	1252	1492	717	663	1174	938	1710	980	8
Baltimore, Md.	575		1830	933		960	695	583	368	550	1208	738	595	1293	1112	750	688	901	498	947	286	675	1935	317	335	610	905	17
Boise, Idaho	2055	358		2266		1525	273	603	423	305	1505	913	398	1750	1143	1239	1245	1154	964	808	682	962	2313	498	792	958	948	19
Boston, Mass.	1610	1872	1453			1663	1754	637	1155	1671	969	975	1263	1538	934	1384	1367	2098	1158	663	1623	1506	2368	1140	2	
Brownsville, Tex.	1881	398	849	737	550			1766	1159	613	2067	1304	1574	1598	1415	1302	922	1015	1250	2590	823	1133	1258	1125	21		
Buffalo, N. Y.	1575	1234	1184	1402				1047	1102	1398	682	1445	471	287	1013	650	1543	1025	923	1370	1093	777	1100	1335	17		
Chicago, Ill.	454	392	175					1368	762	218	1690	923	1221	1289	1019	956	560	880	862	2195	683	802	1184	733	17		
Cincinnati, Ohio	249	307						918	310	236	1249	571	820	954	566	585	367	861	413	1741	268	481	1190	356	13		
Cleveland, Ohio	218							1090	509	234	1333	818	839	897	742	569	589	628	541	1862	92	410	957	603	15		
Denver, Colo.	1223								617	94	1521	838	1046	1116	871	787	518	768	700	2044	309	627	1088	632	1		
Des Moines, Iowa	607	1153	554	642							643	925	353	749	970	1468	555	828	1035	878	1732	699	6				
Detroit, Mich.	545	980	397								640	851	256	488	458	1024	180	1433	477	485	1338	235	10				
El Paso, Tex.	1475	745									1018	1111	800	761	427	832	643	1976	315	621	1156	542	15				
Fargo, N. Dak.	1161										543	723	757	802	1422	1481	836	702	1253	978	1662	1156	11				
Fort Worth, Tex.	973	1218	440	875	393											1400	548	1426	818	882	1721	219	8				
Galveston, Tex.	283	544	273	1093												943	460	1212	751	448	1150	870	13				
Hastings, Nebr.	808	375	1277													799	677	1423	807	492	941	1087	15				
Hot Springs, Ark.	513	666														1178	226	1177	693	591	1468	399	8				
Houghton, Mich.	901	726	326	1437	480	176	983	722	13																		
Jacksonville, Fla.	1216	633	1787	636	830	1545	872	1																			
Kansas City, Mo.	952	2153	595	591	328	1192	20																				
Los Angeles, Calif.	1352	480	370	1247	413	11																					
Louisville, Ky.	1825	1602	2355	1522	9																						
Memphis, Tenn.	319	923	605	15																							
Miami, Fla.	878	700	14																								
Minneapolis, Minn.	1516	2																									
Missoula, Mont.	10																										

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.

INDEX BY FREQUENCIES AND DIAL NUMBERS

590 kilocycles 508.2 meters — 76 | 74

KHQ	1000	Spokane, Wash.
WCAJ	500	Lincoln, Nebr.
WEEI	500	Boston, Mass.
WOW	1000	Omaha, Nebr.
WEMC	1000	Berrien Springs, Mich.

Louis Wasmer, Inc.
Nebraska Wesleyan University
Edison Elec. Illuminating Co.
Woodmen of the World
Emmanuel Missionary College

600 kilocycles 499.7 meters — 75 | 73

CFCH	250	Iroquois Falls, Ont.
KFBU	500	Laramie, Wyo.
KFSD	500	San Diego, Calif.
WCAO	250	Baltimore, Md.
WEBW	250	Beloit, Wis.
WOAN	500	Lawrenceburg, Tenn.
WREC	500	Memphis, Tenn.
WTIC	250	Hartford, Conn.

Abitibi Power & Paper Co.
Bishop N. S. Thomas
Airfan Radio Corp.
Monumental Radio Co., Inc.
Beloit College
Vaughn School of Music
WREC, Inc.
Travelers Insurance Co.

610 kilocycles 491.5 meters — 74 | 72

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

Don Lee, Inc.
Kansas City Star Co.
Keystone Broadcasting Co., Inc.
Global Bcas., Inc.
Unity School of Christianity

620 kilocycles 483.6 meters — 73 | 71

KFAD	500	Phoenix, Ariz.
KGW	1000	Portland, Ore.
WDAE	1000	Tampa, Fla.
WDBO	1000	Orlando, Fla.
WLBZ	500	Dover-Foxcroft, Me.
WTMJ	1000	Milwaukee, Wis.

Electrical Equipment Co.
Oregonian Publishing Co.
Tampa Publishing Co.
Rollins College, Inc.
Thompson L. Guernsey
Milwaukee Journal

630 kilocycles 475.9 meters — 72 | 70

CFCT	500	Victoria, B. C.
CJGX	500	Yorkton, Sask.
CNRA	500	Moncton, N. B.
CYR	250	Meaghan, Man.
KFRU	500	Columbia, Mo.
WCSH	500	Evansville, Ind.
WMAL	250	Washington, D. C.
WOS	500	Jefferson City, Mo.

Victoria Broadcasting Ass'n.
Winnipeg Grain Exchange
Canadian National Railways
Carroll Lipman
Stephens College
Evansville on the Air, Inc.
M. A. Lesse Co.
State Marketing Bureau

640 kilocycles 468.5 meters

KFI	5000	Los Angeles, Calif.
WAIU	5000	Columbus, Ohio

Earle C. Anthony, Inc.
American Insurance Union

650 kilocycles 461.3 meters — 70 | 68

WSM	5000	Nashville, Tenn.

National Life & Accident Ins. Co.

660 kilocycles 454.3 meters — 69 | 67

WAAW	500	Omaha, Nebr.
WEAF	50000	New York City

Omaha Grain Exchange
National Broadcasting Co., Inc.

670 kilocycles 447.5 meters — 68 | 66

WMAQ	5000	Chicago, Ill.

Chicago Daily News, Inc.

680 kilocycles 440.9 meters — 67 | 65

KFO	5000	San Francisco, Cal.
WPTF	5000	Raleigh, N. C.

Hale Bros. & The Chronicle
Durham Life Insurance Co.

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 meters) enter the dial readings of your set. It is immaterial whether your set has one, two or three dials. Use as many of three spaces provided as you need. The set used in the illustration had two dials. In this case we entered the dial readings for 660 kilocycles as 69-67.

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

IN STATUTE MILES

Nashville, Tenn.	New Orleans, La.	New York, N. Y.	Norfolk, Va.	Oklahoma, Okla.	Omaha, Nebr.	Philadelphia, Pa.	Phoenix, Ariz.	Pittsburgh, Pa.	Portland, Me.	Portland, Oreg.	Richmond, Va.	St. Louis, Mo.	Salt Lake City, Utah	San Francisco, Calif.	Schenectady, N. Y.	Seattle, Wash.	Shreveport, La.	Spokane, Wash.	Springfield, Mass.	Vermillion, S. Dak.	Washington, D.C.	
95	1117	1030	1810	1696	518	718	1748	330	1498	2015	1107	1628	938	483	893	1823	1178	764	1028	1889	742	1648	Albuquerque, N. Mex.
90	218	427	747	507	758	815	663	1592	520	1022	2172	470	467	1580	2133	840	2180	548	1960	863	917	542	Atlanta, Ga.
47	597	1001	170	167	1173	1026	90	2002	194	446	2367	128	731	1658	2451	278	2341	1064	2110	282	1083	33	Baltimore, Md.
52	1631	1713	2153	2137	1138	1044	2113	733	1863	2282	349	2060	1389	292	516	2120	405	1433	290	2196	973	2045	Boise, Idaho
24	941	1359	188	467	1490	1280	268	2295	478	100	2553	471	1036	2099	2696	150	2508	1410	2279	79	1314	392	Boston, Mass.
06	952	536	1695	1465	659	1061	1614	1023	1424	1961	1944	1428	975	1317	1675	1770	2015	510	1858	1805	1161	1493	Brownsville, Tex.
40	626	1087	291	435	1117	883	278	1904	178	438	2167	375	662	1701	2298	249	2130	1080	1900	325	916	290	Buffalo, N. Y.
48	394	831	721	695	689	432	664	1451	411	892	1765	618	259	1260	1855	702	1743	725	1514	774	479	594	Chicago, Ill.
78	239	708	568	474	755	620	501	1578	258	802	1987	399	308	1450	2037	605	1974	608	1746	659	694	403	Cincinnati, Ohio
40	456	922	404	429	946	738	343	1745	115	603	2063	353	490	1567	2163	408	2035	904	1804	473	785	303	Cleveland, Ohio
70	1018	1079	1628	1562	503	485	1575	585	1320	1803	985	1488	793	372	946	1618	1020	799	827	1692	468	1490	Denver, Colo.
74	523	825	1023	983	469	122	972	1154	718	1197	1479	905	270	952	1547	1012	1470	624	1243	1085	187	895	Des Moines, Iowa
52	468	938	483	522	905	666	444	1685	208	657	1975	445	452	1490	2087	467	1945	891	1715	540	705	397	Detroit, Mich.
25	1169	986	1902	1755	578	875	1834	347	1592	2126	1286	1695	1033	689	993	1930	1373	752	1238	1990	920	1726	El Paso, Tex.
19	900	1221	1813	1258	786	390	1186	1225	952	1313	1246	1180	658	865	1447	1157	1206	1002	976	1240	284	1141	Fargo, N. Dak.
12	643	470	1398	1226	188	590	1324	858	1097	1642	1612	1170	568	977	1454	1445	1658	209	1470	1495	689	1210	Fort Worth, Tex.
95	666	288	1415	1195	456	828	1335	1065	1140	1678	1885	1154	697	1249	1693	1487	1938	233	1753	1584	938	1214	Galveston, Tex.
91	697	870	1275	1216	357	135	1222	901	967	1454	1271	1142	455	708	1297	1267	1288	615	1061	1340	167	1139	Hastings, Nebr.
85	370	358	1125	955	260	490	1051	1094	825	1371	1733	897	325	1116	1648	1175	1759	142	1552	1824	605	936	Hot Springs,Ark.
08	760	1187	849	946	926	547	827	1550	630	984	1638	870	591	1242	1833	776	1588	1043	1360	860	510	813	Houghton, Mich.
70	502	511	838	548	988	1098	758	1800	703	1113	2442	953	755	1840	2375	960	2450	733	2239	957	1203	647	Jacksonville, Fla.
17	472	678	1097	1009	293	165	1037	1045	784	1300	1397	937	238	922	1500	1107	1505	326	1286	1173	280	943	Kansas City,Mo.
10	1727	1675	2446	2352	1182	1312	2388	357	2135	2631	825	2283	1585	577	345	2445	956	1420	939	2515	2291	2295	Los Angeles, Calif.
50	153	623	650	528	675	579	580	1512	345	892	1953	457	242	1400	1983	695	1945	598	1720	745	663	473	Louisville, Ky.
83	195	358	953	778	482	529	878	1264	660	1205	1852	722	242	1250	1800	1010	1867	279	1652	1055	642	763	Memphis, Tenn.
59	821	681	1095	802	1233	1402	1023	1998	1014	1357	2716	831	1067	2098	2603	1229	2740	950	2528	1210	1510	927	Miami, Fla.
10	695	1050	1019	1047	692	391	985	1279	745	1145	1435	968	464	988	1585	975	1403	859	1173	1056	238	936	Minneapolis, Minn.
-	1582	1733	2030	2045	1162	978	1997	932	1754	2133	430	1967	1331	435	762	1978	395	1457	170	2060	867	1940	Missoula, Mont.
	-	470	758	586	602	604	683	1445	472	1015	1970	526	253	1390	1958	820	1973	470	1752	863	704	567	Nashville, Tenn.
		-	1173	932	575	845	1090	1318	923	1445	2063	899	599	1433	1923	1259	2090	280	1898	1287	960	968	New Orleans, La.
			-	293	1324	1144	83	2142	313	277	2455	287	873	1972	2568	142	2419	1230	2190	120	1189	204	New York, N. Y.
				-	1286	1095	220	2027	316	565	2458	79	771	1925	2510	426	2440	1037	2211	411	1166	145	Norfolk, Va.
					-	405	1256	843	1013	1550	1498	1122	456	862	1386	1354	1523	297	1324	1412	502	1150	Oklahoma, Okla.
						-	1094	1032	837	1318	1373	1020	352	833	1425	1133	1372	617	1149	1205	115	1012	Omaha, Nebr.
							-	2079	254	360	2419	205	808	1923	2518	805	2388	1153	2159	901	1143	122	Philadelphia, Pa.
								-	1829	2345	1007	1960	1270	504	652	2152	1112	1067	1020	2220	1043	1980	Phoenix, Ariz.
									-	545	2174	242	561	1670	2264	350	2145	939	1918	400	891	188	Pittsburgh, Pa.
										-	2563	565	1094	2127	2725	197	2513	1484	2285	159	1345	480	Portland, Me.
											-	2381	1723	636	536	2405	143	1783	295	2488	1293	2360	Portland, Oreg.
												-	699	1850	2436	406	2362	985	2133	407	1089	96	Richmond, Va.
													-	1158	1738	898	1722	466	1500	958	450	710	St. Louis, Mo.
														-	592	1950	697	1155	548	2027	785	1845	Salt Lake City, Utah
															-	2548	680	1655	730	2625	1383	2437	San Francisco, Calif.
																-	2363	1290	2139	86	1165	313	Schenectady, N. Y.
																	-	1820	229	2445	1282	2335	Seattle, Wash.
																		-	1621	1333	726	1035	Shreveport, La.
																			-	2816	1055	2105	Spokane, Wash.
																				-	1242	321	Springfield, Mass.
																					-	1073	Vermillion, S. Dak.

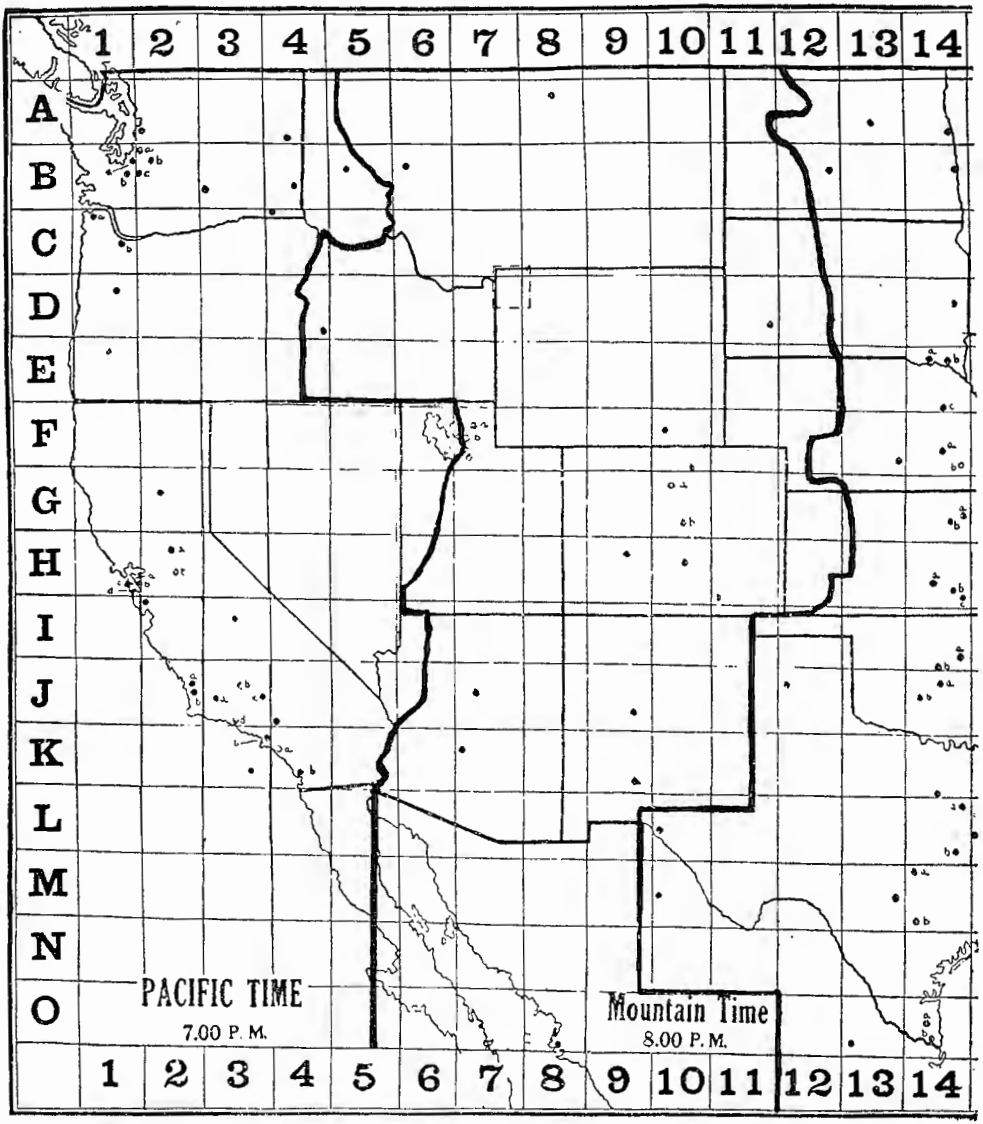
as before until after an evening or two, we have blanks filled on every page. We are now able to set our dials for any frequency we desire and consequently any station we may want whether we have ever received it before or not.

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

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

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

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



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

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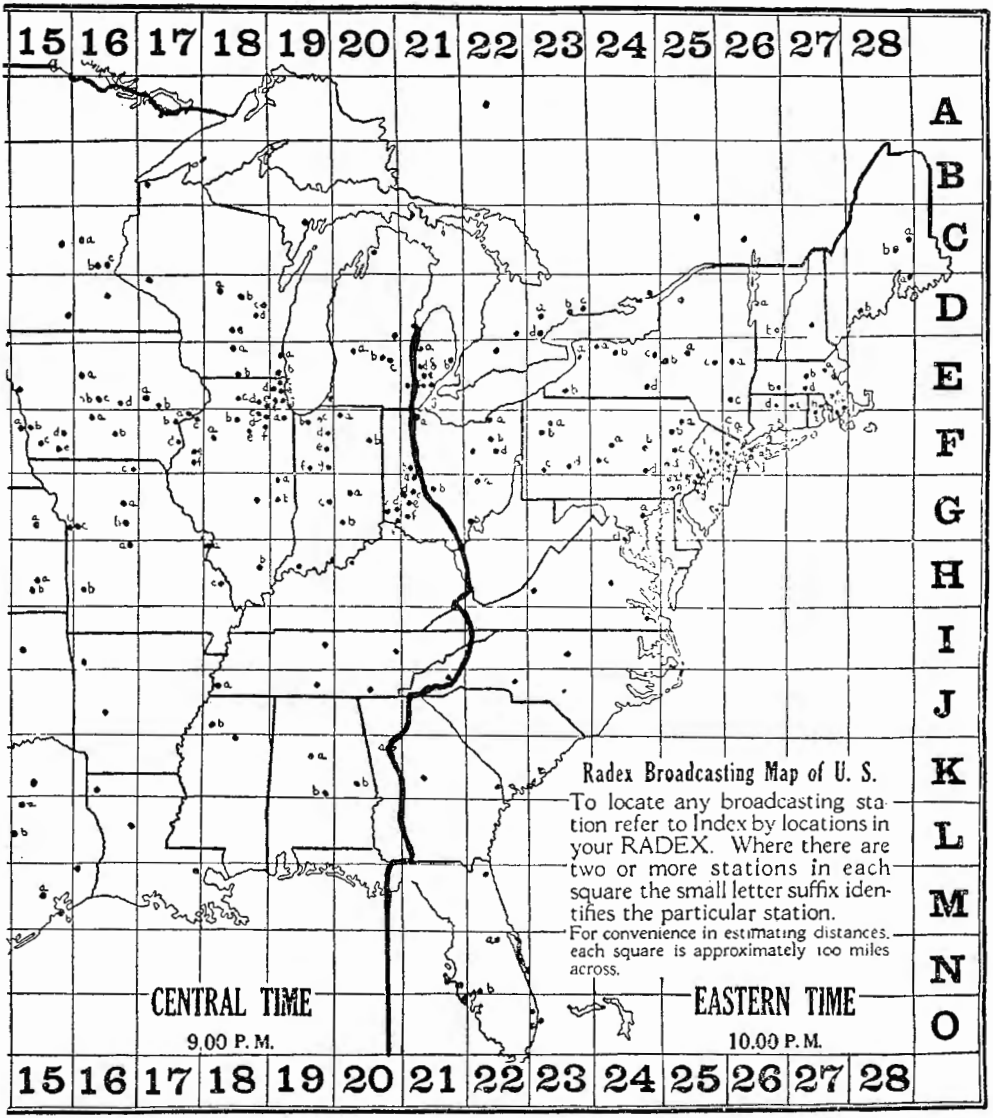
35 **New Subscription**

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.

540 kilocycles 555.6 meters

CKX	500	Brandon, Manitoba	Manitoba Telephone System
XFA	50	Mexico City	Srla. de Agricultura y Fomento

550 kilocycles 545.1 meters

KFDY	1000	Brookings, S. D.	S. D. State College
KFUO	500	St. Louis, Mo.	Concordia Theological Seminary
KFYR	500	Bismarck, N. D.	Hoskins-Meyer
KOAC	1000	Corvallis, Ore.	State Agricultural College
KSD	500	St. Louis, Mo.	Pulitzer Publishing Co.
WGR	1000	Buffalo, N. Y.	Radio Station WGR Inc.
WKRC	500	Cincinnati, Ohio	J. S. Boyd
XEY	105	Merida, Yucatan	Partido Socialista del Sureste

560 kilocycles 535.4 meters

KFDM	500	Beaumont, Texas	Magnolia Petroleum Co.
KFEQ	2500	St. Joseph, Mo.	Scroggin & Co. Bank
KLZ	1000	Dupont, Colo.	Reynolds Radio Co., Inc.
KTAB	1000	Oakland, Cal.	Associated Broadcasters
WFI	500	Philadelphia, Pa.	Strawbridge & Clothier
WLIT	500	Philadelphia, Pa.	Lit Brothers
WNOX	1000	Knoxville, Tenn.	Sterchi Bros.
WOI	5000	Ames, Iowa	Iowa State College
WQAM	1000	Miami, Fla.	Miami Brdcstg. Co.

570 kilocycles 526.0 meters

KGKO	250	Wichita Falls, Tex.	Wichita Falls Brdcstg. Co.
KMTR	500	Hollywood, Cal.	KMTR Radio Corp.
KUOM	500	Missoula, Mont.	University of Montana
KXA	500	Seattle, Wash.	American Radio Tel. Co.
WEAO	750	Columbus, Ohio	Ohio State University
WIBO	1000	Chicago, Ill.	Nelson Bros. Bond & Mtg. Co.
WKBN	500	Youngstown, Ohio	W. P. Williamson, Jr.
WMAC	250	Cazenovia, N. Y.	Clive B. Meredith
WMCA	500	New York City	Knickerbocker Broadcasting Co., Inc.
WNAX	1000	Yankton, S. D.	Gurney Seed & Nursery Co.
WNYC	500	New York City	Dept. of Plants and Structures
WPCC	500	Chicago, Ill.	North Shore Congregational Church
WSYR	250	Syracuse, N. Y.	Clive B. Meredith
WWNC	1000	Asheville, N. C.	Citizens Brdcstg. Co., Inc.

580 kilocycles 516.9 meters

CFCL	500	Toronto, Ont.	Dominion Battery Co.
CHMA	250	Edmonton, Alta	Christian and Missionary Alliance
CJBC	500	Toronto, Ont.	Jarvis Street Baptist Church
CJCA	500	Edmonton, Alta	The Edmonton Journal, Ltd.
CKCL	500	Toronto, Ont.	The Dominion Battery Co.
CKNC	500	Toronto, Ont.	Canadian National Carbon Co., Ltd.
CKUA	500	Edmonton, Alta.	University of Alberta
CNRE	500	Edmonton, Alta	Canadian National Railways
KGFX	200	Pierre, S. D.	Dana McNeil
KSAC	500	Manhattan, Kans	State Agricultural College
WIBW	500	Topeka, Kansas	Topeka Brdcstg. Assn. Inc.
WOBU	250	Charleston, W. Va.	Charleston Radio Brdcstg. Co.
WSAZ	250	Huntington, W. Va.	WSAZ Inc.
WTAG	250	Worcester, Mass.	Telegram Publishing Co.

590 kilocycles 508.2 meters

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

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

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

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.

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
WLBZ	250	Bangor, Me.
WSUN	1000	St. Petersburg, Fla.
WTMJ	1000	Milwaukee, Wis.

Electrical Equipment Co.
Oregonian Publishing Co.
Chamber of Commerce
Cleveland Radio Brdcstg. Corp.
Maine Brdcstg. 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.

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
Goberno Estado de Veracruz

640 kilocycles 468.5 meters

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

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

650 kilocycles 461.3 meters

WSM	5000	Nashville, Tenn.

National Life & Accident Ins. Co.

660 kilocycles 454.3 meters

WAAW	500	Omaha, Nebr.
WEAF	50000	New York City

Omaha Grain Exchange
National Broadcasting Co., Inc.

670 kilocycles 447.5 meters

WMAQ	5000	Chicago, Ill.
XEB	1000	Mexico City

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

KCYS.
670
MTRS.
447.5
DIAL

CUT OUT ON DOTTED LINES

680 kilocycles 440.9 meters

KPO	5000	San Francisco, Cal.	Hale Bros. & The Chronicle
WPTF	1000	Raleigh, N. C.	Durham Life Insurance Co.

690 kilocycles 434.5 meters

CFAC	500	Calgary, Alta.	The Calgary Herald
CFCN	500	Calgary, Alta.	Western Broadcasting Co.
CHCA	500	Calgary, Alta.	The Western Farmer
CJCJ	500	Calgary, Alta.	Albertan Publishing Co., Ltd.
CJSC	500	Toronto, Ont.	The Evening Telegram
CKCO	100	Ottawa, Ont.	Dr. G. M. Geldert
CKGW	5000	Toronto, Ont.	Gooderham & Worts, Ltd.
CNRC	500	Calgary, Alta.	Canadian National Railways
CNXR	5000	Toronto, Ont.	Canadian National Railways
NAA	1000	Arlington, Va.	U. S. Navy

700 kilocycles 428.3 meters

WLW	50000	Cincinnati, Ohio	Crosley Radio Corp.

710 kilocycles 422.3 meters

KEJK	500	Los Angeles, Cal.	R. S. MacMillan
WOR	5000	Newark, N. J.	L. Bamberger & Co.

720 kilocycles 416.4 meters

WGN	25000	Chicago, Ill.	Chicago Tribune

730 kilocycles 410.7 meters

CHLS	50	Vancouver, B. C.	W. G. Hassell
CHYC	500	Montreal, Que.	Northern Electric Co., Ltd.
CKAC	12000	Montreal, Que.	La Presse Publishing Co., Ltd.
CKCD	50	Vancouver, B. C.	Vancouver Daily Province
CKFC	50	Vancouver, B. C.	United Church of Canada
CKMO	50	Vancouver, B. C.	Sprott-Shaw Radio Co.
CKWX	100	Vancouver, B. C.	A. Holstead & Wm. Hanlon
CMK	4000	Havana, Cuba	Hotel Plaza
CNRM	1650	Montreal Que.	Canadian National Railways
XEN	1000	Mexico City	General Electric, S. A.

740 kilocycles 405.2 meters

KMMJ	1000	Clay Center, Neb.	The M. M. Johnson Co.
WSB	1000	Atlanta, Ga.	Atlanta Journal Co.

750 kilocycles 399.8 meters

WJR	5000	Detroit, Mich.	WJR, The Goodwill Station, Inc.

760 kilocycles 394.5 meters

KVI	1000	Tacoma, Wash.	Puget Sound Brdcstg. Co.
WEW	1000	St. Louis, Mo.	St. Louis University
WJZ	30000	New York City	Radio Corp. of America, Inc.

770 kilocycles 389.4 meters

KFAB	5000	Lincoln, Nebr.	Nebraska Buick Automobile Co.
WBBM	25000	Chicago, Ill.	The Atlass Co., Inc.
WJBT	25000	Chicago, Ill	The Atlass Co., Inc.

780 kilocycles 384.4 meters

CKY	5000	Winnipeg, Manitoba	Manitoba Telephone System
CNRW	5000	Winnipeg, Manitoba	Canadian National Railways
KELW	500	Burbank, Cal.	Earl L. White
KTM	500	Los Angeles, Cal.	Pickwick Brdcstg. Corp.
WEAN	250	Providence, R. I.	The Shepard Co.
WMC	500	Memphis, Tenn.	Memphis Commercial-Appeal
WPOR	500	Norfolk, Va.	WTAR Radio Corp.
WTAR	500	Norfolk, Va.	WTAR Radio Corp.

790 kilocycles 379.5 meters

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

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

800 kilocycles 374.8 meters

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

Carter Publications, Inc.
News & Journal

810 kilocycles 370.2 meters

WCCO	7500	Minneapolis, Minn.
WPCH	500	New York City

Northwestern Broadcasting Inc.
Eastern Broadcasters, Inc.

820 kilocycles 365.6 meters

WHAS	10000	Louisville, Ky.

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.

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

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.

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

Taft Radio & Brdcstg. 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.

Great Lakes Brdcstg. Co.
Agricultural Brdcstg. Co.

880 kilocycles 340.7 meters

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

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

890 kilocycles 336.9 meters

CFBO	50	St. John, N. B.	C. A. Munro, Ltd.
KFNF	500	Shenandoah, Iowa	Henry Field Seed Co.
KGJF	250	Little Rock, Ark.	Church of the Nazarene
KUSD	500	Vermillion, S. D.	University of South Dakota
WGST	250	Atlanta, Ga.	Georgia School of Technology
WILL	250	Urbana, Ill.	University of Illinois
WJAR	250	Providence, R. I.	The Outlet Co.
WKAQ	500	San Juan, P. R.	Radio Corp. of Porto Rico
WMAZ	250	Macon, Ga.	Junior Chamber of Commerce
WMMN	250	Fairmont, W. Va.	Holt-Rowe Novelty Co.

900 kilocycles 333.1 meters

KGBU	500	Ketchikan, Alaska	Alaska Radio & Service Co.
KHJ	1000	Los Angeles, Cal.	Don Lee, Inc.
KSEI	250	Pocatello, Idaho	KSEI Broadcasting Association
WFBL	750	Syracuse, N. Y.	The Onondaga Co., Inc.
WJAX	1000	Jacksonville, Fla.	City of Jacksonville
WKY	1000	Oklahoma City	WKY Radiophone Co.
WLBL	2000	Stevens Pt., Wis.	Wisconsin Dept. of Markets
WMAK	750	Buffalo, N. Y.	WMAK Brdcstg. System, Inc.

910 kilocycles 329.6 meters

CFQC	500	Saskatoon, Sask.	The Electric Shop, Ltd.
CJGC	500	London, Ont.	Free Press Printing Co., Ltd.
CJHS	250	Saskatoon, Sask.	Radio Service, Ltd.
CNRL	500	London, Ont.	Canadian National Railways
CNRS	500	Saskatoon, Sask.	Canadian National Railways

920 kilocycles 325.9 meters

KOMO	1000	Seattle, Wash.	Fisher's Blend Station, Inc.
KPRC	1000	Houston, Tex.	Houston Printing Co.
WAAF	500	Chicago, Ill.	Drovers Journal Publishing Co.
WBSO	250	Wellesley Hills, Mass.	Babson Statistical Organization
WWJ	1000	Detroit, Mich.	The Detroit News
XEX	500	Mexico City	Excelsior, Cia. Editorial, S. A.
XFF	250	Chihuahua, Chih.	Gobierno Estado de Chihuahua

930 kilocycles 322.4 meters

CHNS	500	Halifax, N. S.	Halifax Herald, Ltd.
CKIC	50	Wolfville, N. S.	Acadia University
KFWI	500	San Francisco, Cal.	Radio Entertainments, Inc.
KFWM	500	Oakland, Cal.	Oakland Educational Society
KGBZ	500	York, Nebr.	Dr. George R. Miller
KMA	500	Shenandoah, Iowa	May Seed & Nursery Co.
WBRC	500	Birmingham, Ala.	Birmingham Broadcasting Co.
WDBJ	250	Roanoke, Va.	Richardson-Wayland Elec. Corp.
WIBG	50	Elkins Park, Pa.	St. Pauls P. E. Church

940 kilocycles 319.0 meters

KGU	1000	Honolulu, Hawaii	Marion A. Mulrony
KOIN	1000	Portland, Ore.	KOIN, Inc.
WCSH	500	Portland, Maine	Congress Square Hotel Co.
WDAY	1000	Fargo, N. D.	WDAY, Inc.
WFIW	1000	Hopkinsville, Ky.	The Acme Mills, Inc.
WHA	750	Madison, Wis.	University of Wisconsin

950 kilocycles 315.6 meters

KFWB	1000	Hollywood, Cal.	Warner Bros. Broadcasting Corp.
KGHL	500	Billings, Mont.	Northwestern Auto Supply Co.
KMBC	1000	Independence, Mo.	Midland Broadcasting Co., Inc.
WHB	500	Kansas City, Mo.	Sweeney Automobile School Co.
WRC	500	Washington, D. C.	Radio Corp. of America
2RK	20	Havana, Cuba	Raoul Karman

960 kilocycles 312.3 meters

CFCY	250	Charlottetown, P. E. I.	The Island Radio Co.
CFRB	4000	Toronto, Ont.	Rogers-Majestic Corp., Ltd.
CHCK	30	Charlottetown, P. E. I.	W. E. Burke
CHWC	500	Pilot Butte, Sask.	R. H. Williams & Sons
CJBC	5000	Toronto, Ont.	Jarvis St. Baptist Church
CJBR	500	Regina, Sask.	Cooperative Wheat Producers
CKCK	500	Regina, Sask.	Leader Pub. Co., Ltd.
CNRR	500	Regina, Sask.	Canadian Nat'l. Railways
XBE	101	Pueblo, Pue.	Ramon Huerta G.

970 kilocycles 309.1 meters

KJR	5000	Seattle, Wash.	Ralph A. Horr, Receiver
KTHS	10000	Hot Springs, Ark.	Chamber of Commerce
XEH	101	Monterey, N. L.	Ing. Constantino de Tarnava

980 kilocycles 305.9 meters

KDKA	50000	Pittsburgh, Pa.	Westinghouse Elec. & Mfg. Co.

990 kilocycles 302.8 meters

WBZ	15000	Springfield, Mass.	Westinghouse Elec. & Mfg. Co.
WBZA	500	Boston, Mass.	Westinghouse Elec. & Mfg. Co.

1000 kilocycles 299.8 meters

KFVD	250	Culver City, Cal.	Los Angeles Brdcstg. Co.
WHO	5000	Des Moines, Iowa	Bankers Life Co.
WOC	5000	Davenport, Iowa	Palmer School of Chiropractic
XEI	101	Morelia, Mich.	Carlos Gutierrez M.

1010 kilocycles 296.8 meters

CFLC	50	Prescott, Ont.	Radio Association
CKCR	50	Brantford, Ont.	John Patterson
CKSH	50	St. Hyacinthe, Que.	City of St. Hyacinthe
KGGF	500	Picher, Okla	D. L. Connell, M. D.
KQW	500	San Jose, Cal.	First Baptist Church
WHN	250	New York City	Marcus Loew Booking Agency
WNAD	500	Norman, Okla.	University of Oklahoma
WPAP	250	New York City	Calvary Baptist Church
WQAO	250	New York City	Calvary Baptist Church
WRNY	250	New York City	Aviation Radio Station, Inc.

1020 kilocycles 293.9 meters

KFKX	5000	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
KYW	5000	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
WRAX	250	Philadelphia, Pa.	Berachah Church, Inc.

1030 kilocycles 291.1 meters

CFCF	1650	Montreal, Que.	Canadian Marconi Co.
CJOR	50	Sea Island, B. C.	G. C. Chandler
CNRV	500	Vancouver, B. C.	Canadian National Railways

1040 kilocycles 288.3 meters

KRLD	10000	Dallas, Texas	KRLD, Radio Corp.
WKAR	1000	East Lansing, Mich.	Michigan Agricultural College
WKEN	1000	Buffalo, N. Y.	Radio Station WKEN, Inc.

1050 kilocycles 285.5 meters

KFKB	5000	Milford, Kansas	John R. Brinkley, M. D.
KNX	25000	Hollywood, Cal.	Western Broadcast Co.
2MG	20	Havana, Cuba	M. y G. Salas

KCYS. 1050
MTRS. 285.5
DIAL

CUT OUT ON DOTTED LINES

1060 kilocycles 282.8 meters

KWJJ	500	Portland, Ore.	Wilbur Jerman
WBAL	10000	Baltimore, Md.	Consolidated Gas, Elec. & Pwr. Co.
WJAG	1000	Norfolk, Nebr.	Norfolk Daily News
WTIC	50000	Hartford, Conn.	Travelers Brdcstg. Service Corp.

1070 kilocycles 280.2 meters

KJBS	100	San Francisco, Cal.	Julius Brunton & Sons Co.
WAAT	300	Jersey City, N. J.	Bremer Broadcasting Corp.
WCAZ	50	Carthage, Ill.	Carthage College
WDZ	100	Tuscola, Ill.	James L. Bush
WEAR	1000	Cleveland, Ohio	WTAM and WEAR, Inc.
WTAM	50000	Cleveland, Ohio	WTAM and WEAR, Inc.

1080 kilocycles 277.6 meters

WBT	5000	Charlotte, N. C.	Station WBT, Inc.
WCBD	5000	Zion, Ill.	Wilbur Glenn Voliva
WMBI	5000	Chicago, Ill.	Moody Bible Institute

1090 kilocycles 275.1 meters

KFQA	5000	St. Louis, Mo.	Voice of St. Louis, Inc.
KMOX	5000	St. Louis, Mo.	Voice of St. Louis, Inc.
2UF	10	Havana, Cuba	Benito V. Ferro

1100 kilocycles 272.6 meters

KGDM	50	Stockton, Cal.	E. F. Peffer
WLWL	5000	New York City	Missionary Society of St. Paul
WPG	5000	Atlantic City, N. J.	Municipality of Atlantic City

1110 kilocycles 270.1 meters

KSOO	2000	Sioux Falls, S. D.	Sioux Falls Broadcast Assn.
WRVA	5000	Richmond, Va.	Larus & Bros. Co., Inc.
2TW	20	Havana, Cuba	Roberto E. Ramirez

1120 kilocycles 267.7 meters

CFJC	15	Kamloops, B. C.	N. S. Dalgleish & Sons
CFRC	500	Kingston, Ont.	Queen's University
CHGS	25	Summerside, P. E. I.	R. T. Holman, Ltd.
CJOC	50	Lethbridge, Alta.	Harold R. Carson
CKPR	50	Midland, Ont.	Midland Brdcstg. Corp.
KFSG	500	Los Angeles, Cal.	Echo Park Evang. Assn.
KMIC	500	Inglewood, Cal.	Dalton's, Inc.
KRSC	50	Seattle, Wash.	Radio Sales Corp.
KUT	500	Austin, Texas	KUT Broadcasting Co.
WDBO	1000	Orlando, Fla.	Rollins College, Inc.
WDEL	250	Wilmington, Del.	WDEL, Inc.
WHAD	250	Milwaukee, Wis.	Marquette University
WIOD	500	Miami Beach, Fla.	Isle of Dreams Brdcstg. Co.
WISN	250	Milwaukee, Wis.	Evening Wisconsin Co.
WTAW	500	College Station, Texas	Agricultural & Mec. College

1130 kilocycles 265.3 meters

KSL	5000	Salt Lake City	Radio Service Corp. of Utah
WJJD	20000	Mooseheart, Ill.	Loyal Order of Moose
WOV	1000	New York City	International Brdcstg. Corp.
XEF	105	Oaxaca, Oax.	Federico Zorrila

1140 kilocycles 263.0 meters

KVOO	5000	Tulsa, Okla.	Southwestern Sales Corp.
WAPI	5000	Birmingham, Ala.	Alabama Polytechnic Institute

1150 kilocycles 260.7 meters

WHAM	5000	Rochester, N. Y.	Stromberg-Carlson Tel. Mfg. Co.
6BY	200	Cienfuegos, Cuba	Jose Ganduxe

1160 kilocycles 258.5 meters

WOWO	10000	Ft. Wayne, Ind.	Main Auto Supply Co.
WWVA	5000	Wheeling, W. Va.	West Virginia Brdcstg. Corp.

1170 kilocycles 256.3 meters

KTNT	5000	Muscatine, Iowa	Norman Baker
WCAU	10000	Philadelphia, Pa.	Universal Broadcasting Co.
2OL	100	Havana, Cuba	Oscar C. Orta

1180 kilocycles 254.1 meters

KEX	5000	Portland, Ore.	Western Broadcasting Co.
KOB	10000	State College, N. M.	College of Agriculture
WDGY	1000	Minneapolis, Minn.	Dr. George W. Young
WGBS	500	New York City	General Broadcasting System, Inc.
WHDI	500	Minneapolis, Minn.	Wm. Hood Dunwoody Indus. Inst.

1190 kilocycles 252.0 meters

WICC	500	Bridgeport, Conn.	Bridgeport Broadcasting Station, Inc.
WOAI	5000	San Antonio, Texas	Southern Equipment Co.

1200 kilocycles 249.9 meters

KFHA	100	Gunnison, Colo.	Western College of Colorado
KFJB	100	Marshalltown, Iowa	Marshall Electric Co., Inc.
KFKZ	15	Kirksville, Mo.	State Teachers College
KFWF	100	St. Louis, Mo.	St. Louis Truth Center, Inc.
KFXM	100	San Bernardino, Cal.	J. C. and E. W. Lee
KGCU	100	Mandan, N. D	Mandan Radio Association
KGDE	50	Fergus Falls, Minn.	Jaren Drug Co.
KGDY	15	Oldham, S. D.	J. Albert Loesch and George W. Wright
KGEK	50	Yuma, Colo.	Beehler Elec. Equipment Co.
KGEW	100	Fort Morgan, Colo.	City of Fort Morgan
KGFJ	100	Los Angeles, Cal.	Ben S. McGlashan
KGFK	50	Hallock, Minn.	Lautzenheiser & Mitchell
KGHI	100	Little Rock, Ark.	Berean Bible Class
KGY	10	Lacey, Wash.	St. Martin's College
KPPC	50	Pasadena, Cal.	Pasadena Presbyterian Church
KSMR	100	Santa Maria, Cal.	Santa Maria Valley R. R. Co.
KVOS	100	Bellingham, Wash.	KVOS, Inc.
KWG	100	Stockton, Cal.	Portable Wireless Tel. Co.
KXO	100	El Centro, Cal.	E. R. Irey and F. M. Bowles
WABI	100	Bangor, Maine	First Universalist Church
WABZ	100	New Orleans, La.	Coliseum Place Baptist Church
WBBY	75	Charleston, S. C.	Washington Light Infantry
WBBZ	100	Ponca City, Okla.	C. L. Carrell
WCAT	100	Rapid City, S. D.	State School of Mines
WCAX	100	Burlington, Vt.	University of Vermont
WCLO	100	Kenosha, Wis.	C. E. Whitmore
WCOD	100	Harrisburg, Pa.	Norman R. Hoffman
WEPS	100	Gloucester, Mass.	Matheson Radio Co., Inc.
WFBC	50	Knoxville, Tenn.	First Baptist Church
WHBC	10	Canton, Ohio	St. John's Catholic Church
WHBY	100	West De Pere, Wis.	St. Norbert's College
WIBX	100	Utica, N. Y.	WIBX, Inc.
WIL	100	St. Louis, Mo.	Missouri Broadcasting Corp.
WJBC	100	La Salle, Ill.	Hummer Furniture Co.
WJBL	100	Decatur, Ill.	Wm. Gushard Dry Goods Co.
WJBW	30	New Orleans, La.	Charles C. Carlson, Jr.
WKJC	100	Lancaster, Pa.	Kirk Johnson & Co.
WLAP	30	Louisville, Ky.	American Brdcstg. Corp. of Ky.
WLBG	100	Ettrick, Va.	Robert Allen Gamble
WMAY	100	St. Louis, Mo.	Kingshighway Pres. Church
WNBO	100	Washington, Pa.	John Brownlee Spriggs
WNBW	5	Carbondale, Pa.	Home Cut Glass & China Co.
WNBX	10	Springfield, Vt.	First Congregational Church
WORC	100	Worcester, Mass.	K. & B. Electric Co.
WRAF	100	La Porte, Ind.	The Radio Club, Inc.
WRBL	50	Columbus, Ga.	David Parmer
WWAE	100	Hammond, Ind.	Hammond-Calumet Brdcstg. Co.
XEA	101	Guadalajara, Jal.	Alberto Palos Sauza
XES	250	C. Lerdo, Dgo.	Cerveceria de Durango, S. A.
2BB	15	Havana, Cuba	Bernardo Barrie

KCYS.
1200
MTRS.
249.9
DIAL

CUT OUT ON DOTTED LINES

1210 kilocycles 247.8 meters

CFCO	50	Chatham, Ont.	Western Ontario "Better Radio" Club
CFNB	50	Fredericton, N. B.	James S. Neill & Sons, Ltd.
CHWK	5	Chilliwack, B. C.	Chilliwack Brdcstg. Co., Ltd.
CKMC	15	Cobalt, Ont.	R. L. MacAdam
CKPC	50	Preston, Ont.	Wallace Russ
KDFN	100	Casper, Wyo.	Donald Lewis Hathaway
KDLR	100	Devils Lake, N. D.	Radio Electric Co.
KFOR	100	Lincoln, Nebr.	Howard A. Shuman
KFVS	100	Cape Girardeau, Mo.	Hirsch Battery & Radio Co.
KGCR	100	Watertown, S. D.	Cutler's Radio Brdcstg. Service
KMJ	100	Fresno, Cal.	The Fresno Bee
KPCB	100	Seattle, Wash.	Westcoast Brdcstg Co.
KPQ	100	Seattle, Wash.	Westcoast Brdcstg Co.
KWEA	100	Shreveport, La.	William E. Antony
WBAX	100	Wilkes-Barre, Pa.	John H. Stenger, Jr.
WCBS	100	Springfield, Ill.	H. L. Dewing & Chas. Messter
WCOH	100	Yonkers, N. Y.	Westchester Brdcstg. Corp.
WCRW	100	Chicago, Ill.	Clinton R. White
WDWF	100	Cranston, R. I.	Dutee W. Flint
WEBE	100	Cambridge, Ohio	Roy W. Waller
WEBQ	100	Harrisburg, Ill.	First Trust & Savings Bank
WEDC	100	Chicago, Ill.	Emil Denemark, Inc.
WGBB	100	Freeport, N. Y.	Harry H. Carman
WGCM	100	Gulfport, Miss	Southern Land Co., Inc.
WHBF	100	Rock Island, Ill.	Beardsley Specialty Co.
WHBU	100	Anderson, Ind.	Citizens Bank
WIBA	100	Madison, Wis.	Capital Times-Strand Theatre
WINR	100	Bay Shore, N. Y.	Radiotel Mfg. Co., Inc.
WJBI	100	Red Bank, N. J.	Robert S. Johnson
WJBU	100	Lewisburg, Pa.	Bucknell University
WJBY	50	Gadsden, Ala.	Charles J. Black
WJW	100	Mansfield, Ohio	Mansfield Broadcasting Assn.
WLCI	50	Ithaca, N. Y.	Lutheran Assn. of Ithaca
WLSI	100	Cranston, R. I.	The Lincoln Studios, Inc.
WMAN	50	Columbus, Ohio	W. E. Heskett
WMBG	100	Richmond, Va.	Havens & Martin, Inc.
WOCL	25	Jamestown, N. Y.	A. E. Newton
WOMT	100	Manitowoc, Wis.	Francis M. Kadow
WPAW	100	Pawtucket, R. I.	Shartenburg & Robinson Co.
WRBQ	100	Greenville, Miss.	J. Pat Scully
WRBU	100	Gastonia, N. C.	A. J. Kirby Music Co.
WSBC	100	Chicago, Ill.	World Battery Co., Inc.
WSIX	100	Springfield, Tenn.	638 Tire & Vulcanizing Co.
WTAX	50	Streator, Ill.	Williams Hardware Co.

1220 kilocycles 245.8 meters

KFKU	1000	Lawrence, Kans.	University of Kansas
WCAD	500	Canton, N. Y.	St. Lawrence University
WCAE	500	Pittsburgh, Pa.	Kaufman & Baer Co., Inc.
WREN	1000	Lawrence, Kans.	Jenny Wren Co.

1230 kilocycles 243.8 meters

KFIO	100	Spokane, Wash.	Spokane Broadcasting Corp.
KFQD	100	Anchorage, Alaska	Anchorage Radio Club
KGGM	250	Albuquerque, N. Mex.	New Mexico Broadcasting Co.
KYA	1000	San Francisco, Cal.	F. C. Dahlquist, Receiver
WBIS	1000	Boston, Mass.	Shepard-Norwell Co.
WFBM	1000	Indianapolis, Ind.	Indianapolis Power & Light Co.
WNAC	1000	Boston, Mass.	Shepard-Norwell Co.
WPSC	500	State College, Pa.	Pennsylvania State College
WSBT	500	South Bend, Ind.	South Bend Tribune

1240 kilocycles 241.8 meters

KTAT	1000	Ft. Worth, Texas	Texas Air Transport Brdcst. Co.
WDAE	1000	Tampa, Fla.	Tampa Publishing Co.
WGHP	750	Detroit, Mich.	American Brdcstg. Corp.
WJAD	1000	Waco, Texas	Frank P. Jackson
WRBC	500	Valparaiso, Ind.	Immanuel Lutheran Church

1250 kilocycles 239.9 meters

KFMX	1000	Northfield, Minn.	Carleton College
KFOX	1000	Long Beach, Cal.	Nichols & Warinner, Inc.
KIDO	1000	Boise, Idaho	Boise Brdcstg. Station
KXL	500	Portland, Ore.	KXL Broadcasters, Inc.
WAAM	1000	Newark, N. J.	WAAM, Inc.
WCAL	1000	Northfield, Minn.	St. Olaf College
WDSU	1000	New Orleans, La.	Jos. H. Uhalt
WGCP	250	Newark, N. J.	May Radio Broadcast Corp.
WGMS	500	Minneapolis, Minn.	University of Minnesota
WLB	500	Minneapolis, Minn.	Washburn-Crosby Co.
WODA	1000	Paterson, N. J.	Richard E. O'Dea
WRHM	1000	Minneapolis, Minn.	Rosedale Hospital Co., Inc.
WTOC	500	Savannah, Ga.	Chamber of Commerce

1260 kilocycles 238.0 meters

KOIL	1000	Council Bluffs, Iowa	Mona Motor Oil Co.
KRGV	500	Harlingen, Texas	Valley Radio-Electric Corp.
KVOA	500	Tucson, Ariz.	Robert M. Riculfi
KWWG	500	Brownsville, Texas	Chamber of Commerce
WLBW	500	Oil City, Pa.	Radio-Wired Program Corp.

1270 kilocycles 236.1 meters

KFUM	1000	Colorado Spgs., Colo.	W. D. Corley
KGCA	50	Decorah, Iowa	Charles W. Greenley
KOL	1000	Seattle, Wash.	Seattle Brdcstg. Co., Inc.
KTW	1000	Seattle, Wash.	First Presbyterian Church
KWLC	100	Decorah, Iowa	Luther College
WASH	500	Grand Rapids, Mich.	WASH Broadcasting Corp.
WEAI	500	Ithaca, N. Y.	Cornell University
WFBR	250	Baltimore, Md.	Baltimore Radio Show, Inc.
WJDX	500	Jackson, Miss.	Lamar Life Insurance Co.
WOOD	500	Grand Rapids, Mich.	Walter B. Stiles, Inc.

1280 kilocycles 234.2 meters

WCAM	500	Camden, N. J.	City of Camden
WCAP	500	Asbury Park, N. J.	Radio Industries Broadcast Co.
WCFL	1000	Chicago, Ill.	Chicago Federation of Labor
WDOD	1000	Chattanooga, Tenn.	Chattanooga Radio Co., Inc.
WOAX	500	Trenton, N. J.	Franklyn J. Wolff
WRR	500	Dallas, Texas	City of Dallas
2LR	50	Havana, Cuba	Jose Lara

1290 kilocycles 232.4 meters

KDYL	1000	Salt Lake City	Intermountain Brdcstg. Corp.
KFUL	500	Galveston, Texas	Will H. Ford
KLCN	50	Blytheville, Ark.	C. L. Lintzenich
KTSA	1000	San Antonio, Texas	Lone Star Broadcast Co.
WEBC	1000	Duluth, Minn.	Head of Lake Brdcstg. Co.
WJAS	1000	Pittsburgh, Pa.	Pittsburgh Radio Supply House
WNBZ	50	Saranac Lake, N. Y.	Smith & Mace

1300 kilocycles 230.6 meters

KFH	500	Wichita, Kansas	Radio Station KFH Co.
KFJR	500	Portland, Ore.	Ashley C. Dixon & Son
KGEF	1000	Los Angeles, Cal.	Trinity Methodist Church
KTBI	750	Los Angeles, Cal.	Bible Institute of Los Angeles
KTBR	500	Portland, Ore.	M. E. Brown
WBBR	1000	Rossville, N. Y.	Peoples Pulpit Association
WEVD	500	New York City	Debs Memorial Radio Fund, Inc.
WHAP	1000	New York City	Defenders of Truth Society, Inc.
WHAZ	500	Troy, N. Y.	Rensselaer Polytechnic Institute
WOQ	1000	Kansas City, Mo.	Unity School of Christianity

1310 kilocycles 228.9 meters

KFBK	100	Sacramento, Cal.	Jas. McClatchy Co.
KFGQ	100	Boone, Iowa	Boone Biblical College
KFJY	100	Ft. Dodge, Iowa	C. S. Tunwall

KCYS.
1310
MTRS.
228.9
DIAL

CUT OUT ON DOTTED LINES

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	McGeehee, 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 Brdcstg. Co., Inc.
WIBU	100	Poynette, Wis.	William C. Forrest
WJAC	100	Johnstown, Pa.	Johnstown Automobile Co.
WJAK	50	Marion, Ind.	Marion Brdcstg. 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.	C. P. Ritchie & J. E. Finch
KGIQ	250	Twin Falls, Idaho	Radio Broadcasting Corp.
KID	250	Idaho Falls, Idaho	Jack W. Duckworth, Jr.
WADC	1000	Akron, Ohio	Allen T. Simmons
WSMB	500	New Orleans, La.	Saenger Theatre & Maison Blanche

1330 kilocycles 225.4 meters

KGB	250	San Diego, Cal.	Pickwick Brdcstg. Corp.
KSCJ	1000	Sioux City, Iowa	Perkins Bros. Co.
WDRC	500	New Haven, Conn.	Doolittle Radio Corp.
WSAI	500	Cincinnati, Ohio	Crosley Radio Corp., Lessee
WTAQ	1000	Eau Claire, Wis.	Gillette Rubber Co.

1340 kilocycles 223.7 meters

KFPW	50	Carterville, Mo.	Rev. Lannie W. Stewart
KFPY	500	Spokane, Wash.	Symons Broadcasting Co.
KMO	500	Tacoma, Wash.	KMO, Inc.
WCOA	500	Pensacola, Fla.	City of Pensacola
WSPD	1000	Toledo, Ohio	Toledo Broadcasting Co.

1350 kilocycles 222.1 meters

KWK	1000	St. Louis, Mo.	Greater St. Louis Brdcstg. Corp.
WBNY	250	New York City	Baruchrome Corp.
WCDA	250	New York City	Italian Educ. Brdcstg. Co., Inc.
WKBQ	250	New York City	Standard Cahill Co., Inc.
WMSG	250	New York City	Madison Square Garden

1360 kilocycles 220.4 meters

KFBB	500	Great Falls, Mont.	Buttery Broadcast, Inc.
KGER	100	Long Beach, Cal.	C. Merwin Dobyns
KGIR	250	Butte, Mont.	Symons Broadcasting Co.
KPSN	1000	Pasadena, Cal.	Pasadena Star-News
WGES	500	Chicago, Ill.	Oak Leaves Brdcstg. Station, Inc.
WJKS	500	Gary, Ind.	Johnson-Kennedy Radio Corp.
WLEX	500	Lexington, Mass.	Lexington Air Stations
WMAF	500	S. Dartmouth, Mass.	Round Hills Radio Corp.
WQBC	300	Utica, Miss.	Chamber of Commerce

1370 kilocycles 218.7 meters

KCRC	100	Enid, Okla.	Champlin Refining Co.
KFBL	50	Everett, Wash.	Leese Bros.
KFJI	100	Astoria, Ore.	KFJI Broadcasters Inc
KFJM	500	Grand Forks, N. D.	University of North Dakota
KFJZ	100	Ft. Worth, Texas	H. C. Meacham
KFLX	100	Galveston, Texas	George Roy Clough
KGAR	100	Tucson, Ariz.	Tucson Motor Service Co.
KGBX	100	St. Joseph, Mo.	Foster-Hall Tire Co.
KGCI	100	San Antonio, Texas	Liberto Radio Sales Co.
KGDA	50	Dell Rapids, S. D.	Home Auto Co.
KGFG	100	Oklahoma City	Faith Tabernacle Assn.
KGFL	50	Raton, N. M.	Hubbard & Murphy
KGKL	100	San Angelo, Texas	KGKL Inc., Opr. by Ragsdale Auto
KGRC	100	San Antonio, Texas	Eugene J. Roth
KIT	100	Yakima, Wash.	Carl E. Haymond
KLO	100	Ogden, Utah	Peery Building Co.
KOH	100	Reno, Nevada	Jay Peters
KOOS	50	Marshfield, Ore.	H. H. Hanseth
KRE	100	Berkeley, Cal.	First Congregational Church
KVL	100	Seattle, Wash.	Arthur C. Dailey
KWKC	100	Kansas City, Mo.	Wilson Duncan Brdcstg. Co.
KZM	100	Hayward, Cal.	Leon P. Tenney
WBBL	100	Richmond, Va.	Grace Covenant Presbyterian Church
WCBM	100	Baltimore, Md.	Baltimore Brdcstg. Corp.
WELK	100	Philadelphia, Pa.	Howard R. Miller
WFBJ	100	Collegeville, Minn.	St. John's University
WGL	100	Fort Wayne, Ind.	Fred C. Zieg
WHBD	100	Bellefontaine, Ohio	F. P. Moler
WHBQ	100	Memphis, Tenn.	Broadcasting Station WHBQ, Inc.
WHDF	100	Calumet, Mich.	Upper Michigan Brdcstg. Co.
WIBM	100	Jackson, Mich.	C. L. Carrell
WJBK	50	Ypsilanti, Mich.	James F. Hopkins
WJBO	100	New Orleans, La.	Valdemar Jensen
WJDW	100	Emory, Va.	Emory & Henry College
WMBO	100	Auburn, N. Y.	Radio Service Laboratories
WMBR	100	Tampa, Fla.	F. J. Reynolds
WRAK	50	Erie, Pa.	C. R. Cummins
WRBT	100	Wilmington, N. C.	Wilmington Radio Association
WRJN	100	Racine, Wis.	Racine Broadcasting Corp.
WSVS	50	Buffalo, N. Y.	Seneca Vocational School

KCYS.
1390
MTRS.
215.7
DIAL

1380 kilocycles 217.3 meters

KQV	500	Pittsburgh, Pa.	Doubleday-Hill Electric Co.
KSO	500	Clarinda, Iowa	Berry Seed Co.
WKBH	1000	La Crosse, Wis.	Joseph Callaway
WSMK	200	Dayton, Ohio	Stanley M. Krohn, Jr.

1390 kilocycles 215.7 meters

KLRA	1000	Little Rock, Ark.	Arkansas Broadcasting Co.
KOY	500	Phoenix, Ariz.	Nielson Radio Supply Co.
KUOA	1000	Fayetteville, Ark.	University of Arkansas
KWSC	500	Pullman, Wash.	State College of Washington
WHK	1000	Cleveland, Ohio	Radio Air Service Corp.

CUT OUT ON DOTTED LINES

1400 kilocycles 214.2 meters

KOCW	250	Chickasha, Okla.	College for Women
WBBC	500	Brooklyn, N. Y.	Brooklyn Broadcasting Corp.
WCGU	500	Coney Island, N. Y.	U. S. Broadcasting Corp.
WCMA	500	Culver, Ind.	Culver Military Academy
WKBF	500	Indianapolis, Ind.	Indianapolis Broadcasting, Inc.
WLTH	500	Brooklyn, N. Y.	The Voice of Brooklyn, Inc.
WSGH	500	Brooklyn, N. Y.	Amateur Radio Specialty Co.

1410 kilocycles 212.6 meters

KFLV	500	Rockford, Ill.	Rockford Broadcasters Inc.
KGRS	1000	Amarillo, Texas	Gish Radio Service
WBCM	500	Bay City, Mich.	James E. Davidson
WDAG	250	Amarillo, Texas	National Radio & Brdcstg. Corp.
WHBL	500	Sheboygan, Wis.	Press Pub. Co. & C. L. Carrell

1420 kilocycles 211.1 meters

KFIF	100	Portland, Ore.	Benson Polytechnic Institute
KFIZ	100	Fond du Lac, Wis.	Reporter Printing Co.
KFQU	100	Holy City, Cal.	W. E. Riker
KFQW	100	Seattle, Wash.	KFQW, Inc.
KFXD	50	Jerome, Idaho	Service Radio Co.
KFXY	100	Flagstaff, Ariz.	Mary M. Costigan
KFYO	100	Abilene, Texas	T. E. Kirksey
KGFF	100	Alva, Okla.	KGFF Broadcasting Co.
KGGC	50	San Francisco, Cal.	Golden Gate Brdcstg. Co.
KGIW	100	Trinidad, Colo.	Trinidad Creamery Co., Inc.
KGIX	100	Las Vegas, Nevada	Las Vegas, Nevada, Radio Corp.
KGKX	100	Sand Point, Idaho	C. E. Twiss and F. H. McCann
KICK	100	Red Oak, Iowa	Red Oak Radio Corp.
KLPM	100	Minot, N. Dak.	E. C. Reineke
KORE	100	Eugene, Ore.	Eugene Broadcasting Station
KTAP	100	San Antonio, Texas	Alamo Brdcstg. Co.
KTUE	5	Houston, Texas	Uhalt Electric
WEDH	30	Erie, Pa.	Erie Dispatch-Herald
WHDL	10	Tupper Lake, N. Y.	George Franklin Bissell
WHIS	100	Bluefield, W. Va.	Daily Telegraph
WIAS	100	Ottumwa, Iowa	Poling Electric Co.
WIBR	50	Steubenville, Ohio	George W. Robinson
WILM	100	Wilmington, Del.	Delaware Broadcasting Co., Inc.
WKBP	50	Battle Creek, Mich.	Enquirer-News Co.
WLBF	100	Kansas City, Kas.	WLBF Broadcasting Co.
WLEY	100	Lexington, Mass.	Lexington Air Stations
WMBC	100	Detroit, Mich.	Michigan Broadcasting Co., Inc.
WMBH	100	Joplin, Mo.	Edwin Dudley Aber
WMRJ	10	Jamaica, N. Y.	Peter J. Prinz
WPOE	30	Patchogue, N. Y.	Nassau Broadcasting Corp.
WQBZ	60	Weirton, W. Va.	J. H. Thompson
WSSH	100	Boston, Mass.	Tremont Temple Baptist Church
WTBO	50	Cumberland, Md.	Cumberland Broadcasting Co.

1430 kilocycles 209.7 meters

KPLA	1000	Los Angeles, Cal.	Pacific Development Radio Co., Inc.
WBAK	500	Harrisburg, Pa.	Penna. State Police
WBRL	500	Manchester, N. H.	Booth Radio Laboratories
WCAH	500	Columbus, Ohio	Commercial Radio Service Co.
WGBC	500	Memphis, Tenn.	First Baptist Church
WHP	500	Harrisburg, Pa.	Pennsylvania Brdcstg. Co.
WNBR	500	Memphis, Tenn.	John Ulrich

1440 kilocycles 208.2 meters

KLS	250	Oakland, Cal.	Warner Bros.
WABO	500	Rochester, N. Y.	Hickson Electric Co.
WCBA	250	Allentown, Pa.	B. B. Musselman
WHEC	500	Rochester, N. Y.	Hickson Electric Co.

WMBD	500	Peoria Heights, Ill.	Peoria Heights Radio Laboratory
WNRC	250	Greensboro, N. C.	Wayne M. Nelson
WOKO	500	Poughkeepsie, N. Y.	Hudson Valley Broadcasting Company
WSAN	250	Allentown, Pa.	Allentown Call Publishing Co.
WTAD	500	Quincy, Ill.	Ills. Stock Medicine Brdcstg. Corp.

1450 kilocycles 206.8 meters

KTBS	1000	Shreveport, La.	Elliott & Steere
WBMS	250	Fort Lee, N. J.	WBMS Broadcasting Corp.
WCSO	500	Springfield, Ohio	Wittenberg College
WFJC	500	Akron, Ohio	W. F. Jones Broadcast, Inc.
WIBS	250	Elizabeth, N. J.	New Jersey Broadcasting Corp.
WKBO	250	Jersey City, N. J.	Camith Corp.
WNJ	250	Newark, N. J.	Radio Investment Co.
WSAR	250	Fall River, Mass.	Doughty & Welch Electric Co.
WTFI	250	Toccoa, Ga.	Toccoa Falls Institute

1460 kilocycles 205.4 meters

KSTP	10000	St. Paul, Minn.	National Battery Brdcstg. Co.
WJSV	10000	Mt. Vernon Hills, Va.	Independent Publishing Co.

1470 kilocycles 204.0 meters

KFJF	5000	Oklahoma City	National Radio Mfg. Co.
KGA	5000	Spokane, Wash.	Ralph A. Horr, Receiver
WKBW	5000	Buffalo, N. Y.	Churchill Evangelistic Assn.

1480 kilocycles 202.6 meters

WCKY	5000	Covington, Ky.	L. B. Wilson, Inc.
WJAZ	5000	Chicago, Ill.	Zenith Radio Corp.
WORD	5000	Chicago, Ill.	People's Pulpit Association
WSOA	5000	Forest Park, Ill.	Radiophone Brdcstg. Corp.

1490 kilocycles 201.2 meters

KPWF	5000	Westminster, Cal.	Pacific Western Brdcstg. Fed.
WFBL	750	Syracuse, N. Y.	The Onondaga Co.
WLAC	5000	Nashville, Tenn.	Life & Casualty Insurance Co.
WTNT	5000	Nashville, Tenn.	Tennessee Publishing Co.

1500 kilocycles 199.9 meters

KDB	100	Santa Barbara, Cal.	Santa Barbara Brdcstg. Co.
KGDR	100	San Antonio, Texas	The Milan Radio Company, Inc.
KGFI	100	Corpus Christi, Texas	Eagle Brdcstg. Co., Inc.
KGHX	50	Richmond, Texas	Ft. Bend County School Board
KGKB	100	Brownwood, Texas	Eagle Publishing Co.
KPJM	100	Prescott, Ariz.	Miller & Klahn
KREG	100	Santa Ana, Cal.	Pacific Western Brdcstg Foundation
KUJ	100	Longview, Wash.	Columbia Brdcstg. Co., Inc.
KVEP	15	Portland, Ore.	Schaeffer Radio Co.
WCLB	100	Brooklyn, N. Y.	Arthur Faske
WEHS	100	Evanston, Ill.	Victor C. Carlson
WHFC	100	Cicero, Ill.	Triangle Broadcasters
WKBI	50	Chicago, Ill.	Fred L. Schoenwolf
WKBV	100	Brookville, Ind.	Knox Battery & Electric Co.
WKBZ	50	Ludington, Mich.	K. L. Ashbacker
WLBX	100	Long Island City, N. Y.	John N. Brahy
WLOE	100	Boston, Mass.	Boston Brdcstg. Co.
WMBA	100	Newport, R. I.	LeRoy Joseph Beebe
WMBJ	100	Pittsburgh, Pa.	Rev. John W. Sproul
WMBQ	100	Brooklyn, N. Y.	Paul J. Gollhofer
WMES	50	Boston, Mass.	Mass. Educational Society
WMPC	100	Lapeer, Mich.	First M. E. Church
WNBF	50	Binghamton, N. Y.	Hewitt-Wood Radio Co.
WOPI	100	Bristol, Tenn.	Radiophone Service Co.
WPEN	100	Philadelphia, Pa.	Wm. Penn Broadcasting Co.
WRBJ	10	Hattiesburg, Miss.	Woodruff Furniture Co., Inc.
WWRL	100	Woodside, N. Y.	Long Island Brdcstg. Corp.

KCYS. 1500 MTRS. 199.9 DIAL

ALABAMA			
Birmingham K-19-a	5000	WAPI	1140
	100	WBRC	930
	10	WKBC	1310
Gadsden K-20-a	50	WJBY	1210
ALASKA			
Anchorage	100	KFQD	1230
Ketchikan	500	KGBU	900
ARIZONA			
Flagstaff J-7	100	KFXY	1420
Phoenix K-7	500	KFAD	620
	500	KOY	1390
Prescott J-6	100	KPJM	1500
Tucson L-7	100	KGAR	1370
	500	KVOA	1260
ARKANSAS			
Blytheville I-18	50	KLCN	1290
Fayettesville I-16	1000	KUOA	1390
Hot Springs J-16	10000	KTHS	970
Little Rock J-17	100	KGHI	1200
	250	KGJF	890
	1000	KLRA	1390
McGehee K-17	50	KGHG	1310
CALIFORNIA			
Berkeley H-1-a	100	KRE	1370
Burbank J-4	500	KELW	780
Culver City K-3	250	KFVD	1000
El Centro K-5	100	KXO	1200
Fresno I-3	100	KMJ	1210
Hayward H-2	100	KZM	1370
Hollywood K-3	250	KFOZ	850
	1000	KFWB	950
	500	KMTR	570
Holy City I-2	100	KFQU	1420
Inglewood K-4	500	KMIC	1120
Long Beach K-4-a	1000	KFOX	1250
	100	KGER	1360
Los Angeles K-3-b	500	KEJK	710
	5000	KFI	640
	500	KFSG	1120
	1000	KGEF	1300
	100	KGFJ	1200
	1000	KHJ	900
	25000	KNX	1050
	1000	KPLA	1430
	500	KTM	780
	750	KTBI	1300
Oakland H-1-b	500	KFWM	930
	7500	KGO	790
	250	KLS	1440
	500	KLX	880
	500	KTAB	560
Pasadena J-4	50	KPPC	1200
	1000	KPSN	1360
Sacramento H-2-a	100	KFBK	1310
San Bernardino	100	KFXM	1200
San Diego K-4-b	500	KFSB	600
	250	KGB	1330
San Francisco H-1-c	1000	KFRC	610
	500	KFWI	930
	50	KGGC	1420
	100	KJBS	1070
	5000	KPO	680
	1000	KYA	1230
San Jose I-2	500	KQW	1010
Santa Ana K-4	1000	KREG	1500
Santa Barbara J-3	100	KDB	1500
Santa Maria J-2-b	100	KSMR	1200
Stockton H-2-b	50	KGDM	1100
	100	KWG	1200
Westminster	5000	KPWF	1490
COLORADO			
Colo. Springs H-10	1000	KFUM	1270
Denver G-10-b	250	KFEL	630
	100	KFUP	1310
	250	KFXF	630
	12500	KOA	830
	500	KPOF	880
Dupont	1000	KLZ	560
Edgewater G-10	50	KFXJ	1310
Fort Morgan G-11	100	KGEW	1200
Greeley F-10	500	KFKA	880
Gunnison H-9	100	KFHA	1200
Pueblo H-11	250	KGHF	1320
Trinidad H-10	100	KGIW	1420
Yuma G-11	50	KGEK	1200
CONNECTICUT			
Bridgeport F-26	500	WICC	1190
Hartford E-26-d	50000	WTIC	1060
Mansfield E-27-I	250	WCAC	600
New Haven F-26-b	500	WDRC	1330
DELAWARE			
Wilmington G-25	250	WDEL	1120
	100	WILM	1420
DISTRICT OF COLUMBIA			
Washington G-24-c	250	WMAL	630
	500	WRC	950
	100	WOL	1310
FLORIDA			
Clearwater N-21	1000	WFLA	620
Gainesville M-21	5000	WRUF	830
Jacksonville M-22	1000	WJAX	900
Lakeland N-22	100	WMBL	1310
Miami O-23	1000	WQAM	560
Miami Beach O-23	1000	WIOD	1120
Orlando N-22	1000	WDBO	1120
Pensacola L-19	500	WCOA	1340
St. Petersburg N-21	1000	WSUN	620
Tampa N-22-b	1000	WDAE	1240
	100	WMBR	1370
GEORGIA			
Atlanta K-20-a	250	WGST	890
	1000	WSB	740
Columbus K-20	50	WRBL	1200
Macon K-21	250	WMAZ	890
Savannah	500	WTOC	1250
Tifton	20	WRBI	1310
Toccoa J-21	250	WTFI	1450
HAWAII			
Honolulu	1000	KGU	940
IDAHO			
Boise D-4	1000	KIDO	1250
Idaho Falls, D-7	250	KID	1320
Jerome E-5	50	KFXD	1420
Pocatello E-7	250	KSEI	900
Sand Point	100	KGKX	1420
Twin Falls E-5	250	KGIQ	1320

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	670
	5000	WMBI	1080
	5000	WORD	1480
	500	WPCC	570
	100	WSBC	1210
Cicero	100	WHFC	1500
Decatur G-18	100	WJBL	1200
Evanston E-19	100	WEHS	1500
Forest Park	5000	WSOA	1480
Galesburg F-18-a	100	WKBS	1310
Harrisburg H-18-b	100	WEBQ	1210
Joliet E-19-f	100	WCLS	1310
	100	WKBB	1310
La Salle F-18-d	100	WJBC	1200
Mooseheart E-18-e	20000	WJJD	1130
Peoria Heights G-18	500	WMBD	1440
Quincy G-17	500	WTAD	1440
Rockford E-18-c	500	KFLV	1410
Rock Island F-17-c	100	WHBF	1210
Springfield G-18	100	WCBS	1210
Streator F-18-e	50	WTAX	1210
Tuscola G-19-b	100	WDZ	1070
Urbana G-19-a	250	WILL	890
Zion E-19-c	5000	WCBD	1080

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
Gary F-19	500	WJKS	1360
Hammond F-19	100	WWAE	1200
Indianapolis G-19-c	1000	WFBM	1230
	500	WKBF	1400
La Porte F-19-c	100	WRAF	1200
Marion	50	WJAK	1310
Muncie G-20	50	WLBC	1310
South Bend F-20-a	500	WSBT	1230
Terre Haute G-19	100	WBOW	1310
Valparaiso F-19-b	500	WRBC	1240

IOWA

Ames E-16-c	5000	WOI	560
Boone E-16	100	KFGQ	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
Des Moines F-16-a	5000	WHO	1000
Fort Dodge E-16-a	100	KFJY	1310
Iowa City E-17-b	500	WSUI	600
Marshalltown E-16-d	100	KFJB	1200
Muscatine F-17-b	5000	KTNT	1170
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	WLBF	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
Shreveport K-16	50	KRMD	1310
	1000	KTBS	1450
	100	KTSL	1310
	100	KWEA	1210
	10000	KWKH	850

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

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

Detroit E-21-g	750	WGHP	1240
	5000	WJR	750
	100	WMBC	1420
	1000	WWJ	920
East Lansing E-20-b	1000	WKAR	1040
Flint E-21-a	100	WFDF	1310
Grand Rapids E-20-a	500	WASH	1270
	500	WOOD	1270
Jackson E-20	100	WIBM	1370
Lapeer E-21	100	WMPC	1500
Ludington D-19	50	WKBZ	1500
Royal Oak E-21-e	50	WAGM	1310
Ypsilanti E-21-f	50	WJBK	1370

MINNESOTA

Collegeville C-15	100	WFBJ	1370
Duluth B-17	1000	WEBC	1290
Fergus Falls B-15	50	KGDE	1200
Hallock A-14	50	KGFK	1200
Minneapolis C-16-b	7500	WCCO	810
	1000	WDGY	1180
	500	WGMS	1250
	500	WHDI	1180
	500	WLB	1250
	1000	WRHM	1250
Northfield D-16	1000	KFMX	1250
	1000	WCAL	1250
St. Paul C-16-c	10000	KSTP	1460

MISSISSIPPI

Columbus K-18	500	WCOC	880
Greenville K-17	100	WRBQ	1210
Gulfport M-18	100	WGCM	1210
Hattiesburg L-18	10	WRBJ	1500
Jackson	500	WJDX	1270
Utica L-17	300	WQBC	1360

MISSOURI

Carterville	50	KFPW	1340
Cp. Girardeau H-18-c	100	KFVS	1210
Columbia G-16-b	500	KFRU	630
Independence G-16-c	1000	KMBC	950
Jefferson City H-16-a	500	WOS	630
Joplin H-16	100	WMBH	1420
Kansas City G-15-b	100	KWKC	1370
	1000	WDAF	610
	500	WHB	950
	1000	WOQ	1300
Kirksville F-16-c	15	KFKZ	1200
St. Joseph G-15	2500	KFEQ	560
	100	KGBX	1370
St. Louis H-18-a	5000	KFQA	1090
	500	KFUO	550
	100	KFWF	1200
	5000	KMOX	1090
	500	KSD	550
	1000	KWK	1350
	1000	WEW	760
	100	WIL	1200
	100	WMAY	1200

MONTANA

Billings C-8	500	KGHL	950
Butte C-7	250	KGIR	1360
Great Falls A-8	500	KFBB	1360
Kalispell A-5	100	KGEZ	1310
Missoula B-6	500	KUOM	570
Wolf Point	100	KGCX	1310

NEBRASKA

Clay Center G-14	1000	KMMJ	740
Lincoln F-14-b	5000	KFAB	770
	100	KFOR	1210
	500	WCAJ	590
Norfolk E-14-c	1000	WJAG	1060
Omaha F-15-a	500	WAAW	660
	1000	WOW	590
Ravenna F-13	50	KGFW	1310
York F-13	500	KGBZ	930

NEVADA

Las Vegas	100	KGIX	1420
Reno G-3	100	KOH	1370

NEW HAMPSHIRE

Laconia D-27	100	WKAV	1310
Manchester E-27	500	WBRL	1430

NEW JERSEY

Asbury Park G-26	500	WCAP	1280
Atlantic City G-25	5000	WPG	1100
Camden F-25-f	500	WCAM	1280
Elizabeth F-26-h	250	WIBS	1450
Fort Lee F-26	250	WBMS	1450
Jersey City F-26-d	300	WAAT	1070
	250	WKBO	1450
Newark F-25-h	1000	WAAM	1250
	250	WGCP	1250
	250	WNJ	1450
	5000	WOR	710
Paterson F-26-c	1000	WODA	1250
Red Bank G-26	100	WJBI	1210
Trenton F-25	500	WOAX	1280

NEW MEXICO

Albuquerque	250	KGGM	1230
Raton I-11	50	KGFL	1370
State College K-9	10000	KOB	1180

NEW YORK

Auburn E-24	100	WMBO	1370
Bay Shore F-26-h	100	WINR	1210
Binghamton E-25	50	WNBF	1500
Brooklyn F-26-f	500	WBBC	1400
	250	WCDA	1350
	100	WCLB	1500
	500	WLTH	1400
	100	WMBQ	1500
	500	WSGH	1400
Buffalo E-23-a	100	WEBR	1310
	1000	WGR	550
	5000	WKBW	1470
	1000	WKEN	1040
	750	WMAK	900
	50	WSVS	1370
Canton D-25	500	WCAD	1220
Cazenovia E-25-b	250	WMAC	570
Coney Island F-26	500	WCGU	1400
Freeport F-26-1	100	WGBB	1210
Ithaca E-24-d	500	WEAI	1270
	50	WLCI	1210
Jamaica F-26-f	10	WMRJ	1420
Jamestown E-23-b	25	WOCL	1210
Long Island City F-26	100	WLBX	1500

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
Patchogue	30	WPOE	1420
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 I-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	WAIU	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
Steubenville 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	KQV	1380
	500	WCAE	1220
	1000	WJAS	1290
	100	WMBJ	1500
Reading F-25-d	100	WRAW	1310
Scranton F-25-a	250	WGBI	880
	250	WQAN	880
State College F-24-a	500	WPSC	1230
Washington F-23	100	WNBO	1200
Wilkes-Barre F-25-b	100	WBAX	1210
	100	WBRE	1310

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

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

CANADA

ALBERTA

Calgary	500	CFAC	690
	500	CFCN	690
	500	CHCA	690
	500	CJCJ	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	CNRV	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	CNRQ	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

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.
CJBC580-840-960
Toronto, Ont.
CJBR 960
Regina, Sask.
CJCA 580
Edmonton, Alta.
CJCB 880
Sydney, N.S.
CJCJ 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.
CNRW 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.
KFKX 1020
Chicago, Ill.
KFKZ 1200
Kirksville, Mo.
KFLV 1410
Rockford, Ill.
KFLX 1370
Galveston, Tex.
KFMX 1250
N'thfield, Minn.
KFNF 890
Shenandoah, Ia.
KFOR 1210
Lincoln, Nebr.
KFOX 1250
Long Beach, Cal.
KFPL 1310
Dublin, Texas
KFPM 1310
Greenville, Tex.
KFPW 1340
Carterville, Mo.
KFPY 1340
Spokane, Wash.
KFQA 1090
St. Louis, Mo.
KFQD 1230
Anchorage, Alas.
KFQU 1420
Holy City, Cal.
KFQW 1420
Seattle, Wash.
KFQZ 860
Hollywood, Cal.
KFRC 610
San F'ncisco, Cal.
KFRU 630
Columbia, Mo.
KFSD 600
San Diego, Cal.
KFSG 1120
Los Angeles, Cal.
KFUL 1290
Galveston, Tex.
KFUM 1270
Col. Spgs., Colo.
KFUO 550
St. Louis, Mo.
KFUP 1310
Denver, Colo.
KFVD 1000
Culver City, Cal.
KFVS 1210
Cape Gir'rd'u,Mo
KFWB 950
Hollywood, Cal.
KFWF 1200
St. Louis, Mo.
KFWI 930
San F'ncisco,Cal.
KFWM 930
Oakland, Cal.
KFXD 1420
Jerome, Idaho
KFXF 630
Denver, Colo.
KFXJ 1310
Edgewater, Colo.
KFXM 1200
San Ber'd'no, Cal.
KFXR 1310
Oklahoma City
KFXY 1420
Flagstaff, Ariz.
KFYO 1420
Abilene, Texas

KFYR 550
Bismarck, N.D.
KGA 1470
Spokane, Wash.
KGAR 1370
Tucson, Ariz.
KGB 1330
San Diego, Cal.
KGBU 900
Ketchikan, Al'ka
KGBX 1370
St. Joseph, Mo.
KGBZ 930
York, Nebr.
KGCA 1270
Decorah, Iowa
KGCI 1370
San Ant'nio, Tex.
KGCR 1210
Watertown, S.D.
KGCU 1200
Mandan, N.D.
KGCX 1310
Wolf P't, Mont.
KGDA 1370
Dell Rapids, S.D.
KGDE 1200
Ferg's F'lls, Minn
KGDM 1100
Stockton, Cal.
KGDR 1500
San Antonio, Tex.
KGDY 1200
Oldham, S.D.
KGEF 1300
Los Angeles, Cal.
KGEK 1200
Yuma, Colo.
KGER 1360
Long Beach, Cal.
KGEW 1200
Ft. Morgan, Colo.
KGEZ 1310
Kalispell, Mont.
KGFF 1420
Alva, Okla.
KGFG 1370
Oklahoma City
KGFI 1500
C'pus Ch'sti,Tex.
KGFJ 1200
Los Angeles, Cal.
KGFK 1200
Hallock, Minn.
KGFL 1370
Raton, N. M.
KGFW 1310
Ravenna, Nebr.
KGFX 580
Pierre, S.D.
KGGC 1420
SanF'ncisco, Cal.
KGGF 1010
Picher, Okla.
KGGM 1230
Alb'q'rque, N.M.
KGHF 1320
Pueblo, Colo.
KGHG 1310
McGehee, Ark.
KGHI 1200
Little Rock, Ark.
KGHL 950
Billings, Mont.
KGHX 1500
Richmond, Tex.

KGIQ 1320
Twin Falls, Ida.
KGIR 1360
Butte, Mont.
KGIW 1420
Trinidad, Colo
KGIX 1420
Las Vegas, Nev.
KGJF 890
Little Rock, Ark.
KGKB 1500
Brownwood, Tex.
KGKL 1370
San Angelo, Tex.
KGKO 570
Wichita Flls, Tex.
KGKX 1420
Sand Point, Ida.
KGO 790
Oakland, Cal.
KGRC 1370
San Antonio, Tex.
KGRS 1410
Amarillo, Texas
KGU 940
Honolulu, Hawaii
KGW 620
Portland, Ore.
KGY 1200
Lacey, Wash.
KHJ 900
Los Angeles, Cal.
KHQ 590
Spokane, Wash.
KICK 1420
Red Oak, Iowa
KIB 1320
Idaho Falls, Ida.
KIDO 1250
Boise, Idaho
KIT 1370
Yakima, Wash.
KJBS 1070
San F'ncisco, Cal.
KJR 970
Seattle, Wash.
KLCN 1290
Blytheville, Ark.
KLO 1370
Ogden, Utah
KLPM 1420
Minot, N. Dak.
KLRA 1390
Little Rock, Ark.
KLS 1440
Oakland, Cal.
KLX 880
Oakland, Cal.
KLZ 560
Dupont, Colo.
KMA 930
Shenandoah, Ia.
KMBC 950
Indep'd'nce, Mo.
KMED 1310
Medford, Ore.
KMIC 1120
Inglewood, Cal.
KMJ 1210
Fresno, Cal.
KMMJ 740
Clay Ctr., Nebr.
KMO 1340
Tacoma, Wash.
KMOX 1090
St. Louis, Mo.

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'ncisco, 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'ncisco, 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.
WBAK 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.
WBBR 1300
Rossville, N. Y.
WBBY 1200
Charleston, S.C.
WBBZ 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'l'yH'ls,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.
WCOC 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.
WDGY 1180
Minneap., Minn.
WDOD 1280
Chattan'ga, Tenn
WDRC 1330
N. Haven, Conn.
WDSU 1250
New Orleans, La.
WDWF 1210
Cranston, R.I.
WDZ 1070
Tuscola, Ill.
WEAF 660
New York City
WEAI 1270
Ithaca, N.Y.
WEAN 780
Providence, R.I.
WEAO 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
Schnec'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 Memphis, Tenn.
WHBU 1210 Anderson, Ind.
WHBY 1200 W. De Pere, Wis.
WHDF 1370 Calumet, Mich.
WHDH 830 Gloucester, Mass.
WHDI 1180 Minneap., Minn.
WHDL 1420 TupperLake,N.Y.
WHEC 1440 Rochester, N.Y.
WHFC 1500 Cicero, Ill.
WHIS 1420 Bluefield, W.Va.
WHK 1390 Cleveland, Ohio
WHN 1010 New York City
WHO 1000 Des Moines, Ia.
WHP 1430 Harrisburg, Pa.
WIAS 1420 Ottumwa, Iowa
WIBA 1210 Madison, Wis.
WIBG 930 Elkins Park, Pa.
WIBM 1370 Jackson, Mich.
WIBO 570 Chicago, Ill.
WIBR 1420 Steubenville, O.
WIBS 1450 Elizabeth, N.J.
WIBU 1310 Poynette, Wis.
WIBW 580 Topeka, Kansas
WIBX 1200 Utica, N.Y.
WICC 1190 Bridgeport, Conn.
WIL 1200 St. Louis, Mo.
WILL 890 Urbana, Ill.
WILM 1420 Wilmington, Del.
WINR 1210 Bay Shore, N.Y.
WIOD 1120 Miami Bch., Fla.
WIP 610 Philadelphia, Pa.
WISN 1120 Milwaukee, Wis.
WJAC 1310 Johnstown, Pa.
WJAD 1240 Waco, Texas
WJAG 1060 Norfolk, Nebr.
WJAK 1310 Marion, Ind.
WJAR 890 Providence, R.I.
WJAS 1290 Pittsburgh, Pa.

WJAX 900 Jacksonville, Fla.
WJAY 620 Cleveland, Ohio
WJAZ 1480 Chicago, Ill.
WJBC 1200 La Salle, Ill.
WJBI 1210 Red Bank, N.J.
WJBK 1370 Ypsilanti, Mich.
WJBL 1200 Decatur, Ill.
WJBO 1370 New Orleans, La.
WJBT 770 Chicago, Ill.
WJBU 1210 Lewisburg, Pa.
WJBW 1200 New Orleans, La.
WJBY 1210 Gadsden, Ala.
WJDW 1370 Emory, Va.
WJDX 1270 Jackson, Miss.
WJDZ 1310 Winst.-Sal., N.C.
WJJD 1130 Mooseheart, Ill.
WJKS 1360 Gary, Ind.
WJR 750 Detroit, Mich.
WJSV 1460 Mt.Vern.H'ls,Va.
WJW 1210 Mansfield, Ohio
WJZ 760 New York City
WKAQ 890 San Juan, P.R.
WKAR 1040 E. Lansing, Mich.
WKAV 1310 Laconia, N.H.
WKBB 1310 Joliet, Ill.
WKBC 1310 Birmingham, Ala.
WKBF 1400 Indianapolis, Ind.
WKBH 1380 La Crosse, Wis.
WKBI 1500 Chicago, Ill.
WKBN 570 Youngstown, O.
WKBO 1450 Jersey City, N.J.
WKBP 1420 Battle Crk., Mich
WKBQ 1350 New York City
WKBS 1310 Galesburg, Ill.
WKBV 1500 Brookville, Ind.
WKBW 1470 Buffalo, N.Y.
WKBZ 1500 Ludington, Mich.
WKEN 1040 Grand Isl'd, N.Y.

WKJC 1200 Lancaster, Pa.
WKRC 550 Cincinnati, O.
WKY 900 Oklahoma City
WLAC 1490 Nashville, Tenn.
WLAP 1200 Louisville, Ky.
WLB 1250 Minneap., Minn.
WLBC 1310 Muncie, Ind.
WLBF 1420 Kansas City, Ks.
WLBG 1200 Ettrick, Va.
WLBL 900 Stevens Pt., Wis.
WLBW 1260 Oil City, Pa.
WLBX 1500 L.I.City, N.Y.
WLBZ 620 Bangor, Me.
WLCI 1210 Ithaca, N.Y.
WLEX 1360 Lexington, Mass.
WLEY 1420 Lexington, Mass.
WLIT 560 Philadelphia, Pa.
WLOE 1500 Boston, Mass.
WLS 870 Chicago, Ill.
WLSI 1210 Cranston, R.I.
WLTH 1400 Brooklyn, N.Y.
WLW 700 Cincinnati, Ohio
WLWL 1100 New York City
WMAC 570 Cazenovia, N.Y.
WMAF 1360 S.D'rtm'th,Mass.
WMAK 900 Buffalo, N.Y.
WMAL 630 Washington, D.C.
WMAN 1210 Columbus, Ohio
WMAQ 670 Chicago, Ill.
WMAY 1200 St. Louis, Mo.
WMAZ 890 Macon, Ga.
WMBA 1500 Newport, R.I.
WMBC 1420 Detroit, Mich.
WMBD 1440 Peoria Hghts., Ill.
WMBG 1210 Richmond, Va.
WMBH 1420 Joplin, Mo.
WMBI 1080 Chicago, Ill.
WMBJ 1500 Pittsburgh, Pa.

WMBL 1310
Lakeland, Fla.
WMBO 1370
Auburn, N.Y.
WMBQ 1500
Brooklyn, N.Y.
WMBR 1370
Tampa, Fla.
WMC 780
Memphis, Tenn.
WMCA 570
New York City
WMES 1500
Boston, Mass.
WMMN 890
Fairmont, W.Va.
WMPC 1500
Lapeer, Mich.
WMRJ 1420
Jamaica, N.Y.
WMSG 1350
New York City
WMT 600
Waterloo, Iowa
WNAC 1230
Boston, Mass.
WNAD 1010
Norman, Okla.
WNAT 1310
Philadelphia, Pa.
WNAX 570
Yankton, S.D.
WNBF 1500
Bingh'mt'n, N.Y.
WNBH 1310
NewB'df'd, Mass.
WNBJ 1310
Knoxville, Tenn.
WNBO 1200
Washington, Pa.
WNBR 1430
Memphis, Tenn.
WNBW 1200
Carbondale, Pa.
WNBX 1200
Springfield, Vt.
WNBZ 1290
SaranacL'ke,N.Y.
WNJ 1450
Newark, N.J.
WNOX 560
Knoxville, Tenn.
WNRC 1440
Greensboro, N.C.
WNYC 570
New York City
WOAI 1190
San Antonio, Tex.
WOAN 600
Law'nceb'g, Tenn
WOAX 1280
Trenton, N.J.
WOBT 1310
Union City,Tenn.
WOBU 580
Charlest'n, W.Va.
WOC 1000
Davenport, Iowa
WOCL 1210
Jamestown, N.Y.
WODA 1250
Paterson, N.J.
WOI 560
Ames, Iowa
WOKO 1440
P'ghkeepsie, N.Y.

WOL 1310
Washington, D.C.
WOMT 1210
Manitowoc, Wis.
WOOD 1270
Gr. Rapids, Mich.
WOPI 1500
Bristol, Tenn.
WOQ 1300
Kansas City, Mo.
WOR 710
Newark, N. J.
WORC 1200
Worcester, Mass.
WORD 1480
Chicago, Ill.
WOS 630
Jeff's'n City, Mo.
WOV 1130
New York City
WOW 590
Omaha, Nebr.
WOWO 1160
Ft. Wayne, Ind.
WPAP 1010
New York City
WPAW 1210
Pawtucket, R.I.
WPCC 570
Chicago, Ill.
WPCH 810
New York City
WPEN 1500
Philadelphia, Pa.
WPG 1100
Atl'ntic City,N.J.
WPOE 1420
Patchogue, N.Y.
WPOR 780
Norfolk, Va.
WPSC 1230
State College, Pa.
WPTF 680
Raleigh, N.C.
WQAM 560
Miami, Fla.
WQAN 880
Scranton, Pa.
WQAO 1010
New York City
WQBC 1360
Utica, Miss.
WQBZ 1420
Weirton, W. Va.
WRAF 1200
La Porte, Ind.
WRAK 1370
Erie, Pa.
WRAW 1310
Reading, Pa.
WRAX 1010
Philadelphia, Pa.
WRBC 1240
Valparaiso, Ind.
WRBI 1310
Tifton, Ga.
WRBJ 1500
Hattiesburg,Miss.
WRBL 1200
Columbus, Ga.
WRBQ 1210
Greenville, Miss.
WRBT 1370
Wilmington,N.C.
WRBU 1210
Gastonia, N.C.

WRC 950
Washington, D.C.
WREC 600
Memphis, Tenn.
WREN 1220
Lawrence, Kans.
WRHM 1250
Minneap., Minn.
WRJN 1370
Racine, Wis.
WRK 1310
Hamilton, Ohio
WRNY 1010
New York City
WRR 1280
Dallas, Texas
WRUF 830
Gainesville, Fla.
WRVA 1110
Richmond, Va.
WSAI 1330
Cincinnati, Ohio
WSAJ 1310
Grove City, Pa.
WSAN 1440
Allentown, Pa.
WSAR 1450
Fall River, Mass.
WSAZ 580
Hunt'gton, W.Va.
WSB 740
Atlanta, Ga.
WSBC 1210
Chicago, Ill.
WSBT 1230
South Bend, Ind.
WSGH 1400
Brooklyn, N.Y.
WSIX 1210
Springfield, Tenn.
WSJS 1310
Winst.-Sal., N. C.
WSM 650
Nashville, Tenn.
WSMB 1320
New Orleans, La.
WSMK 1380
Dayton, Ohio
WSOA 1480
Forest Park, Ill.
WSPD 1340
Toledo, Ohio
WSSH 1420
Boston, Mass.
WSUI 600
Iowa City, Ia.
WSUN 620
St. Petersb'g, Fla.
WSVS 1370
Buffalo, N.Y.
WSYR 570
Syracuse, N.Y.
WTAD 1440
Quincy, Ill.
WTAG 580
Worcester, Mass.
WTAM 1070
Cleveland, Ohio
WTAQ 1330
Eau Claire, Wis.
WTAR 780
Norfolk, Va.
WTAW 1120
College Sta., Tex.
WTAX 1210
Streator, Ill.

WTBO 1420 Cumberland, Md.	**WWRL** 1500 Woodside, N.Y.	**XEX** 920 Mexico City
WTFI 1450 Toccoa, Ga.	**WWVA** 1160 Wheeling, W.Va.	**XEY** 550 Merida, Yucatan
WTIC 1060 Hartford, Conn.	**XEA** 1200 Guadalajara, Jal.	**XFA** 540 Mexico City
WTMJ 620 Milwaukee, Wis.	**XEB** 670 Mexico City	**XFC** 630 Jalapa, Ver.
WTNT 1490 Nashville, Tenn.	**XEE** 960 Pueblo, Pue.	**XFF** 920 Chihuahua, Chih.
WTOC 1250 Savannah, Ga.	**XEF** 1130 Oaxaca, Oax.	**XFG** 640 Mexico City
WWAE 1370 Hammond, Ind.	**XEH** 970 Monterey, N.L.	**XFI** 590 Mexico City
WWJ 920 Detroit, Mich.	**XEI** 1000 Morelia, Mich.	**XFX** 840 Mexico City
WWL 850 New Orleans, La.	**XEN** 730 Mexico City	
WWNC 570 Asheville, N. C.	**XES** 1200 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 XBH		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	500
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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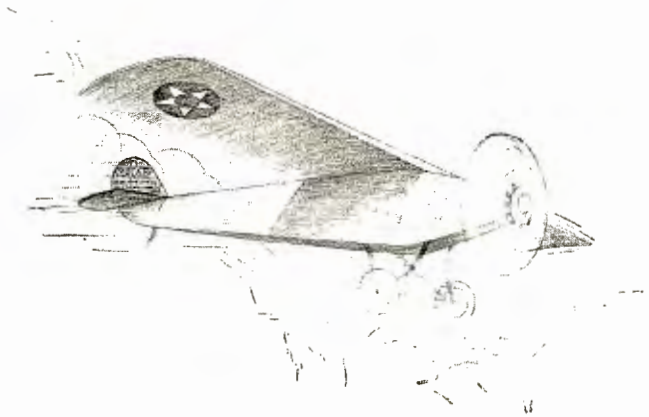

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If desired, the 210 Power Amplifier will also supply 22, 67 and 90 volts "B" current, sufficient for any set using up to 8 tubes. An automatic voltage regular tube, UX-874, maintains the "B" voltage silent and steady. This Electro-Dynamic Reproducer can be used with any battery or A.C. set, replacing the last audio stage or be used with all tubes of the set. Wherever used it will bring out every shading and range of tone; every note is reproduced with utmost faithfulness, pure and undistorted. It will modernize any radio receiver.

The following tubes are required for its operation: 2-UX-281 (for full-wave rectification); 1-UX-210 (for super power amplification); 1-UX-874 (for voltage regulation). For use with phonograph pick-up, one additional audio stage is recommended between the pick-up and this Reproducer.

A 20-ft. cable is included with each instrument. Operates direct from 50-60 cycle, 110-120 volt A.C. current.

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