Easy Methods of Making Receivers Selective; CHNC, Toronto, in Photos; Preventing Troubles in Radio Reception; DX English Circuit Hears U. S.

Radio Digest

EVERY WEEK **PROGRAMS Illustrated** TEN CENTS

REG. U. S. PAT. OFF. & DOM. OF CANADA

Vol. XIV

SATURDAY, AUGUST 29, 1925 No. 8

REDS BUILD BIG STATION

SUPERPOWER TEST AROUSES INTEREST

FANS DIFFER ON RESULTS, EXPECTING A MIRACLE

Wave Length Very Sharp; Loud Speaker Volume on Coast; Other Features

it to beir "i in G SCHENECTADY.—Tests by WGY of bro henectady, on superpower up to 50 kilo- atts brought thousands of letters from nterested fans in every part of the coun- ry and engineers are now engaged in a thorough analysis of these reports in the hope of arriving at some constructive conclusions.

The tests were conducted on three nights, Saturday, Tuesday and Thursday, July 25, 28 and 30. Special programs from the studio of WGY were transmitted on the experimental license 2XAG, on the 50 kilowatts transmitter at the developmental transmitter laboratory of the General Electric company and listeners were asked to report on quality and volume of signal.

Reports were received from as far west as California, but the great mass of letters came from listeners in the New England and southern states.

Goes Through Static

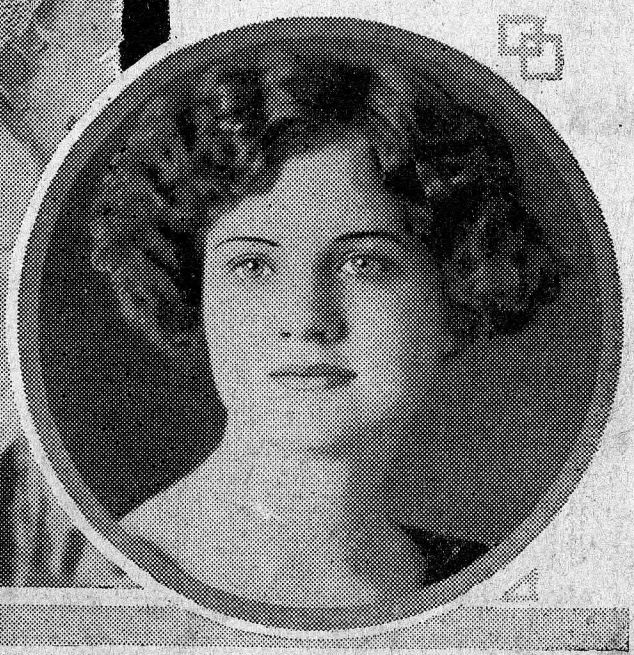
Dr. S. G. Berry of Tyndall, South Dakota, reported successful reception through static, stating that WGY was the first station he had heard east of Chicago for over five weeks.

From Berwyn, Md., came word that the station had been received on a crystal set. J. H. Blinn of San Francisco, picked up the Saturday night signals clearly. From John M. Erdis of San Anselmo, California, came word that he had received 2XAG with loud speaker, volume equal to that of local reception.

These are a few of the correspondents who reported successful reception. It does not follow that all were favorable. Some, but they were in the minority, could find no improvement in signal, in fact a few thought the power seemed less.

None of the letters reported that any difficulty was experienced in tuning out WGY's high-powered wave and this, from a superficial review of the letters, is one of the most outstanding features of the reports. Even in Schenectady, within four miles of the transmitter owners of

(Continued on page 2)



The haughty, beautiful lady wearing the Spanish shawl is Evelyn Herbert, appearing in the "Love Song" in New York and broadcasting from WEAF Monday evenings. In the corner is Helen Banta, a brilliant pianist heard from Station WDAF.

EUROPE FEARS COMMUNISTIC MISUSE OF AIR

Prepares Counterattack

Should Bolsheviks Attempt Propaganda Broadcast, Germany Plans to Jam Ether

LONDON.—Enormous interest has been created here and all over Europe by the proposal of the Radio experts of Soviet Russia to erect a broadcasting station that will be the most powerful in the world.

It is feared that it will be used for carefully veiled Communist propaganda in the form of a "news" service. The service could be picked up by crystal set owners in most parts of western Europe, but the danger is that millions of listeners in Britain would be unable to hear anything else, as the Russian station could jam out the British Broadcasting company's stations. In fact, most of the stations in Europe could be made ineffective.

Germany Plans Jamming Plant

Bolshevist propaganda can be suppressed when it comes through the post, but how can it be dealt with when it comes through the air? This is the problem the possibilities of the new station suggest.

Where would an attempt to jam out the Soviet station lead? The Herzostrand station (Bavaria), originally erected for Morse transmissions, is being converted

(Continued on page 2)

WEAF CHIEF NEARS 100,000 VOTE MARK

G. D. HAY REGAINS SECOND IN GOLD CUP AWARD

Final Votes Pour in; August 29, Midnight, Is Closing Date; Hurry, Hurry, Hurry!

Although the last ballot has been printed in the 1925 Gold Cup Best Announcer Award and the contest is rapidly drawing to a close, it is still impossible to even guess at the name of the winner the way the votes are pouring in for every one of the sixteen present leaders. Although Graham McNamee of WEAF is still in the lead and seems to have a goodly number of votes between him and the second man, George D. Hay of WLS, it is possible for any one of several contestants to replace the top man by the reception in this office of a large enough bag of mail.

Last week George Hay, who held down the first place in the early days of the race and who was voted the best announcer in 1924, was displaced by Henry Field of KFNF, who broke the records for votes received in any one week. Now we find George back in the runner-up billet with exactly 2,000 more votes than Henry has to his credit. "The Solemn Old Judge's" friends are fighting hard to keep him above Field, and their fight is apt to develop enough force to shove him over the top. At the same time the mail from the corn belt continues to add to the total of the Shenandoah seed king. While Hay's votes have mounted up in a steady manner throughout the contest, Field's supporters have been holding them and taking every advantage of the bonus system. This leads us to believe that we might expect an eleventh hour avalanche that will help Henry considerably.

And McNamee Still Leads

Chain station fans in the East are right behind McNamee of the chief station, and if they continue their backing Mac should be very prominent among those present when the final list is published in the September 12 issue.

Other than the Hay-Field shift, the standings of the upper half of the list of leaders remains the same this week. Rouse, Lane, Hired Hand, Arlin and Fitzpatrick all gained in their vote totals and held their places. Down in ninth place Lambdin Kay only added fourteen to his list, but managed to stay in the second division lead due to the slow headway made by those beneath him.

Barnett Comes Back

The other boys in the second half of the leaders' list had a merry time swapping positions during the week. Bill Hay dropped two notches, as did N. D. Cole and O. E. Becker, who toppled off into the great open spaces below the superior sixteen. Stanley Barnett came up from the depths to again take position with the leaders. Many fans who realize that their favorite's chances of winning the cup are very slim are determined that they will at least receive the certificate of popularity awarded to the fifteen runners-up.

Charles Erbstein, the boss of WTAS, is once more in the thirteenth chair, the spot he held for several weeks previous to his one notch drop of last week.

August 29 Is Deadline

And now, remember, the last chance you have to get your votes in on this contest will be at midnight of August 29, the day indicated by the date line at the top of this page. Don't forget to mail them early enough to have them reach the Radio Digest office by midnight. The Gold Cup editor and his assistants will be on hand during the closing hours to count the votes as the mail man delivers them, so that it will be possible to announce the final result in the September 12 issue. In the meantime, we will prepare a list of standings for the September 5 edition and you will thus be enabled to look over our shoulder as we count and see how things are coming. Do not fail to read the "How to Vote" paragraph published below the list of standings so that there will be no possibility of your votes failing to give your favorite the utmost help.

The below standings are NOT FINAL. They show the positions of the sixteen leaders at the present writing.

Position	Name and Station	Votes
1.	Graham McNamee, WEAF	91,122
2.	George D. Hay, WLS	57,603
3.	Henry Field, KFNF	55,603
4.	Gene Rouse, WOAW	45,463
5.	Frank S. Lane, KFRU	23,204
6.	Hired Hand, WBAP	21,689
7.	H. W. Arlin, KDKA	15,827
8.	Leo. Fitzpatrick, WDAF	10,216
9.	Lambin Kay, WSB	6,638
10.	Robert Emery, WEEI	6,546
11.	Jerry Sullivan, WQJ	6,465
12.	W. G. (Bill) Hay, KFKX	6,394
13.	Charles Erbstein, WTAS	5,932
14.	N. Dean Cole, WHO	5,724
15.	John Daggett, KHJ	5,436
16.	Stanley Barnett, WOC	5,070

How to Vote and Get Bonus

Don't miss a single ballot, for when these are turned into Radio Digest in a group of CONSECUTIVE numbers, extra bonus votes are allowed the announcer for whom you are voting.

The ballots, numbered consecutively, appeared in each issue of the Radio Digest until the close of the Contest, with the August 22 number.

Each of these ballots will count for one vote when sent in separately. You can hold these ballots until you have 4 that are consecutively numbered, and when they are sent in a bonus of 8 votes will be allowed for your favorite announcer.

For each 8 consecutively numbered ballots your candidates will receive a bonus of 20 votes. For each 12 consecutively numbered ballots, 30 votes. For each 16 consecutively numbered ballots, 40 votes. For each 20 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 60 votes bonus will be allowed.

Send ballots to the GOLD CUP AWARD EDITOR, Radio Digest, 510 N. Dearborn street, Chicago.

TRY SUPERPOWER USE

(Continued from page 1)

selective sets reported WGY's wave so sharp that it could be tuned out at will in favor of middle western stations then on the air.

Some Are Disappointed

One facetious listener reported that he had connected the superpower to the family washing machine and had done the wash for the week.

From many of the letters it was apparent that the observers had expected to be literally knocked from their chairs by the high power and were somewhat disappointed that something of that sort did not occur.

Practically all, however, requested that further tests be made that more observations might be recorded. These requests came, especially, from eastern listeners who are anxious that the tests be put on at an earlier hour when it will be possible to draw comparisons of reception with other nearby stations. To avoid any possible air "jumping" the General Electric engineers selected the late hour but at midnight practically the only stations on the air are those of the middle west.

REDS BUILD BIG PLANT

(Continued from page 1)

to telephony and the power increased to 100 kilowatts—the same as the Russian station. Germany does not mean to be caught napping. The slightest attempt on the part of Moscow to broadcast propaganda will see Herzostrand at full power. These stations will then jam the ether for thousands of miles.

France and Spain, for their own protection, would have to jam, too, and in the end British stations would be smothered unless their power were enormously multiplied to meet the situation. Daventry, the new B. B. C. high-power station, could be used for jamming purposes, but such a process would not only blanket S. O. S. signals from ships, but would bring all the commercial telegraph services to a standstill.

Geneva Bureau Powerless

The International bureau at Geneva in control of the allocation of wave lengths is powerless to deal with the menace from Moscow. Germany is increasing the strength of the station at Munich, and thousands of crystal set owners in southeast England may find themselves cut off from the B. B. C.

Captain P. P. Eckersley, chief engineer of the B. B. C., says it would have to be a deliberate attempt for the Russian station to interfere with broadcasting in England. If and when constructed the International bureau will allocate it a wave length that will not interfere with other stations. The bureau, however, is powerless to enforce acceptance of such wave length.

CONTENTS

Radio Digest, Illustrated, Volume XIV, Number 8, published Chicago, Illinois, August 29, 1925. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Foreign Postage One Dollar additional; single copies Ten Cents. Entered as second class matter at the post office at Chicago, Illinois, under the Act of March 3, 1879.

Looking Ahead

The Station Feature Page this week tells of a station up in Canada, so next week we are going to jump way down South to tell you all about WSMB, New Orleans, in word and picture.

The Last List of the Preliminary Standing of the sixteen most popular announcers in the 1925 Gold Cup Award to be published before the final and winner designating list, will appear next week. Look to see if your favorite is running well in the last hours of the race.

Improvements on Your Five Tube Set and suggestions to set builders contemplating building new five tube sets, will be outlined by John G. Ryan in his next article telling how to gain selectivity and efficiency. Don't miss this! You'll need the information this winter when the congestion sets in.

There Is More to a B Battery Than Merely the Name.—Too many uninitiated fans blame their sets for poor performance when the trouble is only that their B batteries need a little attention. Read next week, in the simple and easily understood terms of James McDonald, about storage B batteries, and also, minor mechanical defects in set parts.

"Cascade" Amplification May Be a New Word to many of you, but this type of amplification is in use in every radio frequency and audio frequency set. How tubes amplify in "cascade" will be the next A-B-C article by Professor Moreton.

TOM McNAMARA TO TEACH GAME BY AIR

FAMOUS FOOTBALL COACH WILL GIVE BOYS HINTS

KOA Series to Cover Entire Feld of Gridiron Sports Starting August 31

DENVER.—Eyes of the sporting world will be focused on Denver next Monday evening, August 31, when Tom McNamara, nationally famous gridiron star, coach and sport writer, is presented to KOA's international audience as the first nationally-known Radio football coach to appear before the microphone of a superpower broadcasting station.

Tom McNamara

His introduction will be the opening signal for a tri-weekly series of football instructions which are to be continued by the Rocky Mountain broadcasting station of the General Electric company throughout the season.

These discussions, which are prepared for college and high school players together with parents and athletic instructors, will be heard every Monday, Wednesday and Friday evening at 8 o'clock. They will require less than ten minutes each.

McNamara's Record

McNamara, who is head coach of Regis college at Denver, was a star backfield player at Fordham university; was a member of the coaching and scouting staff at the University of Pennsylvania four years and in 1924 gained wide prominence when Pennsylvania's defense built upon his scouting reports, turned back Coach Moran's famous Centre college team. Outstanding of the big eastern teams whic McNamara has scouted, include Nav Pittsburgh, Lafayette, Penn State a Cornell.

Also, he has won a national followin as the author of a series of articles o football and basket ball which have bee featured by the Public Ledger syndicate.

"To help listeners understand the basic principles of football—the offense and defense—is my aim as Radio coach for KOA," McNamara declared. "In addition, I hope to explain in simple language, the fundamental physical movements which are necessary if one is to play the game scientifically."

Series Embraces Many Subjects

Features of the McNamara Radio series include dieting, physical fitness, mental attitude, confidence, fundamentals, offense and defense, drills, line play, suggestions for guards and centers, backfield plays, how to tackle, signals, forward passes and the like.

"It is my intention," McNamara continued, "to outline briefly some points which have proven beneficial in obtaining the utmost from players."

Next Monday's discussion will be addressed to parents and is designed to seek encouragement for boys who enter the game.

"Because of many rest periods, football cannot be called a game of endurance," Coach McNamara said. "Seldom do boys play until they are exhausted. Above all, football aims at the highest goal of all sports for American youth—the development of health, character and the spirit of fair play."

Broadcast Receptor Service Is Latest Radio Business

INDIANAPOLIS.—The Broadcast Receptor Entertainment Service has been formed here to provide special service for party dances, dinners, conventions, luncheon and social clubs, civic, fraternal and political organizations, etc., desiring to receive Radio broadcast program for either information or entertainment, where it is necessary that many persons should be able to "listen in" on a large scale to a given program through a loud speaker, with sufficient volume to fill a large size hall or auditorium. Radio programs received over a twelve tube superheterodyne, will be greatly amplified over special power and loud speaker equipment using high tube and plate voltage, and will be temporarily installed in any hall for every occasion.

The service was formed and is operated by a father and two sons, A. Jarvis Allen and Morrow J. Allen. A. J. Allen, Sr., the consulting engineer of the trio, is publicity chairman and charter member of the Broadcast Listeners' association of Indianapolis which he helped organize last January. The organization today has 1,025 members and expects to add 5,000 more members by next winter and 20,000 by next year.

RUGBY PLANT BEST, SAYS WM. DUBILIER

BELIEVES ORDINARY TALK OVERSEAS COMING SOON

New York City Conditions Worse Than Those in London Radio, He Says

LONDON.—A short man with wide-set eyes, high forehead, dark frizzy hair and a soft, musical voice has just arrived here from America—William Dubilier, the famous inventor of the mica condenser which displaced the Leyden jar. He is little less responsible for the miracle of Radio progress than Marconi himself.

Just before the war he offered his invention to America, to Germany, to Russia. They refused it. But Sir Henry Norman and the British Imperial Radio telegraph committee took up Dubilier. Now at the huge station being constructed by the general post office at Rugby, England, the world's largest bank of condensers has been installed.

"The Rugby transmitting station," declared Mr. Dubilier in an interview, "will be the most powerful, most perfect station in the world. In two years time I expect to be able to pick up an ordinary telephone and speak to New York, Capetown or Australia with Rugby's aid. These telephonic conversations will be secret because of a variation of wave lengths which we call 'scrambled' waves."

English Conditions Best

Questioned as to his opinion on English Radio conditions as compared with those existing in America, he said:

"Conditions in New York city are intolerably worse than those of London. More broadcasting stations are being called for in London. That was the cry in New York also at one time. Now those who were so anxious for more stations and more variety of program are suffering from their own demands. The multiplicity of stations jammed so close make it practically impossible for the amateur to tune in to any one and listen without being subject to interference from others.

"I should not like to see this happen in Great Britain. I am certain that good broadcasting is the key not only to international amity, but world peace."

Frisco Gets Initial High-Powered Plant

KPO Has Novel Arrangement for New Studios

SAN FRANCISCO. — San Francisco's first high-power broadcasting station went on the air this month when Station KPO, Hale brothers and The Chronicle, dedicated its new 4,000-watt transmitter which replaced the old 500-watt equipment.

Of special interest to listeners are the studios, one housing the great KPO organ with sufficient room to accommodate a ninety-piece band or symphony orchestra and a secondary studio for solo and smaller ensemble broadcasting. A novel feature of the arrangement is the placing of the announcer at a permanent post between the two studios and with a personal microphone. This enables him to announce the programs of either studio without leaving his post to speak before the microphones of either room. Both studios are equipped with numerous microphone leads and each have several microphones insuring perfect "pickup" of all the various instruments or voices of a group of artists.

Cosmo Hamilton Believes in Drama Broadcasting

SCHENECTADY, N. Y.—Several weeks ago, before his return to England to direct the production of his play, "The Silver Fox," Cosmo Hamilton gave the WGY players permission to produce four of his plays. Two of these, "The Silver Fox" and "Scandal," have been put on the air already by WGY.

No playwright has taken a greater interest in the Radio drama and its possibilities than Mr. Hamilton, the Englishman whose productions are so well known on the American stage. He has given a series of talks on "Unwritten History" from a New York station and the response which he received from these efforts partly accounts for his early interest in Radio.

Thousand Hours on Air Is Nearly Record for WSAI

CINCINNATI.—Nearly one thousand hours of music, entertainment, education and diversion in a year, is the record of the United States Playing Card company's station, WSAI, here. During the summer period WSAI is maintaining a fifteen-hour-a-week schedule.

BIRD OUT "TWEETS" WHISTLER—WINS!

BRISTOL, Conn. — "Tweet-Tweet," came the whistle solo of Althea Tibbetts over the Radio from WBZ to the home of Wallace Miller here. "Tweet-Tweet-Tweet," answered Mr. Miller's canary awakening from a sound snooze on his perch. "Tweet-tweet-tweet," continued Miss Tibbetts. "Tweet-tweet-tweet and a lot of more tweets," the bird returned in a challenging spirit, and Miss Tibbetts continued until the end of the solo and the bird continued far into the night, thus gaining the decision of the judges in this unique tweeting contest.

RADIO DRINKS STYLE AT DENVER FOUNTS

GROWING popularity for Radio during hot weather is further attested by the introduction of new thirst quenchers on the soft drink market which are identified solely by Radio terms. If you're an experimenter with beverages you'll be asked to sample "static punch," "ether shorts," or "antenna sundaes," at one counter. The manager at a second counter reports a land office business in "Radio specials," while a third advises that "KOA delights" are the biggest sellers. These drinks consist of a little bit of everything.

CHICAGO LOVES THESE THREE

When Grace Wilson, top, sings "Bringin' Home the Bacon" in her manlike voice from WLS, the Sears-Roebuck statio: at Chicago, fans gather a little closer to the loud speaker and shout "Hello, Grace!" She is a regular favorite of the WLS family. The Lucas Sisters, lower, make up Chicago's youngest harmony duo and they are heard each week on the WIBO Thursday midnight jamboree from the Nelson Brothers, Russo-Fiorito orchestras studio.

New Stations

Two stations are increasing their power this week. KFOA, Rhodes department store, Seattle, Wash., which has been operating on 500 watts, opens with 1,000 watts Saturday night, September 5. WENR, All-American Radio corporation, which has been getting out unusually well on 100 watts, goes on the air August 29 with a new 1,000-watt equipment.

WGBU was dividing time with WMBF, but now has an independent wave of 278.

Two new commercial class A stations were licensed this week, KFWU, Pineville, La., 100 watts, 238 meters, and KFWV, Portland, Ore., 5 watts, 212.6 meters.

KMA are the call letters of the new Shenandoah, Ia., station owned by the May Seed & Nursery company. This is a 500-watt set using 252 meters.

Shut-Ins Have Program to Banish Weary Afternoons

CHICAGO.—One of the features of Radio entertainment here is the daily afternoon popular program for shut-ins from WIBO, the Nelson Brothers Bond and Mortgage company, and the Russo and Fiorito orchestras plant. From 2 to 4 p. m. each afternoon Chicago's Uptown Radio station broadcasts a special program for the unfortunates, the shut-ins, who cannot get out on the beautiful afternoons, but spend all of their time at the Radio. Upon the opening of WIBO, Harry Geise, director and announcer, conceived the idea of filling up the vacant space on the air here on the dead hours of the afternoon.

MARCONI BELIEVES CODE BEST ON SHIPS

RADIO TELEPHONY AID TO TELEGRAPH AT SEA

Tube Receivers Being Installed on All Vessels for Use as Their Need Arises

LONDON.—How far is Radio telephony desirable and practicable for adoption by ships at sea? For two years past Senatore Guglielmo Marconi has been investigating this question. At the recent meeting here of the Marconi International Marine Communication company, he gave some account of the progress made.

"Trials," said Senatore Marconi, "have been made in trawlers as well as in liners, and between ship and shore, and the results obtained clearly demonstrate that technically there is no difficulty in the way of accomplishing a satisfactory service of duplex Radio telephony, especially between ships on the high seas, away from the areas of congested Radio-telegraphic work.

"In at least one instance a range of nearly 400 miles was covered. We are quite prepared to exploit this avenue of Radio development as soon as ship owners demand a means of communication between ship's commander and passengers."

Telegraph Is Permanent

"But," he continued, "I am of the opinion that there is no likelihood of Radio telephony superseding Radio telegraphy at sea. If, however, the demand does come, telephony will be an adjunct to telegraphy serving its own particular purpose.

"Since 1920 we have expended $500,000, in keeping up-to-date stations on hire to ship owners. With the more extensive use of Radio at sea the need has arisen for the rapid handling of this traffic, and for this reason tube receivers are being adopted on every vessel. For years to come it may be necessary to spend $100,000 annually in modernization. This is one of the penalties of exploitation of a new and progressive science."

NEW SERVICE ON AIR FOR THE BLIND

WJZ Announcer Will Read from Classic for Those Who Cannot See

SCHENECTADY.—The Radio telephone in general and broadcasting in particular have probably been a greater delight to the large number of invalids and those afflicted with blindness than to any other class of individuals known. The Radio stations receive more mail from persons in the above two classes than from any other.

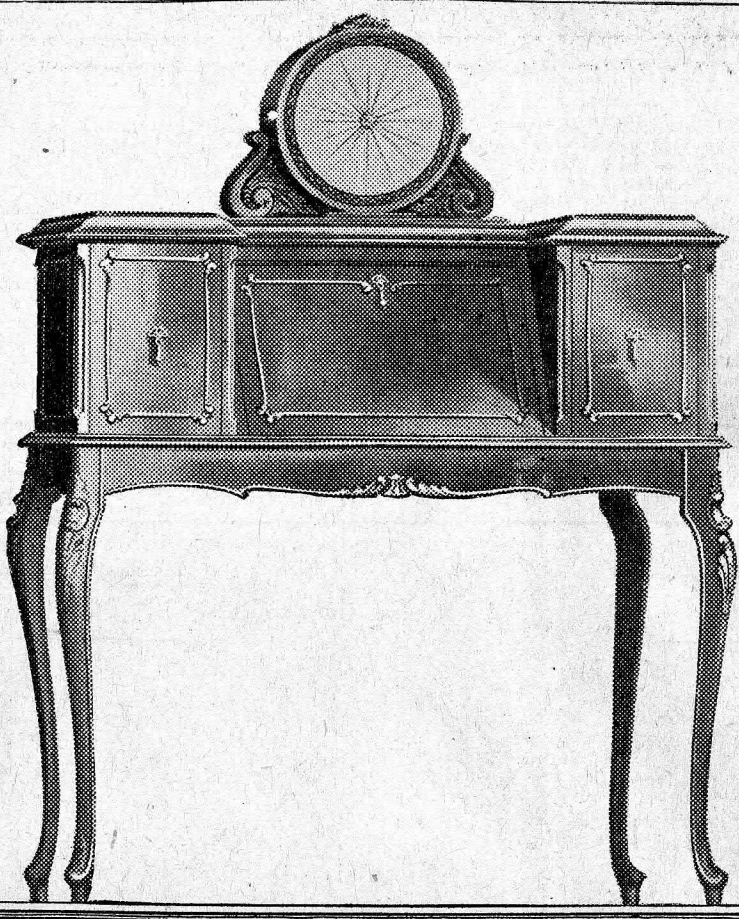
It requires little or no imagination to be able to understand how great a place the Radio receiver has taken in their lives. Up to very recently a very important factor has been omitted from the Radio broadcasts—that of reading good novels, works of history and the classics to those of the Radio audience who are not able to read themselves. To take care of this matter, Station WJZ has introduced the reading of such matter into their programs and at 4:10 on Monday, Wednesday and Friday afternoons, J. B. Daniel, the staff announcer of WJZ, can be heard reading short stories, novels, works of history and other good literature from the studio of that station.

Mr. Daniel has a most pleasing voice and "air personality" and is indeed tasteful in selecting his readings. In the short space of time that the service has been in use, countless messages have been received thanking him for his trouble in broadcasting this feature.

Wife in London Hears Band Husband Directs in U. S. A.

NEW PORK.—A cablegram from London states that on Sunday evening a large number of American music lovers in London were the guests of Mrs. Edwin Franko Goldman, wife of the American bandmaster whose concerts from the campus, New York university here are broadcast over WEAF and its associated stations. Mrs. Goldman sailed a few weeks ago to attend the Wagner festival at Beiruth, and, after arriving at London, sought to tune in for the regular Sunday night concert. They were successful, and the entire program was listened to by the music lovers present. This attempt will be repeated by Mrs. Goldman from the other continental cities she is to visit. Her husband's music was also heard aboard the steamship during her voyage to Europe.

The Birmingham station of the British Broadcasting company is to be removed soon from its present premises to a building now under construction.



Ten Models
$50 to $460
Guaranteed
Unconditionally

Canadian Prices Slightly Higher

TYPE 400

Five Tubes. Special super-selective circuit. No antenna or ground required. No Batteries: operated entirely on AC house current. A and B battery eliminators housed in steel-clad box within cabinet. Connect with standard bell or cabinet type Music Master Reproducer, or with specially designed art model reproducer illustrated. French Spinet Desk cabinet of solid mahogany, beautifully ornamented, in brown mahogany art satin finish. Price . . $400

Music Master Reproducer Model XIII. Drum Type. Specially designed art model illustrated. Price $40

Its Beauty Satisfies—Its Tone Delights —and a Style for Every Home

A TRULY beautiful example of the cabinetmaker's art in every detail of design and workmanship, MUSIC MASTER brings an added sense of beauty and harmony into any environment.

Designed as the supreme medium for the interpretation of Radio's infinite variety of Music, Song and Speech, MUSIC MASTER Receiver combines in one artistic unit the supreme in reception with the superbly realistic re-creative powers of MUSIC MASTER Reproducer.

One of the exquisite MUSIC MASTER models may well become one of your most prized possessions, bringing into your home a decorative beauty and a charm that is all its own, for there is a MUSIC MASTER model to harmonize in perfect unity with every interior.

Ask any authorized MUSIC MASTER dealer to demonstrate MUSIC MASTER. See MUSIC MASTER —hear—compare—before you buy any radio set.

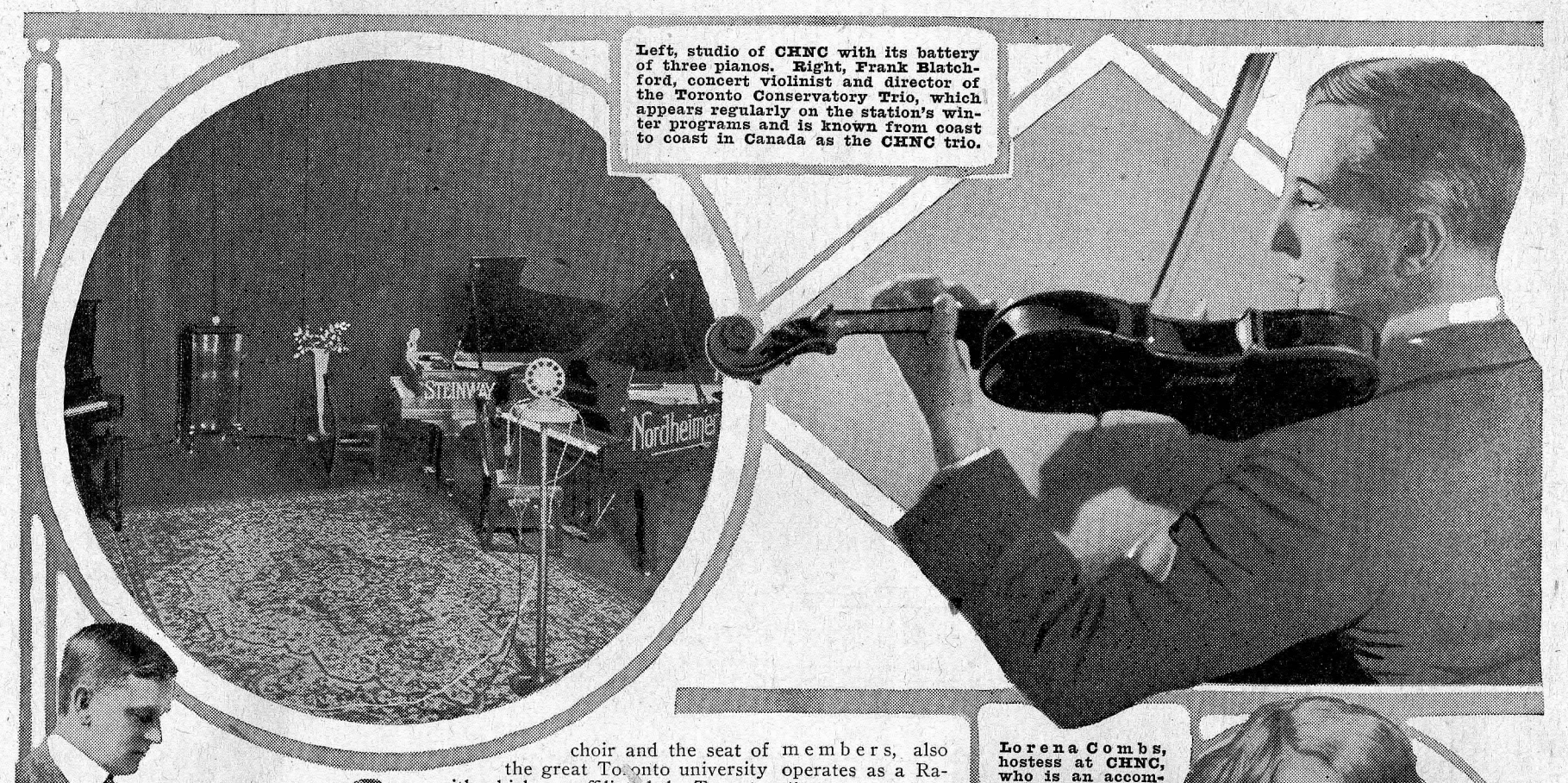
Music Master Corporation

Makers and Distributors of High-Grade Radio Apparatus
128-130 N. Tenth Street
PHILADELPHIA

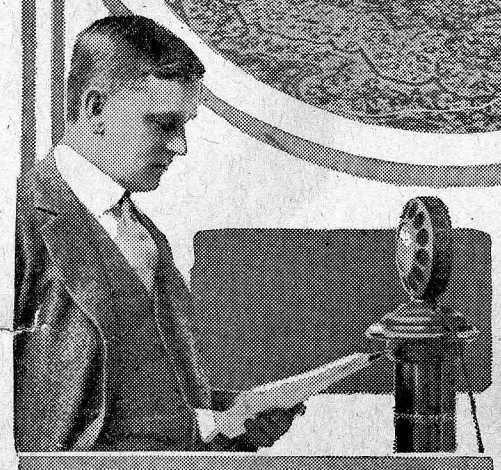
CHICAGO NEW YORK Canadian Factory: Kitchener, Ontario PITTSBURGH MONTREAL

Music Master
RADIO PRODUCTS

CHNC, Toronto Radio Research Society



Left, studio of **CHNC** with its battery of three pianos. Right, Frank Blatchford, concert violinist and director of the Toronto Conservatory Trio, which appears regularly on the station's winter programs and is known from coast to coast in Canada as the **CHNC** trio.



R. H. Combs, general manager, Canadian National Carbon and Presto-O-Lite companies, director and chief announcer of the station.

OVER in Toronto, Canada, the Mecca of thousands of summer tourists from the United States, is located Station CHNC, the broadcasting station of the Toronto Radio Research society, in the Canadian National Carbon plant.

This station is unique among Radio stations of North America in that it is operated by a purely amateur society of twenty members, who are electrical, mechanical or chemical engineers. It is a rather exclusive society in that the membership is limited to twenty and the men holding memberships are apparently in very good health and all are of middle age or under.

Further, one of the tenets of the society imposes a strictly non-commercial attitude to all the activities of the society. The society makes nothing, sells nothing and, according to its claim, not wishing to buy anything, is a strictly non-commercial organization and therefore the broadcasting, which is done on a regular schedule by this station, is of a strictly non-commercial nature and during the eighteen months the station has been operating, commercialism has not been allowed to enter into the broadcasts. The names of business organizations or articles of commerce have never been mentioned over its microphone.

The regular programs from station CHNC have been of the highest order—the regular Monday night programs are known wherever CHNC is heard, as being among the finest received from any station, and classical and operatic music constitutes 90 per cent of the programs from this station. Toronto will be remembered as the home of the famous Mendelssohn choir and the seat of the great Toronto university with which are affiliated the Toronto Conservatory of Music and the Canadian Academy of Music and in Toronto's musical circles are many high class artists, all of whom from time to time appear on CHNC's programs.

In addition to the individual members of the Mendelssohn choir and the faculty of the best music schools, CHNC has for its exclusive use three distinct orchestral organizations, i. e., CHNC orchestra, composed of eight pieces; CHNC Little Symphony orchestra of fifteen pieces—both of the orchestras being under the personal direction of Chas. E. Bodley, the congenial and versatile concert master of CHNC. Then there is the dance orchestra, which appears every second Thursday evening and which is composed of twelve pieces, which is accredited by the Radio audience as being second to none on the air. Then, too, during the winter season there appear on CHNC's regular programs the Toronto Conservatory Trio in the persons of Frank Blachford, violinist; Leo Smith, cellist, and Dr. Harvey Robb, pianist and organist, each of whom is known from coast to coast in Canada for solo and ensemble work.

CHNC's broadcasting plant, including its two transmitters and equipment, as well as its permanent home, was donated to the society for its work by leading Canadian manufacturers in the Radio field. The studio and transmitters are located at Hillcrest park, Toronto, in the large plant of the Canadian National Carbon company, who have provided spacious quarters, studio, operating rooms, office, and waiting room and a first class antenna system for the society. The transmitters, 100 and 500 watts, were installed for use of the society by the Northern Electric company, who also use the equipment at intervals for broadcasting their own programs under the call letters CHIC.

While the facilities of the station are open to the Canadian National Carbon company, this company has not taken advantage of them, presumably out of respect to the well-known and Eveready hour which is broadcast weekly by the parent company through Station WEAF and others in the hook-up.

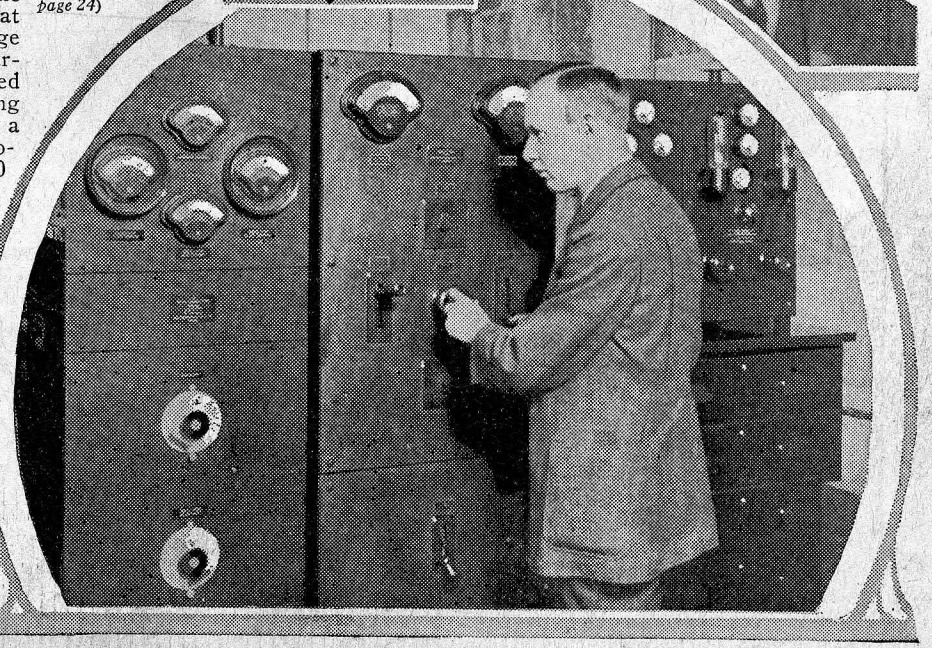
The Toronto Radio Research society, through its individual members, also operates as a Radio research society and among its members some very interesting circuits have been developed, as well as important improvements which are applicable to other well-known circuits. One of these improvements will be remembered as having been awarded a prize in the Radio Digest international contest held early this year, and Dame Rumor has it that another, and this time a somewhat sensational development may be announced as the work of members of the society in the near future. The men who are most active in the operation of CHNC and who are in control of the broadcasting activities are:

R. H. Combs, general manager of the Canadian National Carbon and Prest-O-Lite companies, located at Toronto, who acts as director and chief announcer of the station; J. B. Parsons, electro-chemist of the Prest-O-Lite company, is the engineer of the station; J. A. Thatcher, architectural and mechanical engineer, is the

(Turn to page 24)

Lorena Combs, hostess at CHNC, who is an accomplished pianist.

Right, Arthur Blight, Canada's premier baritone and station musical director. Below, CHNC operating room, with J. B. Parsons, chief engineer of the station, at the control panel.



The GREBE SYNCHROPHASE

TRADE MARK REG. U.S. PAT. OFF.

THE crowding of low-wave stations onto the lower numbers of condenser dials increases greatly the difficulty of accurate tuning.

In the Synchrophase this trouble has been overcome by shaping the plates of the Grebe *S-L-F* (straight line frequency) *Condensers* so that station locations are spread out evenly over the dials. This makes tuning quick, easy, certain.

Ask your dealer to demonstrate this and other exclusive Grebe advantages

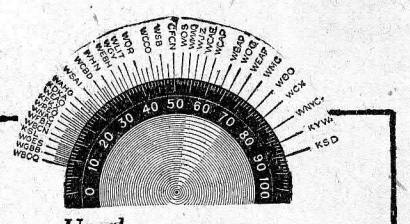
A. H. Grebe & Co., Inc.

Steinway Hall, 109 West 57th Street, N. Y.

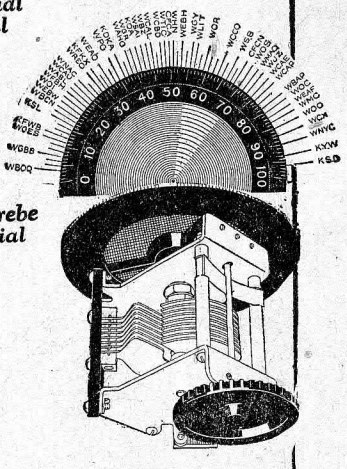
Factory: Van Wyck Blvd., Richmond Hill, N. Y.

Western Branch: 443 So. San Pedro Street, Los Angeles, Cal.

This company owns and operates stations WAHG and WBOQ; also low-wave rebroadcasting stations, mobile WGMU, and marine WRMU.



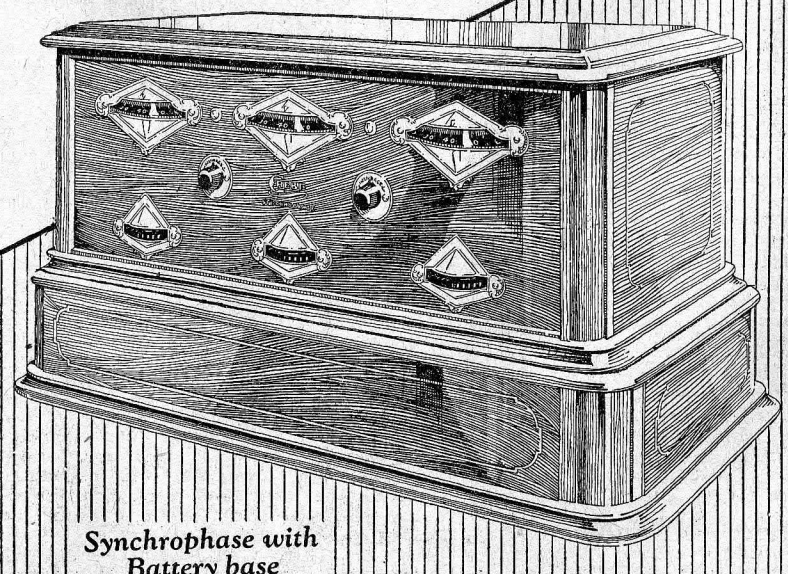
Usual Dial



Grebe Dial

S-L-F Condenser

By having the plates follow a special type of hyperbolic series of curves, we have located the stations at equal intervals around the dials. This breaks up the usual crowding of low-wave stations onto the lower dial numbers and makes accurate tuning quick and easy.



Synchrophase with Battery base

It is written:

"Talking about virtue is not so good as practising it."

The Synchrophase has never been praised as highly as its inherent virtues warrant.

Doctor Hy.

GREBE RADIO

TRADE MARK Reg. U. S. Pat. Off.

All Grebe apparatus is covered by patents granted and pending.

FRED SMITH TAKES IN GERMAN STUDIOS

FINDS TEUTONS TOOTING LOUD AUTO KLAXONS

Nearly One Million Licensees Pay $6 a Year Fees to Support Nine Broadcasting Companies

Article III by Fred Smith, Director of WLW

OF THE great cities we have seen so far—New York, Paris, London—Berlin is the most terribly fascinating. It wears a nervous, desperate air. There is a constant cry of "No money!" yet the cafes are jammed and the motion picture houses are crowded. The loud Bosch klaxons of the automobiles, which the drivers pump unceasingly, resound through the wide streets for blocks. The masses seek gaiety greedily, but there is a bitterness at the bottom.

The minister in Germany, corresponding to our postmaster general, has four important phases of communication under his supervision. One of these is Radio. The boss of all Radio in Germany is Herr Hans Bredow. The best-known name connected with private Radio interests in Germany is that of Count Arco. I had obtained an appointment with the latter, a little man of fifty, with an inmmense forehead, a childish smile and a charming manner. He calls Radio "A school for grown-ups."

Arco Has Passion for Machinery

Machinery is a passion with the count. He has five automobiles. He had the first car in Berlin. That was twenty-five years ago. He runs about in a little red French car, blowing his horn and scaring everybody off the street. He has the enthusiasm of a boy of eighteen, and got a lot of fun out of sending the shivers up my spine as we shot through the traffic on our way to the ministry; for he had only talked with me five minutes when he offered to take me to see Herr Bredow, and made the appointment by telephone forthwith. Our return to his office was an experience in dizzy dodging. When we were all safe and sound once more he laughed and gave me his photograph with the inscription: "In remembrance of our auto trip."

He and Secretary Bredow believe that Radio will do much for the broadening of the culture of humanity at large. Their ambition is to have an interchange of programs with America, and to that end are constructing both high-power receiving sets to pick up stations in the United States and superpower broadcasting stations to send to America. The first of these broadcasting stations should be ready by fall, a 25-kilowatt affair. In reply to my question: "What is the finest influence of Radio?" Herr Bredow replied: "I think Radio will become the best member of the family."

Broadcasting Companies

There are nine principal broadcasting companies in Germany, with the probability of another entering to make ten. Each of these operates in a principal city with secondary stations at adjoining cities, and still a third town with only studio. For example, Leipzig has as a secondary city, Dresden. Dresden has Chemnitz. But Chemnitz has only a studio. Whenever this last has programs they are sent by telephone line to Dresden to be broadcast, as well as to Leipzig. Naturally, in such a group, only one city can be sending at a time, since they have a mutual wave length.

The next step will be to bind all the principal cities together by means of telephone lines. And now comes the greatest difficulty in German broadcasting: long distance line transmission. The government had a war recently and has an empty pocketbook at present. It will cost a great deal to put the lines in first class modern condition.

Konigswusterhausen, the World's First Broadcasting Station

The one station in Germany which is operated privately is Konigswusterhausen. One Sunday morning a friend took us in his car to this little town some twenty miles from Berlin. Konigswusterhausen is the grand Radio center for German sending to European news bureaus. Fourteen towers support the multiplicity of aerials in the fields about the three main buildings wherein are operated the several stations ranging in power from two to 50 kilowatts.

The only concert given during the week was going on as we entered the main building—an orchestra was playing French music—Samson and Delilah. The director and his assistant, both young men, met us and the former showed us around, while the latter managed the program. To these two gentlemen, Herr Gerlach and Herr Schwartzkopf, belongs the honor, so far as I have been able to discover, of being the world's first regular broadcasters of music.

Early in 1920 they made a small transmitter from spare parts and broadcast

(Continued on page 24)

FIRST BROADCASTER IS GERMAN'S CLAIM

Herr Gerlach, above, of the Konigswusterhausen (Germany) station claims honors as the world's first broadcaster of a regular program. His station started this early in 1920. On June 19, 1920, a complete opera from Berlin was broadcast by remote pick-up.

General Electric Company Builds Big Laboratory for Transmission Study

Experts Plan to Make Systematic Study of Broadcasting Phenomenon to Find Best Remedy to Cure Existing Defects; Many Antennas and Low and High Power Are Used

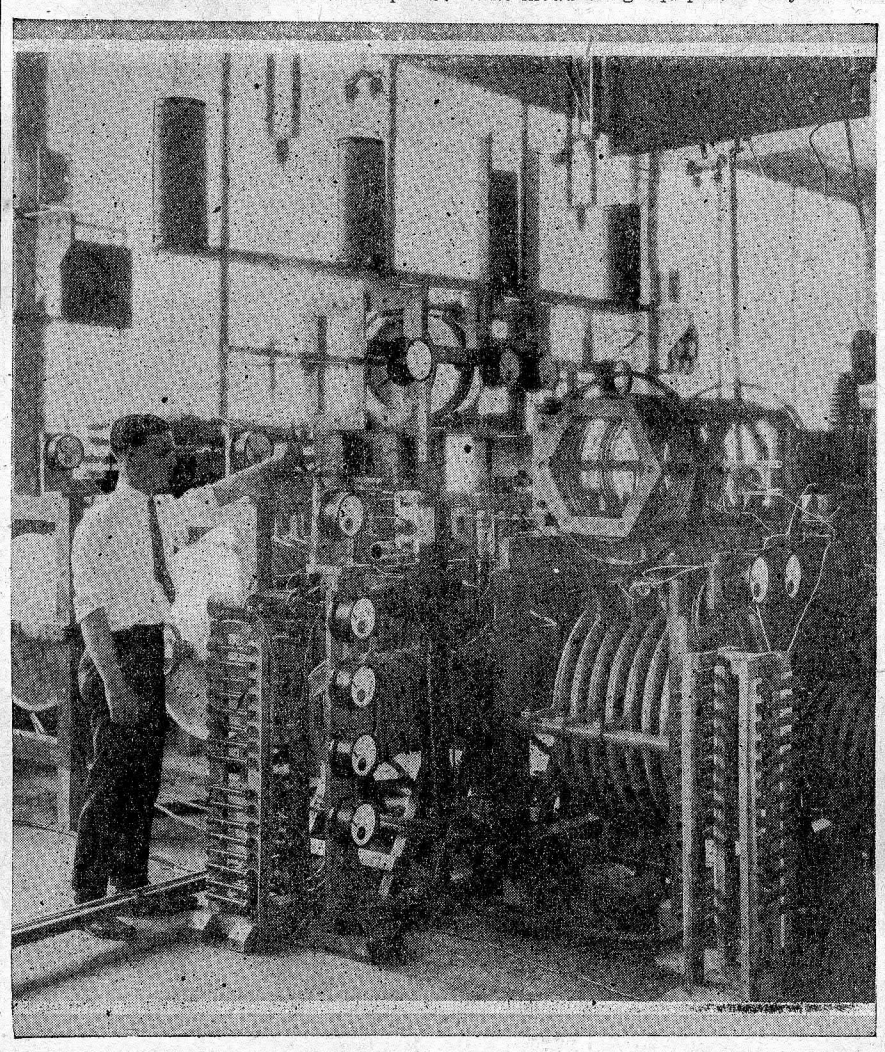
A RADIO development laboratory for research on wave lengths from 5 meters to 3,000 meters with power from 5 watts to 100 kilowatts (100,000 watts), has been constructed on a 54-acre plot, two miles southwest of Schenectady, by the General Electric company.

This work of Radio development is undertaken for the purpose of making a systematic study of transmission phenomenon. Because of meager data there is one group of scientists advocating superpower as the remedy for existing broadcasting defects; another, low-power, short-wave transmission to accomplish the same results; another medium-power, long-wave transmission. As many different types of antenna systems are recomended, including the reflector, vertical, horizontal and angular.

On the plot near Schenectady are one brick building, 60 x 100 feet, and four smaller frame buildings in which are housed transmitters. There are three steel towers, each 300 feet high, arranged in the form of a triangle. This arrangement permits the construction of many different types of antenna.

The largest building houses the power equipment, high-voltage rectifiers, amplifiers and modulating equipment for the station. There are three rectifiers each having a capacity of 150 kilowatts at 15,000 volts. These rectifiers convert the alternating current supplied to the station into direct current which is used for plate supply on the various transmitters.

The modulating equipment may be connected with any of the smaller buildings by means of a system of overhead transmission lines. Speech and music to be broadcast are obtained from the studio of WGY over an aerial cable circuit. It is further amplified at the station before reaching the group of metal tubes known as modulators. The transmitter to be modulated obtains its plate supply in common with the modulator tubes through a group of reactors.



Radio history was made recently when this General Electric transmitter, broadcasting after midnight on an experimental license, used 50 kilowatts of power. This is 100 times more power than is used by the average broadcasting station and is more power than has ever been used anywhere for broadcasting. In the transmitter and modulator units of this set a group of water-cooled tubes rated at 20 kilowatts each is used. At the center foreground is the master oscillator tube.

Generating Equipment Complete

In addition to the rectifiers, a 12,000-volt direct current generator is used for supplying plate voltage for master oscillators and other low-powered equipment. Generators supplying 4,000 volts and 2,500 volts are used for plate supply to the smaller tubes. The filaments of all tubes are heated by direct current. These are several direct current generators of 300-ampere capacity at 33 volts and of 1,000 amperes capacity at this voltage. These machines are specially constructed for a minimum ripple.

At present there are two transmitters located in the main building. One is operated at 50 kilowatts on 379.5 meters (2XAG). This transmitter is of the master oscillator (intermediate amplifier), power amplifier type using 20-kilowatt tubes in the high-power stages.

The second transmitter (2XAH) operating at 1,560 meters has a maximum of 40 kilowatts and is of the same general type as 2XAG except that push pull amplifiers are used in the power stages.

Two additional wooden buildings, with their associated power houses have been set aside for a study of antenna systems which will permit the direction and elevation of Radio energy. These buildings will contain transmitters capable of supplying from 5 to 120 meters with powers from 5 watts to 50 kilowatts.

NEWS BRIEFS FROM THE BROADCASTERS

ROCKY MOUNTAIN STATION OPENS QUESTION BOX

WSAI Manager Tours Stations; Lyric Quartet at WLW one Year; Other News Items

KOA, Rocky Mountain broadcasting station of the General Electric company, has introduced a popular question box for rural listeners which is being featured over the Denver microphone every Thursday evening. During these programs, which last from 7:30 to 8 o'clock, Mountain time, questions from listeners are read aloud by a member of KOA's announcing staff and are then answered extemporaneously by an authority on agricultural problems.

* *

Paul A. Greene, manager of Superstation WSAI, Cincinnati, has left Cincinnati for an extended tour of the leading stations in this country in order to get new ideas and perfect plans for the fall and winter programs of WSAI. The stations that will be visited are WSB, WSMB, KPRC, WFAA, WMC, WDAF, KOA, KSD, WOAW, WHO, WOC, WLS, KFI, KGO, KGW and KJR.

* *

The Lyric male quartet recently celebrated their fifty-second consecutive week as a regular Monday evening feature of the Crosley WLW broadcasting program. This quartet is composed of Howard Hafford lyric tenor; Edwin Meyer, second tenor; Edwin Weidinger, baritone, and John Dodd, bass. Howard Evans is piano accompanist.

* *

Charles H. Gabriel, Jr., formerly musical director of WGN, the Chicago Tribune station, and studio manager of WCEE and WTAS, Elgin, Ill., and Chicago, has been appointed director and chief announcer of KLX, the Oakland Tribune station, Oakland, Calif.

*

The complete opera of "Lucia de Lammermor" was given by the Civic Opera league during the Hardman hour of music on Friday evening, Aug. 21, from Station WMCA, Hotel McAlpin, New York. The music was supplied by a symphnoy orchestra directed by Maestro Roxas.

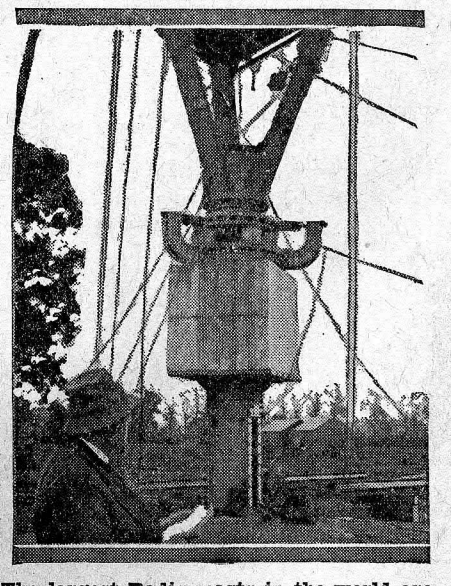
* *

A Chicago Radio artist, Anne Mills Keim, appearing before the microphone of KTHS, the New Arlington hotel station, Hot Springs National Park, gave southern fans a real treat recently with a program of vocal solo numbers that are general favorites. Mrs. Keim has frequently appeared before the microphone of Station WQJ, Rainbo Garden, Chicago.

* *

Scorning trains with their accompanying dust and smoke, Eugenie Whitmore, WOAW pianiste, who has arranged many programs from the Woodmen of the World station, rolled out of Omaha in her blue sport roadster with her father, H. P. Whitmore, art dealer of this city, bound for a month's stay at Atlantic City. She plans an Egyptian trip of several months' duration upon her return to Omaha.

4,000,000 WATTS TO BE SENT FROM HERE



The largest Radio masts in the world are being erected at Rugby, England, for a 4,000,000-watt Radiotelephone station, which will be used to link American and English long distance telephone lines. Each tower is to be 820 feet high. There are sixteen, of which two are completed. Elevators will run up their centers. Photo shows the great insulating block and pivoted base of one tower.

Again They said it couldn't be done!

Here it is

New and Improved
FRESHMAN MASTERPIECE

$60

and now!

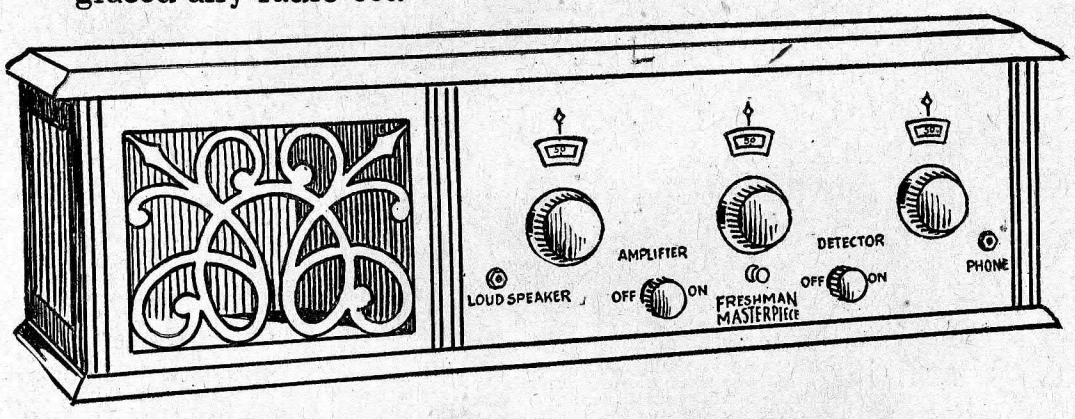
Model 5-F-5

But now - - -

Complete with built-in loud speaker of great volume and superb tone quality.

Encased in - - -

As fine a heavy genuine solid mahogany cabinet as ever graced any radio set.

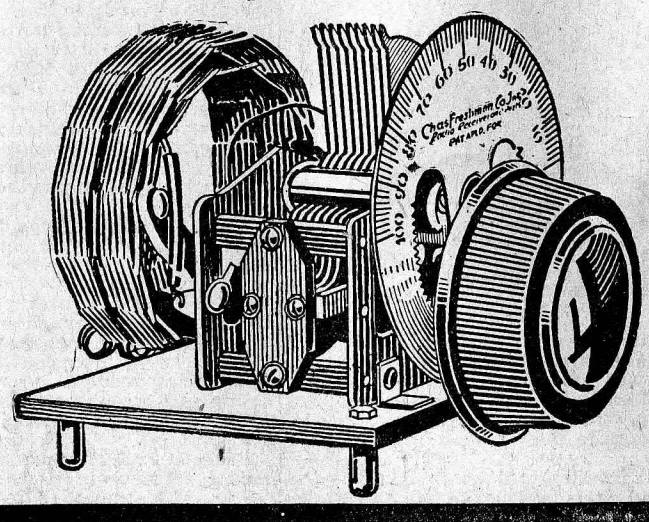


At sixty dollars - - -

Not only complete with built-in loud speaker and massive mahogany cabinet, but this wonder circuit has been scientifically perfected and each and every single part strengthened and co-ordinated.

For example - - -

The new Freshman Masterpiece straightline wave length condenser with vernier attachment which assures hair-line selectivity—permitting you to tune in the station you want without interference over the entire wave length range. This is merely one exclusive feature of the



World's Greatest Radio Receiver

For Sale at AUTHORIZED FRESHMAN dealers only

Chas. Freshman Co. Inc.
Radio Receivers and Parts
FRESHMAN BUILDING
240-248 WEST 40TH ST.-NEW YORK.N.Y.
CHICAGO OFFICE — 327 S.LA SALLE ST.

9XN + WJAZ PUT ON ESKIMO BROADCAST

WAP ON BOARD S.S. PEARY IS HEARD FROM ETAH

Zenith Experimental Station Puts Far North Voices on 322 Meters Without Notice

CHICAGO.—When the MacMillan Arctic expedition started to the far North and announced that they would send the voices of the Eskimo back to civilization via Radio, there were many skeptics who sneered and murmured something that sounded like "Blah," but now that the explorers have made good on their statement through experiment and the public is to be let in on it by means of rebroadcasting, the "Blah" will have to be changed to "Rah."

The log of the Zenith Arctic experimental station, 9XN, tells the story of the first successful rebroadcasting of voices put into a microphone located within twelve degrees of the north pole. This history-making event is recorded by the station officials as follows:

"ARLINGTON HEIGHTS, Ill., Aug. 12. —9:50 p. m. Commander E. F. McDonald, Jr., announces, 'We will broadcast Eskimo singing, the following songs, in their native tongue—"The Song of the Snow Bunting," "The Song of the Raven," and "The Song of the Fox." The Eskimos participating are In-You-Gee-Took, Kaneak, Nuk-Aping-Wa and Ak-Kom-O-Ing-Wa.'

"10:05 p. m. The first song is coming through 9XN on headphones sufficiently loud enough to be heard several feet from the operator's position.

"10:10 p. m. 9XN enginers are now working on apparatus to produce greater volume.

"10:25 p. m. WAP, transmitting station on board SS Peary, is filling in with phonograph music. They are playing 'Marchita.' Amplification has been accomplished. Music can be heard throughout the entire station, 9XN, from headphones laying on the table. Zenith officials and engineers at 9XN are now attempting to locate J. Elliott Jenkins, consulting engineer to arrange an attempt to amplify the volume of 9XN's 40-meter receiving set and rebroadcast over the new Zenith power station, WJAZ, on 322 meters, thereby making reception possible to all receivers throughout the country capable of picking up Chicago.

Broadcasts Phonograph Music

"10:42 p. m. WAP now playing on phonograph, 'What'll I Do.'

"11:20 p. m. We have just located J. Elliott Jenkins and he is now on his way to WJAZ at Mount Prospect, 35 miles northwest of Chicago. Commander McDonald on board the SS Peary at Etah, Greenland, has been notified of 9XN's intention to rebroadcast on the higher wave length of WJAZ and replies that he will continue the program and will again come on the air with Eskimos at 2:00 o'clock in the morning.

"11:37 p. m. Eskimos are singing songs quite similar to the intonations of a mixture of American Indian and Chinese. McDonald announces 14 Eskimos are now standing before the microphone on the Peary.

"11:45 p. m. H. E. Gray, ensign in the U. S. N. R. F. and Zenith engineer on board the SS Peary, is now on the air. Gray states, 'MacMillan and Lieutenant Schur are making test flights to locate a landing place for advance aeroplane base.' The engineers at 9XN have disconnected apparatus and installing amplifying units.

"12:40 a. m. WAP announces that E-Took-A-Shoo will sing. E-Took-A-Shoo has been MacMillan's personal guide on his several previous expeditions to the Arctic. This is evidently special, as E-Took-A-Shoo's name was not introduced at the opening of tonight's broadcast.

Goes on 322 Meters

"12:55 a. m. WJAZ reports ready and standing by to receive on 40 meters and to keep the signal up to 322 meters to relay the concert to the present standard broadcast receiving sets capable of reaching Chicago. 9XN is hooking up headphones with telephone transmitter connected to WJAZ and the rebroadcast of the concert is on. Jenkins reports, 'Coming through good.' Local electrical storm is now interfering to such an extent that local apparatus through the rebroadcast is reproducing considerable static and drowning out the concert.

"The experimental test of relaying the broadcast was not contemplated and was attempted as an eleventh hour conclusion with makeshift emergency connections. The success of the tests now assures officials and engineers present that the relaying is practical. Further attempts will be made while the expedition is still in the Arctic and in the meantime apparatus will be perfected so that notice can be given to all Radio listeners in advance."

TOO MUCH RADIO SO SCHOOL HEAD WARNS

TOKIO.—The Japanese minister of public instruction has notified all schools under his control, stating that he has noticed that "school boys are inclined to pay so much attention to Radio that they are neglecting their school work. Teachers are instructed to inform the boys and their parents to the fact that listening in the Radio programs, however useful it may be, is not a proper substitute for performing home lessons."

More Paris Hospitals Get Radio

PARIS.—Two more Paris hospitals have installed Radio for the benefit of the patients, Lariboisiere and Saint-Antoine.

A plan is being considered to open a school for the training of Radio program announcers in Berlin.

And Now We Have the Radio and Fish Stories in One Big Whopper

LEWISTON, Me.—The Rangeley chain of lakes, reputed to produce more fish stories per square mile than most any other in western Maine, now has a new story about a fishing line that doubled in brass when it caught "the biggest fish" in Mooselookmeguntic lake by day and brought in the Radio stations by night.

Eight sportsmen from Pittsburgh brought a portable Radio receiving set and 150 feet of insulated antenna when they came to a camp on the lake, near Rangeley, Me. After a try of luck with rod and line, they set to work rigging up their aerial. It failed to bring in a single station, and after the campers had spent several hours experimenting, trying different grounds and locations, and even rigging up counterpoises, one of them said:

"Let's run Calderwood's new fishing line down to the lake, tie a stone to one end and throw it in."

No sooner said than done. The dials were given a couple of twists, and a familiar voice sang out:

"The number to which you have been listening is the stirring Welsh melody, 'Men of Harlach,' broadcast from the Pittsburgh Post studio of KDKA."

The fishing line thereafter caught fish —big ones, too—during the day and during the night brought in the Radio stations as far away as Virginia and Chicago. The line was several rods of number 22 bare copper wire, the kind of line commonly used in the Rangeley lakes for salmon and lake trout. It was the property of H. A. Calderwood, who vouched for the story today as the party was making the first leg of the trip back to Pittsburgh by automobile.

COILLA DARE ENTERTAINS AT WAMD

Saturday, August 29

Saturday, silent night for: CHNC, CNRT, KFAB, KFDM, KFKX, KFMQ, KLDS, KTAB, WBAP, WBAV, WBZ, WCAU, WCTS, WCX, WEBJ, WEEI, WFI, WHAD, WHAZ, WHN, WHO, WJAR, WLIT, WNYC, WOAN, WOO, WOS, WSMB, WTIC, WWJ.

Atlantic or Eastern Daylight Saving Time Stations

CKAC, Montreal, Can. (410), 7:30 p. m., dinner concert; 10, dance program.

CNRO, Ottawa, Can. (435), 8 p. m., Chateau Laurier concert orchestra; 9, Central Canada exhibition; Chateau Laurier dance orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 12:30-12:55 p. m., Radio Ray, ukulele; 1:05-1:30 a. m., Radio Ray; 12-2 a. m., dance orchestra.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 9, studio concert.

WEAF, New York, N. Y. (491.5), 4-5 p. m., dance orchestra; 6-7, dinner music, Waldorf-Astoria; 7-7:15, Marie Opfinger, soprano; 7:15-7:30, Helen E. Vogel, violinist; 7:30-7:45, Curbstone Four male quartet; 7:45-8, musical program; 8-8:15, Curbstone Four; 8:15-8:45, Huyler's Foremost Four; 8:45-10:15, concert, United States Marine band; 10:15-10:30, William Sweeney, baritone; 10:30-11, Apollo ensemble; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WFI, Philadelphia, Pa. (394.5), 8 p. m., Keystone male quartet; Stephen Scizamadia, Hungarian tenor; John Sendor's Hungarian orchestra; Harold Michlin, violinist.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 8:45-10:15, U. S. Marine band.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, lecture; 8, Seaside hotel trio.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 10, special exercises for women; 3 p. m., song of the surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's Philharmonic orchestra; 8:45, song of the surf; 8:50, Veselli's band; 10:05, California Night Hawks dance orchestra.

WMCA, New York, N. Y. (340.7), 9-9:15 p. m., Helen Herman, contralto; 9:15-9:30, Louis Burkow, violinist; 9:30-9:45, Helen Herman; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 7-7:20 p. m., song recital; 7:35-7:55, song recital; 8:15-10:15, band concert, Mall, Central park; 10:15-10:30, instrumental novelty.

WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., Herman Rice and his Bluehills orchestra; 7:15-7:30, sports talk, Bill Wathey; 7:30-8:30, Central Park Casino orchestra, Flo Richardson and her girls.

WPG, Atlantic City, N. J. (299.8), 6:45 p. m., Arthur Scott Brook, organist; 7, Hotel Traymore dinner music; 8:05, Chalfonte Haddon hall evening concert; 9:05, Vessella's concert band; 10, Steeplechase Pier orchestra; 11, program.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., Westinghouse band.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Joska Da-Babary's orchestra; Paul Whiteman's Collegians; 8-9, Mrs. A. Nanney Johnson, reader; Mrs. Kenneth Stewart, humorist; George Whitereed, tenor.

PWX, Havana, Cuba (400), 8:30 p. m., orchestra, Prof. Manuel Barba.

WBBM, Chicago, Ill. (226), 5:30-6 p. m., kiddies' joy-digger club; 8-2 a. m., Samovar orchestra; Nate Caldwell; Dave and Charlie; Harry Brailsford; Roy Trauger; College trio; Jerry Cromack, jazzmania artists.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.

WCX, Detroit, Mich. (517), 2:30 p. m., band concert, Belle Isle; 6, dinner concert, Book-Cadillac hotel.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., novelty dinner concert.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; 9:30-10:30, Marie Kelly, reader; South American Troubadours; 11:30-1 a. m., Oriole orchestra; Indiana male quartet; Wayne Myers; Frank Greif, tenor; Blanche and Rudie Baie.

WGBU, Fulford-by-the-Sea, Fla. (278), 6:30-7 p. m., bedtime stories, Little Green man; Andy Mansfield from the Rainbow Gardens; 10-12, tab entertainers; 12-1 a. m., dance music, Fulford-by-the-Sea.

WGES, Oak Park, Ill. (250), 5-7 p. m., Frank Greif, tenor; Franklin Horstmeier, bass; Bryce Talbot, baritone; 10:30-1 a. m., Kampus Kollegians orchestra; Phil Wilcox, Erwin Schmidt, Parrish and Ward, Phil Fleming, Lew Butler.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 8:30, studio program; 10:30, Jazz scamper program.

WGY, Schenectady, N. Y. (379.5), 7:25 p. m., New York Philharmonic orchestra; 9:30, Hotel Van Curler orchestra.

WHT, Chicago, Ill. (399.8), 7 p. m., Grayling's string trio; Al Carney, organist; 7:30, Dean Remick, pianist; Eleanor Kaplin, violinist; Borden Varieties; 8, Lottie Friedman, soprano; Jelke musical moments; 8:45, (238), Riverview band; 10:30, (399.8), Walter Ford's Cheerio orchestra; 11:30, Paul Small, tenor; Si Berg, Marie Wright, soprano; 12, Babee and Barr harmony songs; 12:30 a. m., Al Carney's midnight organ recital.

WIBO, Chicago, Ill. (226), 2-4 p. m., program for Shut-ins, Dan Russo, Ted Fiorito, Harry Geise, Joe Allabough, Jack Sprat, Gail Bandell, Sheppard Levine, Ethel Kester; 6-8, Jack Sprat concert trio.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble, Book-Cadillac hotel; 8, the Detroit Symphony orchestra, Belle Isle; 10, dance music, Book-Cadillac.

WKRC, Cincinnati, Ohio (422.3), 10 p. m., Marion McKay's Bond Hill House orchestra; 10:30, popular song features, Bert Lindsay, Kern Aylward; 11, Marion McKay's Bond Hill House orchestra.

WLS, Chicago, Ill. (344.6), 8-1 a. m., National barn dance program; Rex's Cornhuskers; Ford and Glenn; Tommy Dandarant; Grace Wilson, contralto; Walter Peterson, Kentucky Wonderbean; Chubby Parker; Clifford and Simons; Nubs Allan, contralto; Tony Corcoran, Irish baritone; Am. Blaha, concertina soloist.

WLW, Cincinnati, Ohio (422.3), 7 p. m., organ recital, Johanna Grosse; 7:35, instrumental trio.

WMAQ, Chicago, Ill. (447.5), 6 p. m., musical program; 6:30, Jack Chapman's orchestra; 8, Fred Daw and Russell Pratt; 8:30, "Kish," Prof. E. A. Henry; 9, Chicago theater revue.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., Trianon ensemble; Bernard Senescu, violinist; Desmond Sullivan, cellist; Wayne King, saxaphonist; John S. Everett, baritone; Hazel O'Neil, soprano; 8:30-10:30 Trianon orchestra; Cecil and Esther Ward, guitarists; Woodlawn theater concert orchestra; Fisher and Wayne; Charles Agne, marimba soloist; Geraldine Doyle, soprano.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and the Rainbo Gardens orchestra; Cora Rogers Woolverton, pianist; Everett G. Mitchell, baritone; Alvina Becker, soprano; 10-3 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch; Melodians; Williamson Brothers; Everett George Opie; Rick, Snyder and Gardner; Bob Birdson and Ben Burke; Gertrude Wolf Quentin, soprano.

WREO, Lansing, Mich. (285.5), 10-12 midnight, Speed-Wagon serenaders.

WSAI, Cincinnati, Ohio (326), 7:45 p. m., children's stories, Mrs. Ethel Knapp Behrman; 8, WSAI Radio chimes; 8:15, Bicycle playing card sextet; 9, news; 9:15, Bicycle playing card sextet; Margaret Brinker, pianist.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Hotel Statler concert orchestra; 8-9, Frank R. Wilson's Euclid Beach Park orchestra; 9-12, Ev Jones and the Coo Coo club; Joe Ferte, tenor.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle orchestra; Herbie Mintz, Maurine Marseilles, Phil Wilcox.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., dinner program.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., concert.

Headliners of the Week

TWO SOUTHERN stations promise regular Saturday night programs of light entertaining music. Mary Conway and her talented group of artists hold sway at WSMB, New Orleans. Down where the palm trees grow the Miami Daily Tab entertainers will descend upon WGBU.

Coilla Dare, well-known Radio star of the Twin Cities, will bring Mabel Connells and eight lady entertainers with her to WAMD, Sunday night. Miss Dare, from long experience, knows what the Radio audience likes.

Tom McNamara, famous football coach, begins his talks on scientific football this Monday at KOA, Denver. He will speak twice a week on our national game. E. J. Clare will direct a comedy program at WGR this same evening.

Another evening of fun, this time especially guaranteed to amuse golf bugs, will be given Tuesday by the Los Angeles Public Golf Course association at KHJ. Lest the whole week be given to frivolity listen in this same evening to "Ernani," as sung by the WEAF Grand Opera company. This melodious opera by Verdi may be heard through WEAF, WEEI, WFI, WCAE, WGR, WWJ, and WCCO.

WBZ, Springfield, is featuring a fascinating oriental program Wednesday evening. Musical instruments unheard usually by western ears will play queer minor songs unlike our modern jazz. Edward Bashian is the ood soloist and Garvis Bakerjian the kanoon.

Thursday night at midnight WLW will let loose the Bow-Wows or Sky Terriers as announced by Chief Barker. This ought to be a snappy program. Barry O'Moore, Philadelphia Irish tenor, sings this same evening at WCAU. There is something about a tenor, especially an Irish one.

Madame Eugenie Tessier, although blind, has attained a reputation as a concert singer. She has sung in all the larger cities of the United States. Tune in Friday night and hear her beautiful voice through WTIC. The Columbus Mandolinistica will be back on the air Friday night through WBAV.

KFVE, University City, Mo. (240), 6:30 p. m., amusement review, Romaine Fielding; 10, Mae Miller, classical numbers; Tom, Dick, Harry and Jack.

KOIL, Council Bluffs, Iowa (278), 7-9 p. m., Mr. and Mrs. Harry B. Hahn; Alice Jacobs, pianist; Helen Sprague Cogley, pianist; Marie and Olivetta Salisbury, violinists; Reva Snyder, vocalist; Janet Gilinsky, accompanist; Elks male quartet; 11-12, Hotsy-Totsy hour.

KSD, St. Louis, Mo. (545.1), 7 p. m., orchestra program, Grand Central theater.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., classical selections, New Arlington-Meyer Davis orchestra.

KWKH, Shreveport, La. (273), 3:30 p. m., piano music; 4, baseball; 9-12, dance music, Hotel Youree orchestra.

WAMD, Minneapolis, Minn. (243.8), 7 p. m., open house night; 10, popular program; Larry Dunn; Gayle Wood, George Sankey, Merel Fuller, the harmony hurricane.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:30 p. m., Dick Long's Nankin cafe orchestra; 8, musicale; 10, Dick Long's Nankin cafe orchestra.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number; address, Roger W. Babson; Tell-Me-a-Story lady; Plantation players; 11:45-1 a. m., Merry Old Chief, Plantation players; Johnnie Campbell's Kansas City club orchestra; Charles Dornberger's Kansas City orchestra; Earl Coleman's orchestra.

WFAA, Dallas, Tex. (475.9), 3:30-4:30 p. m., ukulele and vocal recital, Tom Fowler, Catherine McAdams; 6:30-7:30, Carl D. Green and his string orchestra; 8:30-9:30, Jack A. Davis, pianist; 11-12, Adolphus hotel orchestra.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., Pansy entertainers.

WOAW, Omaha, Nebr. (526), 6 p. m., Rialto orchestra; 7, Gilbert Jaffy and his orchestra; 7:30, speakers' hour; 9, de luxe program; 11, Arthur Hays and his organ jubilee.

WOC, Davenport, Iowa (483.6), 9-10 p. m., Vinnie Thompson, pianist; Marie Delano, contralto; Dorothy Dettlof, violinist; 11-12, LeClaire hotel orchestra; Peter MacArthur, baritone.

WSMB, New Orleans, La. (319), 6:30-10:30 p. m., Mary Conway and associate artists.

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 8 p. m., open-air concert; 10, dance program.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 2-3 p. m., John Wright mile-a-minute frolic, conducted by Charlie Wellman; 8-9, program, Paralta studios; 9-10, Miss Somes, whistling solos; Carl Gantvoort, tenor; Fred Bruley, saw soloist; Frances St. George, the jazzmania girl; 10-11, Warner Bros. frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361), 8-10 p. m., San Jose high school band; George T. Mathews, director; Ted Duncan, saxophonist; Olga Leeman, soprano; Gladys Steele, Norman Deans, steel guitarists; Stewart Brady, boy soprano; Frank Clark, pianist; A. Berniee Tutt, contralto; Antone Tomsic, concertina soloist.

KHJ, Los Angeles, Calif. (405.2), 5:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies' hour, Helene Pirie, readings; Dolly Wright, Dolly of Radioland; Sylvia Kaufman, pianist; Uncle John; 8-10, program, Newbery Electric corporation, arranged by J. Howard Johnson; 10-11:30, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader; 11:30-2 a. m., Lost Angels of KHJ, Walter Biddick, chief harpist, Lost Angel orchestra.

KJR, Seattle, Wash. (384.4), 8:30-10 p. m., I. C. Warner program.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-7:30, stories of insect life, Harry W. McSpadden; 7:30-8, Wurlitzer pipe organ studio; 8-10, KNX feature program; 10-11, Ray West's Ambassador hotel dance orchestra; 11-2 a. m., Hollywood Nite presented by the 233 club.

KPO, San Francisco, Calif. (428.3), 6:35 p. m., Waldemar Lind and the States restaurant orchestra; 8-12, Jack Coakley's Cabirians.

KTCL, Seattle, Wash. (305.9), 6:50-7:15 p. m., Hermie King and his orchestra; 9:10-9:30, Hermie King and his orchestra; 9:30-12, Radio night.

Sunday, August 30

Sunday, silent night for: CHNC, CKAC, KFAB, KFKX, KFMQ, KFOA, KSD, KYW, PWX, WAHG, WBAV, WCAE, WCAU, WCEE, WDAF, WEBJ, WGR, WHAD, WHAS, WHAZ, WJR, WLIT, WMC, WOO, WOR, WRC, WREO, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CFCA, Toronto, Can. (356), 11 a. m., Bloor Street Baptist church; 7 p. m., St. Paul's Anglican church.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., People's Radio church services; 6:30, dinner concert, William Penn hotel; 7:20, Capitol theater gang; 9:15, Goldman band.

WCTS, Worcester, Mass. (268), 7:20-9:15 p. m., Capitol gang, Major Bowes, director; 9:15-10:15, Goldman band concert.

WEAF, New York, N. Y. (491.5), 3-5 p. m., "Sunday Hymn Sing," Federation of churches; 7:20-9:15, "Capitol Gang," Capitol theater.

WEEI, Boston, Mass. (475.9), 7:20 p. m., Major Bowes and the Capitol theater gang; 9:15, program.

WFI, Philadelphia, Pa. (394.5), 7:30 p. m., services, Arch Street Presbyterian church; 9:15, Goldman band concert.

WGR, Buffalo, N. Y. (319), 10:30 a. m., Central Presbyterian church service; 3-4 p. m., vesper service.

WHAR, Atlantic City, N. J. (275), 2:30 p. m., Seaside hotel trio; 2:45, sermon, Rev. Hinson V. Howlett; 7:50, Chelsea Baptist church; 9, Seaside hotel trio; 11:15, Strand theater organ recital.

Hotel Bond trio gives the attractive dinner concerts Mondays and Thursdays at WTIC, Hartford.

WHN, New York, N. Y. (361.2), 1-1:30 p. m., organ recital, Lexington theater; 5-5:30, Roseland dance orchestra; 10:45-11:15, Janssen's Hofbrau orchestra.

WIP, Philadelphia, Pa. (508.2), 4:15 p. m., musical exercises, St. James Episcopal church, Atlantic City; 7:15, services, Holy Trinity church; 10, features broadcast simultaneously with WPG, WGBS and WMAF.

WJAR, Providence, R. I. (305.9), 7:20-9:15 p. m., Capitol theater gang; 9:15-10:15, Goldman band concert.

WMCA, New York, N. Y. (340.7), 11-12:15 p. m., services, Third Church of Christ; 7-7:30, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 8:45-8:50 p. m., baseball results; 9-11, Brooklyn Mark Strand theater program.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 9:45 a. m., church service; 5, baseball; 7, interdenominational service.

KYW, Chicago, Ill. (536), 11-12:30 p. m., Second Presbyterian church, Rev. Jeziah Sibley, pastor; 4-5, KYW's Evening American studio.

WBBM, Chicago, Ill. (226), 4-6 p. m., Stewart-Warner program; Tiny Dave Nudelman; Nate Caldwell; Charlie Garland; 8-10, Samovar orchestra; William Molnaire, Charlie Garland, Sunset male quartet, Wendell Weigert; Sunday midnight nutty club feature; Samovar orchestra; Charlie and Dave.

WBZ, Springfield, Mass. (333.1), 8 p. m., talk, "Starlore and Religion," George Leo Patterson; 8:45, Minnie Fowler Scott, organist.

WCX, Detroit, Mich. (517), 10:30 a. m., services, Central Methodist Episcopal church; 3:30 p. m., band concert, Belle Isle; 6, dinner concert, Book-Cadillac hotel; 8, the Detroit Symphony orchestra.

WEAR, Cleveland, Ohio (389.4), 3:30-5 p. m., Ivan Francisci Sunday afternoon musicale; 7-8, Park theater orchestra.

WEBH, Chicago, Ill. (370.2), 7-9 p. m., artists program.

WGBU, Fulford-by-the-Sea, Fla. (278), 9-11 p. m., sacred concert.

WGN, Chicago, Ill. (370.2), 11:45 a. m., Chicago theater program; 3 p. m., Lincoln Park band concert; 9-10, Drake concert ensemble, Edward Dufresne.

WGY, Schenectady, N. Y. (379.5), 10 a. m., services, First Presbyterian church; 7 p. m., musical program from WJZ; 7:45, Lakewood farm ensemble, WJZ; 9, Godfrey Ludlow, violinist, WJZ.

WIBO, Chicago, Ill. (226), 10:15 a. m., church service, Rev. Asa J. Ferry; 2-4 p. m., Carroll Martin, trombonist; George Jernberg, cornetist; Dan Russo, violinist; Ted Fiorito, pianist; Dorothy Davie Dillow, soprano; Ralph Walker, tuba soloist; 6-8, Jack Sprat concert trio; Earl Raymond Bigelow, pianist; Carl Linner, pianist; Joe Allabough, tenor; 10-12, Harry Geise, Joe Allabough, Ted Florito, Dan Russo, Mark Fisher, Paul Small, Gail Bandell.

WKRC, Cincinnati, Ohio (422.3), 10 p. m., classical program.

WLS, Chicago, Ill. (344.6), 7:30 p. m., Ralph Emerson, organist; 8-8:55, WLS Little Brown church.

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, editorial staff of Sunday School Publications, Methodist Book concern; 11, services, Church of Covenant, Dr. Frank Stevenson; 8:30 p. m., H. & S. Pogue orchestra; Arthur Dondero, soloist.

WMBB, Chicago, Ill. (250), 3-5 p. m., Woodlawn theater orchestra; John S. Everett, baritone; Trianon orchestra; Fisher and Wayne; 7-8:30, Trianon ensemble, Woodlawn theater orchestra; 8:30-10:30, Trianon orchestra; Florence Tenney; Harold Stokes, accompanist, Clyde Hager, reader.

WORD, Batavia, Ill. (275), 10 a. m., hymns and sacred songs, I. B. S. A. choral singers; address, G. A. Hail; 6:45, Imogene LeGros, soprano; Mabel Mundall Peterson, accompanist; I. B. S. A. choral singers; address, W. E. Page.

WQJ, Chicago, Ill. (447.5), 8-10 p. m., Ralph Williams and his Rainbo Garden orchestra; Bela Marta, violinist; Marie Dneprova, Russian soprano; Lavina Price, pianist; Muriel Kenealy, soprano; Adeline Keller, contralto; Sheppard Levine, tenor; Helen Reed, accompanist; Fontella trio.

WREO, Lansing, Mich. (285.5), 10:30 a. m., First Baptist church; Mrs. Henry Chambers, organist.

WSAI, Cincinnati, Ohio (326), 3 p. m., Radio sermonette, Press-Radio Bible Service, Inc.; 3:10, WSAI Radio chimes, Robert Badgley.

WTAS, Elgin, Ill. (302.8), 8-12 midnight, Purple Grackle orchestra; Herbie Mintz, Maurine Marseilles, Phil Wilcox, Evelyn Johnson, Art Stiller.

WWJ, Detroit, Mich. (352.7), 11 a. m., St. Paul's Episcopal cathedral; 6:20 p. m., Capitol theater gang; 8:15, Goldman band concert.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 4-5 p. m., dinner program.

KFDM, Beaumont, Texas (315.6), 8-10 p. m., musical program.

KFNF, Shenandoah, Iowa (266), 10:45 a. m., First M. E. church; 2:30 p. m., Golden Rule song service; 3, music; 6:30, Golden Rule circle; 8, Union church services.

KFVE, University City, Mo. (240), 8:30 p. m., amusement review; 10, sacred musical cantata, "My Redeemer," Rev. C. W. Davis, director; "The Prodigal Girl," Rev. C. W. Davis; Bethlehem Congregational church orchestra.

KOIL, Council Bluffs, Iowa (278), 7:30-9 p. m., the Monarchs orchestra.

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble; 7, popular program; 9, "The Valiant," one-act play, Arthur H. Faust and company; 10, Coilla Dare and Mabel Connell's eight lady entertainers.

WCBD, Zion, Ill. (344.6), 8 p. m., mixed quartet, trombone quartet; Mrs. H. E. Mayfield, soprano; Mrs. Hester Robinson, reader; William C. Dunn, euphonium soloist; Paul Stewart, cornet; R. F. Reid, baritone; Dorothy Schadd, pianist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 10:30 a. m., Plymouth Congregational church; 4:10 p. m., House of Hope Presbyterian church; 7:30, First Baptist church; 9:15, Lillian Dahl Lindstrom, pianist; Beethoven string quartet; Selma Erickson, soprano; Paul Oberg, pianist.

WDAF, Kansas City, Mo. (365.6), 4-5 p. m., program, Newman, Royal, Pantages theaters; 5-5:30, Sunday school lesson, Dr. Walter L. Wilson.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Radio Bible class, Dr. William M. Anderson; 8-9, Westminster Abbey Presbyterian church; 9:30-11, Little Symphony orchestra.

WHAD, Milwaukee, Wis. (275), 3:15 p. m., Milwaukee Park board band.

WHAS, Louisville, Ky. (399.8), 10 a. m., church service, Temple Adath Israel.

WHO, Des Moines, Ia. (526), 7:30-8:30 p. m., Bankers Life trio.

WOAI, San Antonio, Tex. (394.5), 11 a. m., First Presbyterian church; 8 p. m., Central Christian church, 9:30-10:30, program, Penelope Borden, director.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra, Herschel Raines, director; male quartet, saxaphone quartet.

WOAW, Omaha, Nebr. (526), 9 a. m., chapel service, Rev. R. R. Brown; 9 p. m., chapel service.

WOC, Davenport, Iowa (483.6), 1-2 p. m., Palmer Little symphony; Paul J. Vipperman, tenor; 8-8:30, First Baptist church, Rev. J. M. Jones; 9:30-11:30, Palmer Little symphony.

WOS, Jefferson City, Mo. (440.9), 8 p. m., Union church services.

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 10:50 a. m., service, First Church of Christ Scientist; 4 p. m., KOA orchestra; 7:50, First Church of Christ Scientist.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 9-11 p. m., late news followed by Warner Bros. Sunday night movie frolic.

KGO, Oakland, Calif. (361), 11 a. m., First Unitarian church; 3:30 p. m., KGO Little Symphony orchestra; 8, First Unitarian church.

KGW, Portland, Ore. (491.5), 10:15-12 noon, services, Church of Our Father, (Unitarian); 7:25-9 p. m., services, First Presbyterian church.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7, Art Hickman's Biltmore hotel concert orches-

(Continued on page 13)

PROGRAM FOR GOLF BUGS AT KHJ

Sunday, August 30

(Continued from page 12)

tra, Edward Fitzpatrick, director; 7-7:30, organ recital, First Methodist Episcopal church, Arthur Blakely, organist; 8-10, program, Martin Music company, arranged by J. Howard Johnson.

KJR, Seattle, Wash. (384.4), 11 a. m., First Methodist Episcopal church; 3:30 p. m., municipal band, Woodlawn Park; 7, First Methodist Episcopal church; Mrs. Montgomery Lynch, organist.

KNX, Hollywood, Calif. (336.9), 7-8 p. m., First Presbyterian Church of Hollywood, Rev. Stewart P. MacLennan, pastor; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, program, Beverly Hills Nurseries presenting the Russian stringed quartet, Calmon Luboviski, leader.

KTAB, Oakland, Calif. (215), 7:45 p. m., evening church services.

KTCL, Seattle, Wash. (305.9), 7:50-9:10 p. m., First Church of Christ Scientist; 9:10-10:10, International Bible Students' association.

Monday, August 31

Monday, silent night for: CKAC, CNRT, KFDM, KFMQ, KGW, KHJ, KLDS, KYW, PWX, WBAV, WBBM, WCAU, WCTS, WEBH, WEBJ, WFI, WGN, WGES, WHAS, WHAZ, WIP, WLS, WTIC, WMAQ, WMBB, WOC, WOAI, WQJ, WRC, WREO.

Atlantic or Eastern Daylight Saving Time Stations

CHNC, Toronto, Can. (356.7), 10 p. m., CHNC orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 12:30-12:55 p. m., dulcimer and piano, Green and Perry; 1:05-1:30, dulcimer and piano; 7:30-7:45, sports talk, Thornton Fisher; 7:45-9, John A. Salvatore, pianist; 8-8:15, Mildred Nash Carrington, soprano; 8:15-8:30, Horace J. Taylor, reader; 8:30-9, Synchrophase trio; 9-9:15, Mildred Nash Carrington; 9:15-9:30, John A. Salvatore; 9:30-10, Synchrophase trio; 10-10:15, Horace J. Taylor; 10:15-10:55, Bensonians dance orchestra; 11:05-11:30 Bensonians orchestra.

WCAE, Rittsburgh, Pa. (461.3), 3 p. m., program, Loew's Aldine theater; 6:30, William Penn hotel; 9, concert; 11, Sander's Inn dance music.

WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Elizabeth Heslop, contralto; 4:10-4:25, Rose Gonchar, pianist; 4:25-4:35, Elizabeth Heslop; 4:35-4:45, Rose Gonchar, pianist; 4:45-5, "Old New York," Henry Collins Brown; 6-7, dinner music, Waldorf-Astoria; 7-7:15, Robert S. Chree, baritone; 7:15-8:30, program, Mark Strand theater; Joseph Plunkett, director; 8:30-8:45, health talk; 8:45-9, Pasadena Warblers; 9-9:20, Herman Popper's Viennese trio; 8:20-9:40, Pasadena Warblers; 9:40-10, Herman Popper's Viennese trio; 10-10:30, musical program; 10:30-11:30, Hotel Bossert Marine Roof orchestra.

WEEI, Boston, Mass. (475.9), 6 p. m., Jack Renard and his Mansion Inn orchestra; 7:30, C. B. Collins, tenor; 7:40, Sara Locke, pianist; 8, Jutras Gaston, violinist; 8:45, Ed Andrews and his Nautical Garden orchestra; 10, talk.

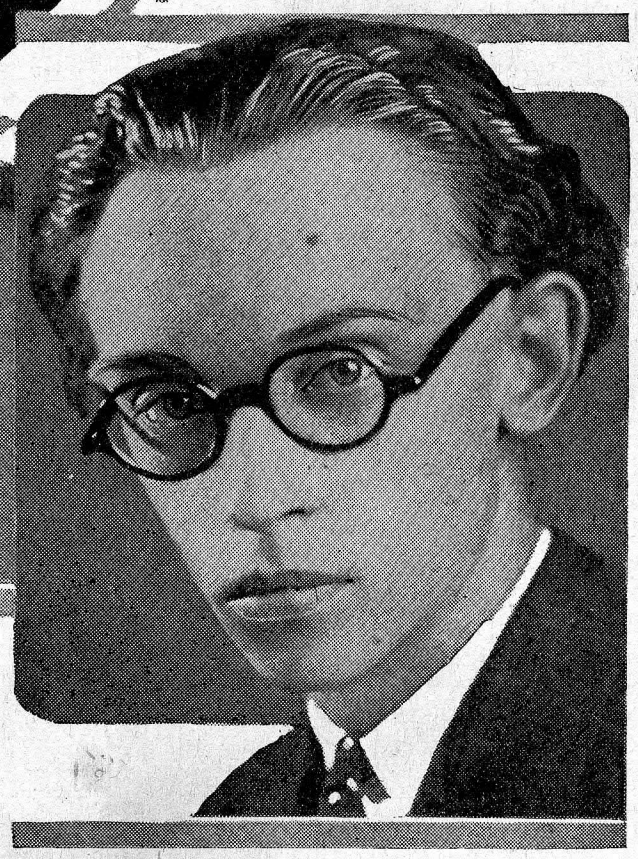
WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford concert trio; 3, James G. Rodgers, science man of the Orient; 6:45, Bellevue Stratford Roof Garden orchestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Century orchestra, featuring Charles G. Seelach, violinist; 9-9:30, program, Mrs. Carl Dickerman; 9:30-10, comedy program, featuring E. J. Clare; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, stories for little folks, Mildred Hagen; 8, Seaside hotel trio.

WHN, New York, N. Y. (361.2), 8-8:30 p. m., Roseland dance orchestra; 11-11:30, organ recital, Lexington theater; 11:30-12, Silver Slipper revue; 12-12:30 a. m., Owl entertainers.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 3, song of the surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.



Les Roscoe is the Ragman of KHJ whose twinkling fingers make new melodies out of our popular songs. He is one of the Lost Angels heard Saturday nights. Edythe England, violinist, plays this Wednesday at WGN, Chicago. Ted Meyn, organist and creative humorist of the Pantages theater in Kansas City, plays request numbers on the organ for listeners during the Nighthawk frolics at WDAF.

WJAR, Providence, R. I. (305.9), 7:45 p. m., Berry Spring dance hour.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, Pianist; 7:30 p. m., Dream Daddy's bedtime stories; 8, Fairmount Park Symphony orchestra; 9, Stanley theater hour of music; 10, Arcadia cafe dance orchestra.

WMCA, New York, N. Y. (340.7), 6:30-7:15 p. m., Ernie Golden and his Hotel McAlpin orchestra; 7:30-7:45, songs, Coakley Sisters; 8-9, lecture, Third Church of Christ.

WNYC, New York, N. Y. (526), 6:30-6:40 p. m., "Home Economics," Mrs. Louis Reed Welzmiller; 6:45-7, piano recital; 7-7:30, Original Charleston Five; 7:35-7:45, news of the day; 7:45-8, Original Charleston Five; 8:15-10:15, band concert, Mall, Central Park; 10:15-10:30, talk, Dr. Sydney N. Ussher.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 12:02 p. m., Golden's Crystal Tea Room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra; 8, Mark Strand theater program; 8:45, Pasadena Warblers; 9, Herman Popper's Viennese trio; 9:20, Pasadena Warblers; 9:40, Herman Popper's Viennese trio; 10:30, Bossert Marine Roof orchestra; 11, A. Candelori's Roof Garden dance orchestra.

WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., Chateau Baltusrol orchestra, Wallie Osborne, director; 7:15-7:30, sports talk, Bill Wathey; 8:30-9:30, Al Reid's hour.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., concert.

WBBM, Chicago, Ill. (226), 5:30-6 p. m., kiddies' joy-digger club; 6-7, Stewart-Warner program; Charlie and Dave, Nate Caldwell, Alamo orchestra; Marie Margot, harpist.

WBZ, Springfield, Mass. (333.1), 6 p. m., Capitol theater orchestra; Rene Dagnais, organist; 8, Aleppo Drum corps, Shriners' band; 8:30, Percy Appleby, tenor; Harold Crumrine, flutist; Ruth Appleby, accompanist; 9, Frances Zirkin, pianist; 9:15, John L. McKay, violinist; 9:40, "At the Theaters," A. L. S. Wood.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle.

WCX, Detroit, Mich. (517), 2:30 p. m., band concert, Belle Isle; 6, dinner concert, Book-Cadillac hotel; 8, the Detroit Symphony orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., music, Loew's State theater.

WGY, Schenectady, N. Y. (379.5), 1:30 p. m., Asia club orchestra; 5:30, Hotel Ten Eyck orchestra; 6:35, Catricala trio; Mrs. Norma V. Gatricala, soprano.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble, Book-Cadillac hotel; 10, Blue room dance orchestra.

WKRC, Cincinnati, Ohio (422.3), 8 p. m., Caldwell & Taylor Original Benzol boys; 9, program, American Legion of Ohio; 12, Marion McKay's Bond Hill House orchestra.

WLW, Cincinnati, Ohio (422.3), 7 p. m., dinner concert, Hotel Gibson orchestra, Robert Visconti, director; 10, popular program, courtesy of Liggett Brothers Coal company; sparks, Liggetts Red Hot piano player; 11, Famous Lyric male quartet; violin solos with organ accompaniments, William and Rosemary Stoess.

WOK, Homewood, Ill. (217.3), 6-8 p. m., ballad hour; Ada Allen, soprano; Jimmie Watson, baritone; 8-1, Thora Martens, contralto; Paul Small, tenor; Werner and Spike, accordionists; Marie Wright, soprano; Jimmie Cairns, tenor; Lew Butler, tenor; Buck Weaver, banjoist; Gail Bandell, jazz singer; Langdon Brothers, Hawaiian guitarists; Herman Sinaiko, violinist; LeRoy North, pianist; George Hall banjoist.

WORD, Batavia, Ill. (275), 8:30 p. m., Fred Thelander, baritone.

WSAI, Cincinnati, Ohio (326), 10 p. m., Herbert Spangler, violinist; Helen Nugent, contralto; Ferd Raine, tenor; 11, Carl Schuett, pianist; Leora Lorimer, contralto.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Golden Pheasant dance orchestra; 8-9, instrumental hour; Willard Symphony, Walter Logan, director; 9-10, concert program; 11-12, dance music, Frank Wilson's Euclid Beach Park orchestra.

WTAS, Elgin, Ill. (302.8), Purple Grackle orchestra; Herbie Mintz, Tommy Dunlap, Tubby Garon, Maurine Marseilles, Art Stiller, Berger Wedberg.

WTIC, Hartford, Conn. (348.6), 6 p. m., Emil Heimberger's Hotel Bond trio; J. Reginald Kelsey, baritone.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 7:30, Goldman band concert.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., dinner program; 7:30-9:30, Gillen & Boney Prize candy program; Belshaw's dance orchestra; Clyde Davis, singing violinist; Mart Gauenhorst, banjoist; Earle Watson, tenor; John Sloat, pianist; Colonians dance orchestra.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., Henry Field Seed company.

KFVE University City, Mo. (240), 10 p. m., Orchestra Romaine; Olin Gibson.

KOIL, Council Bluffs, Iowa (278), 7:30-9 p. m., Paramount program; address, Frank Hodson; Mary Berigen, pianist; Margaret Borson, vocalist; Art Doty and his band; 11-12, Hotsy-Totsy orchestra; Hall Mark Six orchestra.

KSD, St. Louis, Mo. (545.1), 9 p. m., program.

KWKH, Shreveport, La. (273), 3:30 p. m., piano music; 4, baseball; 8-9, musical program, Seigel Brothers saxophone.

WCBD, Zion, Ill. (344.6), 8 p. m., mandolin and guitar band; celestial bells; Fred Faassen, organist; L. J. Hire, violaist; Erwin Rendall, flutist; Mrs. P. M. LaRose, contralto; Dorothy Bull, soprano; Mrs. Evangeline Rendall, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:45 p. m., F. & R. family; 9:05, talk, Northwest Dairy exposition.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in, number on the Duo-Art; Cecile Burton, reader; Tell-Me-a-Story lady; Plantation players; 8-9, around the town with WDAF; 11:45-1 a. m., Merry Old Chief and the Plantation players; Ted Meyn, organist; Earl Coleman's orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Artie Collins and his orchestra; 8:30-9:30, Sears-Roebuck Agricultural Foundation program.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8-10, Marquette university studio program.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., program, Dean Holmes Cowper, director; 11-12, dance program.

WOAI, San Antonio, Tex. (394.5), 8:30 p. m., Menger hotel trio.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra; saxaphone quartet.

WOAW, Omaha, Nebr. (526), 6 p. m., Phyllis Griswold, organist; 6:30, McCrory's popular period, Lillian Madsen, director; 6:45, Ray Muzzy's Carter Lake club orchestra; 9, de luxe program.

WOS, Jefferson City, Mo. (440.9), 8 p. m., address, B. H. Piepmeier.

Mountain Standard Time Stations

KFWA, Ogden, Utah (216), 9-10 p. m., Ensign Drug company.

KOA, Deuver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 7:30, Sandman's hour; 8, scientific football, Tom McNamara; 8:10, Barnes Commercial school, Barnes Ladies' chorus; Denver concert quartet; "Trees and Shrubs of the Rockies," Colorado Mountain club; "Character in Speech," Erna Pallat Griplett; "The Qualities Desired in Young People by Business Men," H. E. Barnes.

Pacific Standard Time Stations

KFOA, Seattle, Wash. (454.3), 6-6:45 p. m., Hoffman orchestra, baseball scores; 6:45-8:15, Sherman, Clay and company program; 8:30-10, Times studio program.

KFWB, Hollywood, Calif. (252), 6-7 p. m., Big Brother of KFWB; 7-7:45, Radio Doings Question and Answer period, K. G. Ormiston, technical editor; Van Sisters trio; J. Stanley Fulbright, tenor; 8-9, program, Star Motor Car company, Million Dollar orchestra; Frank Stever, baritone; Vic Beall and Frank Pierce, comedy songs; 9-10, program, James Bell, tailor; James Bell's orchestra; Kathryn Martin, soprano; Dave Chudnow, pianist; 10-11, Warner Bros. frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361), 3-4 p. m., program, Kohler & Chase; 6-7, Theodore Strong, organist; 8, "To Whom Do Cases of Communicable Disease Belong?" Hugh Barrett Dobbs; "Symposium on the New Education," Williams institute; "Switzerland, Paris and London," Helene Phillips; chats about new books, Joseph Henry Jackson; "Inside Dope on Curing Automobile Ills," Louis P. Signer; Arion trio.

KJR, Seattle, Wash. (384.4), 7-8:25 p. m., Sears-Roebuck and company program; 8:30-10, Post-Intelligencer courtesy program; 10-11, Gordon Kilbourne and his orchestra.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-7:30, Mutual Motors mirth contest; 7:30-8, program, Columbia Outfitting company; 8-9, program, L. W. Stockwell company; 9-10, program, Globe Ice Cream company; 10-11, Goodrich Silvertown Cord dance orchestra, Lilyan May Challenger, contralto; 11-12, Ray West's Ambassador hotel dance orchestra.

KTAB, Oakland, Calif. (215), studio program.

KTCL, Seattle, Wash. (305.9), 9-10 p. m., National Machine Sales company program.

Tuesday, September 1

Tuesday, silent night for: CHNC, CNRT, KFKX, KOA, PWX, WAHG, WBAV, WCBD, WCTS, WDAF, WEAO, WHAD, WHAZ, WKAQ, WLIT, WOR, WOS, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 8, program, New York; 8:30, Gold Dust Twins; 9, Eveready hour; 10, grand opera.

(Continued on page 14)

MADAME TESSIER TO SING AT WTIC

Tuesday, September 1

(Continued from page 13)

WCAU, Philadelphia, Pa. (278), 7:30 p. m., Snellenburg Choral society, direction Henry Gordon Thunder; 8, Ambrose McIntire, baritone, Elizabeth Olive Gear, accompanist; 9, talk, "Game of Tennis," Paul Gibbons; 9:30, Harry Link and his gang; 10:30, Billy Hayes and his Cathay Tea Garden dance orchestra.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Walter H. Preston, baritone; 4:30-5, women's program; 6-7, dinner music, Waldorf-Astoria; 7-7:30, WEAF Light opera quartet; 8:05-8:30, Metropolitan instrumental trio; 8:30-9, Gold Dust Twins; 9-10, "Eveready Hour;" 10-11, grand opera, "Ernani," WEAF Grand Opera company; 11-12, Vincent Lopez and his orchestra.

WEBJ, New York, N. Y. (272.6), 7-7:15 p. m., Leon H. Fox, violinist; 7:30-8, Frank Cork's Luna Park orchestra; 8-10, railroad talk, G. T. Geer; 8:15-8:30, Philip Krumholtz, tenor; 8:30-9, Arthur Pryor's concert band.

WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:30, Evelyn Brooks, pianist; 7:45, Harold Garr, basso-cantanti; Helen O'Hara, pianist; 8, Metropolitan instrumental trio, WEAF; 8:30, Gold Dust Twins; 9, Eveready hour; 10, WEAF Grand Opera company.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford concert trio; 3, Varsity Seven dance orchestra; 6:45, Bellevue Stratford Roof Garden orchestra; 8:05, Metropolitan instrumental trio; 8:30, Gold Dust Twins; 9, Eveready hour; 10, grand opera, "Ernani"; 11, Bellevue Stratford dance orchestra.

WHN, New York, N. Y. (361.2), 12:30-1 p. m., organ recital, Lexington theater; 2:15-3:15, overture and vaudeville, Loew's State theater; 3:15-4:30, Lexington theater orchestra; 4:30-4:45, Uncle Robert's chat to children and grown folk; 7:30-8, Will Oakland's Chatheau Shanley; 8-8:30, Colonial Aces; 9:30-10, Palisades Amusement Park orchestra; 11-11:30, Silver Slipper revue.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 3, song of the surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's Philharmonic orchestra; 8:45, song of the surf; 8:50, Veselli's band; 10:05, "Emo's Weekly Movie

Giuseppe de Benedetto is the tenor star who plays the leading roles in the WEAF Grand operas. He is also in demand for request numbers which he sings two or three times a week.

Broadcast"; 10:30, Traymore hotel dance orchestra; 11, California Night Hawks.

WJAR, Providence, R. I. (305.9), 7:30 p. m., studio program; 8:30, Gold Dust Twins; 9, Eveready hour.

WLIT, Philadelphia, Pa. (394.5), 11 a. m., organ recital; 12:02 p. m., daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 2:30, Emil Fritz, flutist; 4:30, magazine corner, Mrs. B. F. Maschad.

WMCA, New York, N. Y. (340.7), 7-8 p. m., Jack Wilbur's personalities; 8:30-8:45, Columbia Amusement Park orchestra; 9-9:40, Evening Graphic Ukulele school; 10-11, Chiropractic hour of music; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 7-7:30 p. m., the Canadians; 7:35-8, the Canadians; 8:15-10:15, band concert; 10:15-10:30, song recital.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 12:02 p. m., Golden's Crystal Tea Room orchestra; 4:45, organ recital; 7:30, A. Candelori's orchestra.

WOR, Newark, N. J. (405.2), 6:30-7 p. m., man in moon; 7:15-7:30, sports talk, Bill Wathey.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., concert; 10:15, concert, Willows.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Congress hotel; 8-8:30, musicale; 8:30-8:45, American Farm Bureau federation; 8:45-9:30, music; 10-11:30, evening at home.

WBBM, Chicago, Ill. (226), 6-7 p. m., Stewart-Warner program, Alamo orchestra; Will Newlan, saxophonist; Marie Margot, harpist; Harold Anderson, accordionist.

WBZ, Springfield, Mass. (333.1), 6 p. m., Leo Reisman's Hotel Lenox ensemble; 8, Madame Eugenie Tessier, blind prima donna soprano; Bernadette Bourbonnais, accompanist; 8:30, Mrs. Carl Diemer, cellist; Carl Diemer, violinist; 9, Hotel Brunswick orchestra.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle, artists.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, musical program; 10, the Red Apple club.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Marjorie Moore and her Melody Maids; 8-9, instrumental trio; 9-10, R. T. L. program; 10-11, artists.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Lydia Lochner, contralto; Uptown theater; 9:30-10:30, Oriole orchestra; Dorothy Herman Blum, soprano; Frank Bordner, baritone; Loos Brothers; 11:30-1 a. m., Oriole orchestra; Sandy Meek, tenor; Harry Sosnik, accompanist; Jack Penewell, twin guitarist; songs, Banks Kennedy, Paul Small.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 10:30-11:30, jazz scamper program.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 8-11, jointly through WEAF, including Gold Dust Twins, Eveready hour and the grand opera, "Ernani."

WGY, Schenectady, N. Y. (379.5), 1:30 p. m., Stephen E. Boisclair, organist; 5:30, dinner concert, Hotel Van Curler orchestra; 6:55, travel talk; 7:25, WGY orchestra, Mardi Kenny, WJZ; 10, Mayflower orchestra.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, book review, Mrs. James Lord; 8, Seaside hotel trio; 11:15, Strand theater organ recital.

WIBO, Chicago, Ill. (226), 2-4 p. m., program for Shut-ins, Dan Russo, Ted Fiorito, Harry Geise, Joe Allabaugh, Sandy Meek, Harry Sosnik, Jack Sprat; 6-8, Jack Sprat concert trio; Mildred Perlin, reader; Sheppard Levine, tenor; Yolanda Schaumberger, contralto; Chester Newman, baritone; 12-3 a. m., Victor Young, Helen and Rita Young; Dan Russo, Ted Fiorito, Harry Geise, Joe Allabough, Kay Ronayne, Mark Fisher, Paul Small, Gail Bandell, Zeiger Sisters, Lucas Sisters.

WJR, Detroit, Mich. (517), 7 p. m., Jean Godkette's ensemble, Book-Cadillac hotel.

WKRC, Cincinnati, Ohio (422.3), 10 p. m., Sam Pusateri, baritone; Sam Bova, tenor; Pete Mincowski, violinist; Al Kirschner, pianist; Maxim Eastyluck, Russian baritone; Eugene Perazzo, pianist; 10:15, safety talk, John Arnold; 11:30, Marion McKay's Bond Hill House orchestra.

WLW, Cincinnati, Ohio (422.3), 4 p. m., student recital, pupils of Leo Stoffregen and William Kyle; 6:30, instrumental trio; Gene Johnson, organist; 7, WLW story lady, Mrs. Bertha W. Edmonds; 8, WLW Feature orchestra, theater overture novelty, best loved melodies of Victor Herbert; 8:30, Warren Foster, WLW's phenominal boy soprano; 8:45, hand saw solos, Mrs. Harry H. Nagle, organ and piano accompaniments, Gladys Hettrick Kruse; the Formica concert orchestra, William Stoess, director.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ; 6:30, Jack Chapman's orchestra; 8:30, travel talk, Clara Laughlin; 8:50, program; 9:30, Jack Chapman's orchestra; 9:40, weekly talk on swimming.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., Trianon ensemble; John S. Everett, baritone; Bernard Senescu, violinist; Marie Caruso, soprano; 8:30-10:30, Trianon orchestra; Woodlawn theater orchestra; Florence Tenney; Charles Agne, marimba soloist.

WOK, Homewood, Ill. (217.3), 6-7 p. m., Genevieve Barry Burnham, soprano; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1 a. m., Rushmore ensemble singers; Gertrude Mugford, soprano; Kraft harmony boys; Evelyn Johnson, soprano; Jacobson and Ray, Hawaiian guitarists; LeRoy North, pianist.

WORD, Batavia, Ill. (275), 8:30 p. m., Marvel Larson, soprano; B. M. Rice, baritone; Bible address.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Maude Shapton Couse, soprano; Leroy Trauger, baritone; Sophine Lobel, concert pianist; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Everett George Opie; Frank Blasko, boy tenor; Jerry Sullivan; Rose Vanderbosch; Will Rossiter; Ila Shannabrook, soprano; Mack Sisters, Harold Rick, Mary Jane; 1-2, Ginger hour.

WSAI, Cincinnati, Ohio (326), 7:45 p. m., chimes, Robert Badgley; 8, Eveready hour; 9, Edith Tolken, violinist; Tom Byrne, cellist; Howard Fuldner, bass.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner music.

WTAS, Elgin, Ill. (302.8), 8-10:30, p. m., Purple Grackle boys; Herbie Mintz, Flo Henrie, Lillian Bernard, Tony Corcoran, Violet Eaton, Phil Wilcox, Ruth Etting, Ned Miller, Brock Sisters.

WTIC, Hartford, Conn. (348.6), 6 p. m., Travelers Jongleurs; 7:10, Sheardie T. Newsome, ensemble; 7:30, organ recital, Austin Organ company; 8:10, Sheardie T. Newsome; 8:20, talk; 8:45, Colt Park municipal orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert, 7, concert from New York.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., Buick Little Symphony; Raymond Elwood, console artist; 7:30-8:30, Schmoller & Mueller Piano company.

KFDM, Beaumont, Texas (315.6), 8-9 p. m., sacred program.

KFMQ, Fayetteville, Ark. (299.8), 9 p. m., D. C. Hansard, violinist; Mildred Gillespie, pianist.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., pipe organ concert.

KFVE, University City, Mo. (240), 10 p. m., Miss Horell, lyric soprano; Romaine Fielding, reader.

KSD, St. Louis, Mo. (545.1), 7 p. m., Arne Arnesen's concert orchestra.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., Ray Mullins' 8-piece orchestra.

KWKH, Shreveport, La. (273), 3:30 p. m., piano music; 4, baseball; 9-12, Hotel Youree orchestra.

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble; soloists; 9, Vernon Wick's quartet; 9, dance orchestra, popular singers.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:30 p. m., program, WEAF.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Duo-Art; address; Tell-Me-a-Story lady; Plantation players.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Frensley Moore and his Black and Gold serenaders; 8:30-9:30, Julia Graham Charlton, pianist; 11-12, Blake's Hawaiian quartet.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Carl Zoeller, director.

WHO, Des Moines, Iowa (526), 7:30-8:30 p. m., musical program.

WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., musical program, Miss Borden; 9:30-10:30, Jimmy's Joys.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra, saxaphone quartet, male quartet, saxaphone quarete.

WOC, Davenport, Iowa (483.6), 6:30-7 p. m., Gold Dust Twins, WEAF; 7-8, Eveready hour, WEAF; Anna Petersen, pianist; Marian Laffey, violinist; May Chambers, soprano.

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra.

Pacific Standard Time Stations

KFOA, Seattle, Wash. (454.3), 6-6:45 p. m., Hoffman orchestra, baseball scores; 6:45-8:15, Rhodes Department store program; special song recital, Wm. J. Taggart; 8:30-10, Times studio program; 10-11, Eddie Harkness and his orchestra.

Baseball Scores

TABULATED below is a time table of the stations giving baseball scores this week. Stations are divided into the different standard times in use. The hours are given in the kind of time in use at each listed station:

Atlantic or Eastern Daylight Saving Time Stations

Saturday, August 29: 4:30, WJZ; 5:30, WCTS, WJZ; 6:40, WPG; 7:15, WOR; 7:25, WNYC; 8, WJZ.

Monday, August 31: 4, WJZ; 4:30, WJZ, WCAE; 5, 5:30, 6, WJZ; 7:15, WEEI, WOR; 7:25, WNYC; 8, WJZ.

Tuesday, September 1: 4, 4:30, 5, 5:30, 6, WJZ; 6:30, WEEI; 7:15, WOR; 7:25, WNYC; 8, WJZ.

Wednesday, September 2: 4, 4:30, 5, 5:30, 6, WJZ; 7:15, WOR; 7:25, WNYC; 7:45, WEEI; 8, WJZ.

Thursday, September 3: 4, 4:30, 5, 5:30, 6, WJZ; 6:30, WEEI; 7:15, WOR; 7:25, WNYC; 8, WJZ.

Friday, September 4: 4, 4:30, 5, 5:30, 6, WJZ; 7:15, WEEI, WOR; 7:25, WNYC; 8, WJZ.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, August 29: 2, WGY; 2:30, KDKA; 2:45, KDKA, WMAQ; 3, KDKA, KYW; 3:15, KDKA; 3:30, KDKA, KYW; 3:55, WWJ; 4, WMAQ, KYW; 4:15, 4:30, KYW; 4:45, 5, KDKA, KYW; 5:55, WTIC; 6, WGN, WLS; 6:50, WTIC; 7, KDKA, WTIC; 7:30, WEBH, WLW; 9:55, KDKA.

Sunday, August 30: 6:30, WBZ; 6:55, WTIC; 9:50, WBZ.

Monday, August 31: 2, WRC; 2:45, WMAQ; 3:30, KDKA, KYW, WEAR; 3:45, WEAR; 3:55, WWJ; 4, KDKA, KYW, WMAQ; 4:30, KYW; 5, KDKA; 5:30, KYW; 5:55, WTIC; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, WEBH, WLW; 9:50, WBZ; 9:55, KDKA.

Tuesday, September 1: 2, WRC; 2:45, WMAQ; 3, KDKA, 3:30, KDKA, KYW, WEAR; 3:45, WEAR; 3:55, WWJ; 4, KYW, WMAQ; 4:30, KYW; 5, KDKA, KYW; 6, WGN, WLS; 6:30, WBZ; 7, KDKA; 7:30, WEBH, WLW; 9:50, WBZ; 9:55, KDKA.

Wednesday, September 2: 2, WRC; 2:45, WMAQ; 3:30, KDKA, KYW, WEAR, 3:45, WEAR; 3:55, WWJ; 4, KYW; 4:30, KYW; 5, KYW; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7, KDKA; 7:30, WEBH, WLW; 9:50, WBZ; 9:55, KDKA.

Thursday, September 3: 2, WRC; 2:45, WMAQ; 3, KDKA, KYW; 3:30, KDKA, KYW, WEAR; 3:45, WEAR; 3:55, WWJ; 4, KYW; 4:30, KYW; 5, KDKA, KYW; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, WEBH, WLW; 9:50, WBZ; 9:55, KDKA.

Friday, September 4: 2:30, KDKA; 2:45, WMAQ; 3, KDKA, KYW; 3:30, KDKA, KYW, WEAR; 3:45, WEAR; 3:55, WWJ; 4, KYW, WMAQ; 4:30, KYW; 5, KDKA, KYW; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, WEBH, WLW; 9:50, WBZ; 9:55, KDKA.

Central Standard Time Stations

Saturday, August 29: 3:30, WDAF, WHAS; 4:30, WDAF, WFAA; 5, WDAF; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 9, WCCO; 9:15, KTHS.

Sunday, August 30: 3:30, 4, WDAF; 4:30, WFAA; 5, WDAF; 5:05, WOS; 6:45, WOC; 9, WCCO; 9:15, KTHS.

Monday, August 31: 3:30, WDAF, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 5:05, WOS; 6, WCCO, WDAF, WOC; 6:30, WOAW, WSMB; 7, WHAD, WOAI; 9, WCCO.

Tuesday, September 1: 3, WOAI; 3:30, WDAF, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6, WCCO, WOC; 6:20, WOAW; 6:30, WSMB; 7, WHAD, WOAI; 8:45, WHAS; 9, KTHS, WCCO.

Wednesday, September 2: 3, WOAI; 3:30, WDAF, WHAS; 4, WCCO; 4:30, WDAF, WFAA; 5, WDAF; 5:05, WOS; 6, WCCO, WDAF, WOC; 6:30, WSMB; 7, WHAD, WOAI; 9:15, KTHS; 9, WCCO.

Thursday, September 3: 3, WDAF, WOAI; 3:30, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 7, WOAI; 9, WCCO; 9:15, KTHS.

Friday, September 4: 3, WDAF, WOAI; 3:30, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 8:45, WHAS; 9, WCCO; 9:15, KTHS.

Mountain Standard Time Stations

Monday, August 31: 6, KOA.
Tuesday, September 1: 6:30, KOA.
Wednesday, September 2: 6, KOA.
Thursday, September 3: 6:30, KOA.
Friday, September 4: 6, KOA.

Pacific Standard Time Stations

Saturday, August 29: 2:30-5, KNX, 6, KFOA; 6:15, KPO; 8, KFWB, KHJ.

Sunday, August 30: 6:30, KPO; 8, KHJ; 9, KFWB.

Monday, August 31: 6, KFOA; 6:15, KPO, 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

Tuesday, September 1: 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

Wednesday, September 2: 2:30-5, KNX; 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

Thursday, September 3: 6:30, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

Friday, September 4: 2, 3, 4, KNX; 6, KFOA, KPO; 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 7:30-9, program, Western's super-service garage; 9-10, program, H. L. Crockett, Elite trio; Louise Sullivan, soprano; Hudson-Essex quartet; 10-11, Warner Bros. frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361), 6-7 p. m., Theodore Strong, organist; 8, KGO Little Symphony orchestra; 9:50, "Radio Breezes," K. C. B.

KGW, Portland, Ore. (491.5), 7:30-8 p. m., baseball scores; 8-9, program, Portland Restaurant industry; 9-10, General Cord orchestra; 10-11, Jackie Souders' orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m. Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies' hour, weekly visit of Queen Titania and Sandman from Fairyland, Uncle John; Louis F. Klein, auto-harp and harmonica, Chas. Leslie Hill, readings; 8-10, program, Los Angeles Public Golf Course association; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KJR, Seattle, Wash. (384.4), 8:30-10 p. m., courtesy program, Puget Sound Savings and Loan association.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-8, Don Clark and his La Monica Symphonic dance orchestra; 8-10, feature program, Beverlyridge company, Beverlyridge orchestra; 10-12, movie night at the Ambassador, Ray West and his Cocoanut Grove dance orchestra.

KTAB, Oakland, Calif. (215), 8-10 p. m., program, Mutual Stores.

KTCL, Seattle, Wash. (305.9), 7-8 p. m., Simonds Saw and Steel company; 8-9, Northwest Products night.

Wednesday, September 2

Wednesday, silent night for: CHNC, CKAC, CNRT, KFDM, KFKX, KGO, KLDS, WBAV, WCAU, WCBD, WCTS, WFAA, WFI, WGY, WHAZ, WIP, WMC, WOAW, WORD, WPG, WRC, WREO, WTIC.

Atlantic or Eastern Daylight Saving Time Stations

WAHG, Richmond Hill, N. Y. (315.6), 12:30-12:55 p. m., Almon and Bower, violinist and pianist; 1:05-

Edwin Kemp is the handsome lyric and dramatic tenor who sings from WGES. Mr. Kemp has a wide reputation as an oratorio, concert and operatic artist. He is also soloist of the Woodlawn Methodist church.

1:30, Almon and Bower; 7:30-7:45, sports talk, Thornton Fisher; 7:45-8, Gerlich and Cornish, saxophone and piano; 8-8:15, Raymond Maher, lyric baritone; 8:15-8:30, Stellario Cambria, mandolinist; 8:30-8:45, Mary Killoran, soprano; 8:45-9, Micha Tulin, pianist, 9-9:15, Gerlich and Cornish; 9:15-9:30, Raymond Maher; 9:30-9:45, Stellario Cambria; 9:45-10, Mary Killoran; 10-10:15, Micha Tulin; 10:15-10:55, dance orchestra; 10:55-11:05, time signals and weather report; 11:05-11:30, dance orchestra.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., program, Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 7:30, Sunshine Girl; 9, concert; 11, Loew's Aldine theater.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., musical program; 4:15-4:30, Joe Zimmerman, pianist; 4:30-4:45, musical program; 4:45-5, talk, Anthony Fiala; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, United Synagogue of America; 7:30-8, Dorothy Hoyle, violinist; Giuseppe Di Benedetto, tenor; 8-9, concert, United States Navy band; 9-10, "Old Timers' Hour"; 10-11, Ipana Troubadours; 11-12, Hotel Bossert Marine Roof orchestra.

WEBJ, New York, N. Y. (272.6), 8-8:30 p. m., Club Virginia orchestra; 8:45-9, Crescent quartet; 9:15-9:30, Milton Yokeman, tenor; 9:45-10, Chick Schilling and his Happiness Ramblers.

WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:30, musicale; 8, Raymond Koon, baritone; E. Louis Huson, pianist; 8:30, Earl Nelson and his uke; 9, Chamber of Commerce organ recital.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford concert trio; 3, Loretta Kerk, pianist; 6:45, Bellevue Stratford Roof Garden orchestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, two piano recital, the Gospel Melodists; 9-9:45, violin, piano and vocal program featuring Arthur G. Bolt; 9:45-10, John Dodsworth, reader; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WHN, New York, N. Y. (361.2), 2:15-2:45 p. m., Jimmy Clarke and his White Way entertainers; 2:45-3:15, Carl White's entertainers; 10-10:30, Roseland dance orchestra; 10:30-11, Palisades Amusement Park orchestra; 11-11:30, Silver Slipper revue.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 10:30, special setting-up exercises for women; 3, Song of the Surf; 3:30, Comfort's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 7:30 p. m., program from New York.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 7:30, Dream Daddy's bedtime stories; 8, talk, Dr. Earl Raiguel; 10, Arcadia cafe dance orchestra.

WMCA, New York, N. Y. (340.7), 6:30-7:30 p. m., Ernie Golden and his Hotel McAlpin orchestra; 11:30-12, songs, Jack Smith.

WNYC, New York, N. Y. (526), 5:30-6 p. m., Spanish lessons; 6:15-6:30, "Home Economics;" 6:45-7, piano recital; 7:10-7:30, songs; 7:45-8, song recital; 8:15-10:15, band concert from the Mall, Central Park; 10:15-10:30, song recital.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 12:02, p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra; 8, United States Navy band; 9, Old Timer's program; 10, Ipana Troubadours; 11:00, Hotel Adelphia Roof Garden orchestra.

WOR, Newark, N. J. (405.2), 6:15-7, p. m., Ben Goldfarb and his Bluebird orchestra; 7:15-7:30, sports talk, Bill Wathey; 7:30-8, Vincent Lopez orchestra; 8-8:10, "Topics of the Day," Spencer Armstrong; 9:15-9:30, talk, Dr. Vizetelly; 11-12, Central Park Casino orchestra with Flo Richardson and girls.

(Continued on page 15)

ORIENTAL INSTRUMENTS AT WBZ

Wednesday, September 2

(Continued from page 14)

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., Dry Slitz hour of music.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Congress hotel; 8-9, Sherwood music school; 10-12, midnight revue, Paul Whiteman's Collegians; Albert May Malotte, organist.

WBBM, Chicago, Ill. (226), 8-10 p. m., Samovar orchestra; Nate Caldwell; Maurice Silverman, Dave and Charlie, Harold Anderson, accordionist; Alamo orchestra; Sunset male quartet; 12-2 a. m., Alamo orchestra; Nate Caldwell; Harold Anderson; Charlie and Dave; Harold Weil.

WBZ, Springfield, Mass. (333.1), 6 p. m., Hotel Kimball trio; 8, Donald Pirnie, baritone; Dorothy Binchard Mulroney, acompanist; 8:30, oriental music, Harry Hasekian, violinist; Edward Bashian, Ood soloist; Garvis Bakerjian, kanoon soloist; 9, concert, Maud Murray, Clara Lane.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, musical program.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Hotel Cleveland orchestra.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Florence Behrend, soprano; Howard Neumiller, pianist; 9:30-10:30, Oriole orchestra; Correll and Gosden; Robert York, tenor; 11:30-1, Oriole orchestra; Correll & Gosden; Robert York, tenor; Oriole orchestra.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 8:30-9:30, studio program; 10:30-11:30, jazz scamper program.

WGY, Schenectady, N. Y. (379.5), 5:30 p. m., program for children; 5:45, Albany Strand theater orchestra; Floyd H. Walters, organist.

WIBO, Chicago, Ill. (226), 2-4 p. m., program for Shut-ins; 6-8, Jack Sprat concert trio; Dorothy Rae, soprano; James Luchansky, Austrian tenor; 10-12, Anne Williams, Harry Geise, Carl Linner, Joe Allabough, Harry and Joe.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble Book-Cadillac hotel; 10, Blue room dance orchestra.

WKRC, Cincinnati, Ohio (325.9), 8 p. m., book review, Alice B. Coy; 8:20, Marion McKay's Bond Hill House orchestra; 9, popular song features, Abe Farb, Merrell Schwarz, B. Aylward; 9:30, Marion McKay's orchestra.

WLW, Cincinnati, Ohio (422.3), 4 p. m., Shut-In program; 7, dinner concert, Hotel Gibson orchestra, Robert Visconti, director; 7:20, educational talk, National Farm Radio council; 10, Cino male quartet; 10:30, organ interlude; 10:45, coming and going in National Pastimes; W. A. Phelon; 11, Johanna Grosse, feature organist; The Orpheus instrumental trio, violin, cello and piano.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Georgene Faulkner; 8, Jack Chapman's orchestra; 8:30, program; 9:30, Jack Chapman's orchestra.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., operatic semi-classical program, Trianon ensemble; Lindsay McPhail, pianist; Bernard Senescu, violinist; Desmond Sullivan, cellist; Rebecca Agulnick, pianist; Phyllis Harries, soprano; Charles Agne, trumpet soloist; 8:30-10:30, Trianon orchestra; Woodlawn theater orchestra; Fisher and Wayne; Florence Tenney; Harold Stokes, accordionist; Lindsay McPhail, pianist; Geraldine Doyle, soprano.

WOK, Homewood, Ill. (217.3), 6-7 p. m., Robert York, tenor; Jane McConnell, contralto; Eleanor Gilmore, soprano; Gus C. Edwards' orchestra; LeRoy North, pianist; 10-1 a. m., Ned Miller, tenor; Rita McFawn, soprano; Si Berg, ukulele soloist; Johnny Burns, basso; Herman Sinaiko, violinist; The Serenaders, quartet; Harold Morava, tenor; Gus C. Edwards' orchestra; LeRoy North, pianist; Ned Becker, comedian.

WORD, Batavia, Ill. (275), 8:30, p. m., I. B. S. A. choral singers; Bible address, B. F. Hollister.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Melodians; Fontella trio; Esther Trostrud, mezzo-soprano; Alice Hesner, accompanist; Fred A. Jacobsen, reader; Williamson Brothers and Joe Termini; Gail Bandell, contralto; Clarence Theders, tenor; Rick, Snyder and Gardner; 1-2, Ginger hour.

WSAI, Cincinnati, Ohio (326), 10 p. m., golf talk; 10:10, Richard Gray, baritone; 11, Congress Playing Card string quartet.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner dance music; 8-10, organ recital; 10-11, Hollenden hour; 11-12, dance music, Frank Wilson's Euclid Beach Park orchestra.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Evelyn Johnson, Art Stiller, Herbert Schroeder.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, concert from WEAF.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., Buick Little symphony; 7:30-9:30, alph Hall, banjoist; Waikiki trio; Belshaw's orchestra.

KFVE, University City, Mo. (240), 10 p. m., Leona Bloomer; Mrs. Elsa Herzog, accompanist.

KFMQ, Fayetteville, Ark. (299.8), 7:30 p. m., pasture program; "Farm Filosofy," Cy Adams; "The Dairy Cow and the Pasture," W. H. Woodley; "General Livestock and Pastures," M. W. Muldrow; "Pasture Grasses," D. J. Burleson.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., Henry Field Seed company.

KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brothers of KFWB; 7-7:30, Mutual Motors contest; 7:30-8, program, Beverlyridge company, Beverlyridge Hawaiians, Louise Howatt, pianologues; 8-9, Joe Martin's studio six orchestra, Violet Preston, blues singer; Ernest Morrison, tenor; Don McNamee and Geo. Green, accordion and banjo duets; 9-10, program, Independent Furniture Manufacturing company; 10-11, Warner Bros. frolic.

KGO, Oakland, Calif. (361), 6-7 p. m., dinner concert.

KGW, Portland, Ore. (491.5), 7:30 p. m., baseball scores; 10-11, concert, Sherman, Clay and company.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Baby Muriel MacCormac and Mickey McBan, screen juveniles; Dick Winslow, juvenile reporter; Thelma Carter, pianist; Uncle John; 8, Dr. Mars Bumgardt, scientific lecturer; 8:30-10:30, program, H. Jevne company, arranged by J. Howard Johnson; 10:30-12, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KJR, Seattle, Wash. (384.4), 7-8:25 p. m., Sears, Roebuck and company program; 8:30-10, Post-Intelligencer program.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, leader; 8-10, program, Hercules Gasoline company, the program with a kick.

KTAB, Oakland, Calif. (215), 9-11 p. m., musicale.

KTCL, Seattle, Wash. (305.9), 7-8 p. m., Transportation club; 8:15, KTCL friendly advisor, George H. Crandall; 8:20-8:40, Voice of Seattle; 10-11, Alaska weekly.

Lola Gutman, left, is the attractive leading lady of the WGY players. Her fresh, young voice may be heard this Friday in "Believe Me, Zantippe." Artiss de Volt, harpist and Charlotte de Volt, violinist presented a joint recital from WBZ, Friday, August 28. Paul Franklin McMains is the tenor with the Student Prince company playing in Chicago. He will give a series of concerts from WJJD.

KSD, St. Louis, Mo. (545.1), 7 p. m., Silverman's Jazz band.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., New Arlington hotel instrumental quartet.

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Paul Davin, tenor and orchestra; 7, "Old Fashioned" program; quartet, Mandolin orchestra; Sam Bial, mouth organist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 7 p. m., midweek church service; 8, musical program; 10, dance program; 11:30, Eddie Dunstedter, organist.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's string trio; 6-7, address, Health Conservation association; address, Meat Council of Greater Kansas City; Tell-Me-a-Story lady; Plantation players; 8-9:15, Star's Radio orchestra; Mrs. Alvina Heins, soprano; 11:45-1 a. m., Merry Old Chief; Carl Nordberg's Plantation players; Charles Dornberger's Kansas City Athletic club orchestra; Earl Coleman's Ambassador hotel orchestra.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8, Milwaukee Park board band; 11:30-12:30 a. m., Edmund Fitch, organist.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, auspices Building Material Trade bureau.

WHO, Des Moines, Iowa (526), 6:30-7:30 p. m., Bankers Life trio; 7:30-9, Williamson Brothers; Myrtle Williams, soprano; Helen Birmingham, pianist; 10:30-12, Corn Sugar orchestra.

WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., army night.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra; saxaphone quartet; male quartet; saxaphone quartet.

WOC, Davenport, Ia. (438.6), 4-4:45 p. m., Melodie Girls; 9-10, Erwin Swindell, organist; Grace Huber Lohmiller, soprano.

Mountain Standard Time Stations

KFWA, Ogden, Utah (216), 9-10 p. m., Ogden Paint Oil and Glass company; 10-11, studio program.

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 8, scientific football, Tom McNamara; 8:10, convention program, American Association of Joint Stock Land banks; speakers, Gov. Oliver H. Shoup, Dr. Davis Friday, Robert Cooper, C. A. Williams, Guy Houston; 10, dance program.

Pacific Standard Time Stations

KFOA, Seattle, Wash. (454.3), 6-6:45 p. m., Hoffman orchestra; 6:45-8:15, Hopper Kelly company studio program; 8:30-10, Times studio program.

Thursday, September 3

Thursday, silent night for: CNRT, KFAB, KFAE, KFDM, KFKX, KFMQ, KFOA, KFVE, KOA, KSD, KTCL, PWX, WAHG, WBAV, WCEE, WDAF, WEBJ, WHAD, WHAZ, WJJD, WKRC, WLIT, WOR, WOS, WTAM, WTIC.

Atlantic or Eastern Daylight Saving Time Stations

CHNC, Toronto, Can. (356.7), 9 p. m., Charles E. Bodley and his dance orchestra; Elsie Addison, contralto; Elsie White, soprano.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 9, Atwater Kent Radio artists; 10, Goodrich Silvertown Cord orchestra.

WCAU, Philadelphia, Pa. (278), 6:30 p. m., Billy Hayes and his Cathay Tea Garden dance orchestra; 7:30, N. Snellenburg concert, Anna J. Simon, contralto, Royal P. McLellan, tenor, Virginia Klein, accompanist; 8, Wm. F. Johnson, tenor; Christen Messenger, pianist; 9, Barry O'Moore, Irish tenor; 9:30, popular concert.

WCTS, Worcester, Mass. (268), 10-11 p. m., Silvertown Cord orchestra.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., musical program; 4:45-5, talk, Henry B. Humphrey; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, Greater New York Federation of Churches; 7:30-8, Cushman's serenaders; 8-8:30, popular concert; 8:30-9, talk, Mr. George Elliott Cooley; 9-10, Atwater Kent Radio artists; 10-11, Silvertown cord orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:30, Earle Alpine, baritone; Alberta Derry, pianist; 8, popular concert, WEAF; 9, Atwater Kent artists; 10, Goodrich Silvertown Cord orchestra.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford concert trio; 3, Loretta Kerk, pianist; 6:45, Bellevue Stratford Roof Garden orchestra; 8, popular concert; 9, Atwater Kent Radio artists; 10, Silvertown Cord orchestra; 11, Bellevue Stratford Roof Garden orchestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including popular concert, Atwater Kent artists: the Goodrich Silvertown Cord orchestra.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, lecture period; 8, Seaside hotel trio.

WHN, New York, N. Y. (361.2), 12:30-1 p. m., organ recital, Lexington theater; 3:15-4:30, Lexington theater orchestra; 8-8:30, Will Oakland's Chateau Shanley; 9-9:30, Jimmy Clark's entertainers; 9:30-10, Palisades Amusement Park orchestra; 10:15-10:30, Loew's vaudeville headliners.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 3 p. m., Song of the Surf; 3:30, Comfort's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's philharmonic orchestra; 8:45, Song of the Surf; 8:50, Veselli's band; 10, Gaylord and Young dance orchestra; 11, California Nighthawks dance orchestra.

WJAR, Providence, R. I. (305.9), 8 p. m., studio program; 9, Atwater Kent Radio artists; 10, Goodrich Silvertown Cord orchestra.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 2:30, Arthur Comby, baritone; 4:30, Marcella North, pianist.

WMCA, New York, N. Y. (340.7), 7-8 p. m., Palisadians' orchestra; 9-9:30, Snedden Weir, baritone; 9:30-10, 12th Street band; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 7-7:10 p. m., market high spots; 7:10-7:30, club Arcady orchestra; 7:35-8, club Arcady orchestra; 8:15-10:15, band concert, Prospect Park; 10:15-10:30, songs, Kenneth Casey and son.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra.

WOR, Newark, N. J. (405.2), 6:15-7:15, Halsey Miller's orchestra; 7:15-7:30, sports talk, Bill Wathey.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., concert; 10:15, concert, Willows.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Congress hotel; 7:35-7:53, American Farm Bureau federation; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Pernin; 8:20-9:15, Katherine Johnson, soprano; Sallie Menkes, accompanist; Thora Martens, contralto; Sandy Meeks, tenor; 8:15, talk, John C. Cutting; 10-11:30, KYW's Aerial Minstrels.

WBBM, Chicago, Ill. (226), 8-9 p. m., Samovar orchestra; College trio; 9-10, Stewart-Warner orchestra; Alamo orchestra; Nick Probst; Marie Margot, harpist; 10-12, Samovar orchestra; Harold Anderson; Maurice Silverman.

WBZ, Springfield, Mass. (333.1), 6 p. m., Leo Reisman's Hotel Lenox ensemble; 6:15, John Byam, baritone; 6:32, Leo Reisman's Hotel Lennox ensemble; 7:30, U. S. Marine band; 9, William D. Strong, pianist.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, musical program.

(Continued on page 16)

TOM McNAMARA, FOOTBALL COACH, A

Index to Popular Concerts

TABULATED below is a time table of the stations giving popular concerts this week. Stations are divided into the four different standard times in use. The hours are given in the kind of time in use at each listed station. By using this table as an index and referring to the complete programs below, full information will be obtained.

Popular

Atlantic or Eastern Daylight Saving Time Stations

Saturday, August 29: 6:30, WGBS; 8:15, WEAF; 8:45, WIP; 10, WCAU; 10:15, WNYC.

Sunday, August 30: 7:20, WEAF, 9, WNYC; 10, WNYC.

Monday, August 31: 7:30, WHN, WMCA; 7:45, WNYC; 8:30, WAHG, WOR; 8:45, WAHG; 9, WHAR, WOR; 9:30, WGR, WMCA; 12, WHN.

Tuesday, September 1: 7, WMCA; 8, WHAR, WHN; 8:15, WEAF; 8:30, WEEI, WHN, WJAR; 8:45, WIP; 9:30, WCAU.

Wednesday, September 2: 8:15, WAHG; 8:30, WEEI; 9, WMCA; 10, WAHG; 10:15, WNYC; 11, WCAE; 11:30, WMCA.

Thursday, September 3: 7:30, WEAF; 8, WHN; 8:45, WIP; 9, WHN; 9:30, WCAU; 10:15, WHN.

Friday, September 4: 7, WEBJ, WGR; 7:30, WAHG; 7:45, WAHG; 8, WEAF, WHN; 8:15, WAHG; 8:45, WLIT; 9, WAHG, WEEI; 9:30, WCAU; 10, WLIT; 10:15, WNYC; 10:45, WEAF; 11:30, WLIT.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, August 29: 6:20, WWJ; 8, WBBM, WHT, WLS, WMAQ, WTAS; 8:30, WMBB; 9, WBBM, WLS, WTAM; 9:30, WMBB, WTAS; 10, WBBM, WGBU, WKRC, WLS, WQJ; 10:30, WCEE, WGES, WHT, WJJD, WTAM; 11, WBBM, WGES, WLS, WQJ; 11:30, WCEE, WJJD; 12, WBBM, WHT, WLS, WQJ, WSAI; 1, WBBM, WQJ, WTAM; 2, WTAM.

Sunday, August 30: 6:20, WWJ; 8, WBBM, WTAS; 8:30, WBZ, WMBB; 9, WBBM, WTAS; 9:15, WHT; 9:30, WMBB; 10, WTAS; 10:30, WGES; 11, WGES, WTAS; 12, WBBM, WJJD; 1, WBBM, WJJD.

Monday, August 31: 6, WBBM; 8, WLW, WTAS; 9, WTAS; 9:30, WHAZ; 10, WLW; 10:15, WHT; 10:30, WCEE, WJJD; 11, WHT; 11:30, WCEE, WHT, WJJD; 12, WHT, WJJD.

Tuesday, September 1: 6, WBBM, WTAS; 8:30, WMBB; 9, WBBM, WHT, WTAS; 9:15, WREO; 9:30, WEBH, WMBB; 10, WBBM, WLS, WQJ, WTAS; 10:30, WCEE, WEBH, WGES, WGN, WHT, WJJD, WLS, WQJ; 11, WBBM, WHT, WLS; 11:30, WCEE, WEBH, WGES, WHT, WJJD, WQJ; 12, WIBO, WLS; 12,30, WEBH, WJJD; 1, WBBM, WIBO, WQJ; 2, WIBO.

Wednesday, September 2: 8, WEAO, WLS, WTAS; 8:30, WBBM, WMBB; 9, WBBM, WKRC, WTAS; 9:30, WEBH, WMBB; 10, KYW, WHT, WIBO, WQJ, WSAI; 10:30, WCEE, WEBH, WGN, WHT, WJJD; 11, KYW, WGES, WHT, WIBO, WLS, WQJ, WSAI; 11:30, WCEE, WEBH, WJJD; 12. WGES, WQJ; 12:30, WEBH, WJJD; 1, WQJ.

Thursday, September 3: 8, WBBM, WTAS; 8:15, WREO; 8:30, WMBB; 9, WBBM, WTAS; 9:30, WEBH, WMBB; 10, WBBM, WQJ, WTAS; 10:03, WLW; 10:30, KYW, WEBH, WGN, WHT; 11, WHT, WQJ, WTAS; 11:15, WLW; 11:30, WEBH; 12, WBBM, WIBO, WQJ; 12:30, WEBH; 1, WIBO, WQJ; 2, WIBO.

Friday, September 4: 8, WBBM, WTAS; 8:30, WBZ, WEBH, WMBB; 9, WBBM, WTAS; 9:30, WMBB; 10, KYW, WEBH, WIBO, WLS, WMBB, WTAS; 10:15, WHT; 10:30, WCEE, WGN, WJJD, WQJ; 11, KYW, WEBH, WHT, WIBO, WLS; 11:30, WCEE, WJJD, WQJ; 12, WEBH, WIBO, WQJ; 12:30, WJJD; 1, WQJ.

Central Standard Time Stations

Saturday, August 29: 6:30, WFAA; 7, KSD; 8:30, WOAI, WSMB; 9, KFRU; 9:25, KTHS; 9:30, WSMB; 10, KFRU, KFVE; 10:45, WSB; 11, WBAP, KFRU, KFVE, WOAW.

Sunday, August 30: 9:30, WFAA, WOAI; 11, WBAP.

Monday, August 31: 6:30, WFAA, WOAW; 6:45, WCCO; 7:30, KFAB; 8, KFAB, KFRU; 8:30, KFAB, WMC, WOAI, WSMB; 9, KFRU; 9:30, WSMB; 10, KFVE, WOAW; 10:45, WSB.

Tuesday, September 1: 6:30, WOC; 8, WCCO, WSB; 8:30, WOAI; 10, KFVE; 10:30, KFRU, WOAW; 10:45, WSB; 11:30, KFRU; 12, WOAW.

Wednesday, September 2: 7:30, KFAB, 8, KFRU; 8:30, KFAB, WSMB; 9, KFRU; 9:30, WSMB; 10, KFRU, KFVE; 10:45, WSB; 11:45, WDAF.

Thursday, September 3: 6, WOAW; 8, WCCO; 8:30, WOAI, WSMB; 9, WOAW; 9:30, WSMB.

Friday, September 4: 8, KFAB, WDAF; 8:30, KFAB, WOAI; 9, WHAD; 10, KFVE; 10:45, WSB; 11, KFRU, WMC; 11:45, WDAF; 12, KFRU.

Mountain Standard Time Stations

Wednesday, September 2: 10, KFWA.

Friday, September 4: 10, KFWA.

Pacific Standard Time Stations

Saturday, August 29: 8, KFWB, KNX; 9, KNX, KPO; 10, KFWB, KFI, KFWB; 11, KNX; 11:30, KHJ, KTCL; 12, KNX; 12:30, KHJ; 1, KNX; 1:30, KHJ.

Sunday, August 30: 8, KHJ; 9, KFWB; 10, KFWB.

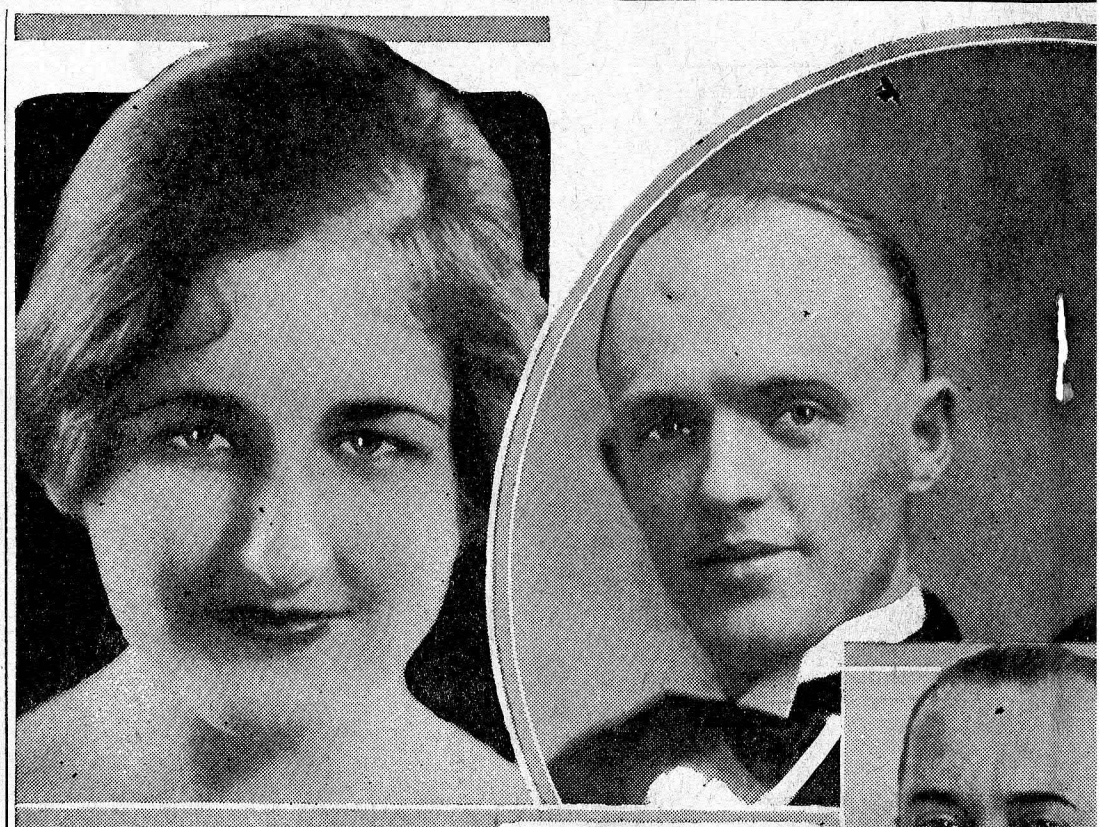
Monday, August 31: 9, KNX; 10, KFWB; 11, KFWB; 12, KFWB.

Tuesday, September 1: 8, KFWB, KNX; 9, KNX, KPO; 10, KFWB, KNX; 11, KFWB.

Wednesday, September 2: 8, KGW, KPO; 9, KFWB, KNX; 10, KNX; 11, KFWB; 11, KNX.

Thursday, September 3: 8, KHJ; 9, KHJ, KTAB; 10, KFWB, KHJ; 11, KNX.

Friday, September 4: 8, KFWB; 9, KFWB, KHJ, KNX; 10, KFWB, KNX; 10:30, KGW; 11, KFWB, 11:30, KGW; 12, KFWB, KNX; 1, KNX.



Doris Sheldon, contralto, sings regularly at WEBJ, New York. The Happy Harmony Boys, Stanley Kolkmeyer and Lester Lutz, above, do not have to coax harmony, it flows freely from them. They will be heard regularly from WKRC, Cincinnati, on the Post-Wurlitzer programs.

Thursday, September 3

(Continued from page 15)

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Marjorie Moore and her Melody Maids; 8-9, musicale; 9-10, Chauncey Lee and his orchestra; 10-11, instrumental solo hour.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Uptown theater; 9:30,-10:30, Oriole orchestra; Katherine Forbes, soprano; Beulah Ladon, violinist; 11:30-1, Oriole orchestra; stories, Wayne Myers; Paul Small, Loos Brothers.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 8:30-9:30, music program; 10:30-11:30, jazz scamper program.

WGY, Schenectady, N. Y. (379.5), 5:30 p. m., dinner program, Ten Eyck hotel; 6:35, Rice String quartet; Helen Riddell, soprano; Mrs. James B. Conant, contralto; Cynthia Vink, contralto; Mabel Keefer, accompanist; 7:30, U. S. Marine band; 9, Royal hour from WJZ; 10:30, Stephen E. Boisclair, organist.

WIBO, Chicago, Ill. (226), 2-4 p. m., program for Shut-ins; 6-8, Jack Sprat concert trio; Robert Metzler, Persian pianist; Elsie D. Hoffman, soprano; Joe Allabough, tenor; 12-3, Harry Geise, Paul Small, Lucas Sisters, Gail Bandell, Dan Russo, Zeigler Sisters, Jack Pennewell, Joe Allabough, Ted Fiorito, Victor Young.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble, Book-Cadillac hotel; 10, Blue room dance orchestra.

WLW, Cincinnati, Ohio (422.3), 4 p. m., piano recital, Adelaide Apfel; 7, dinner concert, Hotel Gibson orchestra, Robert Visconti; 7:50, Seckatary Hawkins; 10, three minute message from Civil Service Department of U. S. Government; 10:03, dance program and entertainment, Doherty Melody boys; Larsch Ferguson, baritone soloist; 10:45, WLW concert orchestra; 11:45, organ, 12, midnight "Bow Wows"—"The Sky Terriers" featuring Chief Barker (Announcer.. Kay Nyne, organist and pianist, and other "Hot Dogs."

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Jack Chapman's orchestra; 8, Jack Chapman's orchestra; 8, Jack Chapman's orchestra; 8:45, musical program; 9:30, Jack Chapman's orchestra.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., English music, John S. Everett, baritone; Trianon ensemble; Bernard M. Senescu, violinist; Wayne King, saxaphonist; Marie Caruso, soprano; 8:30-10:30, Woodlawn theater orchestra; Trianon orchestra; Florence Tenney; Lindsay McPhail, pianist; "The Street Faker," Clyde Hager.

WOK, Homewood, Ill. (217.3), 6-7 p. m., Helen Smith, soprano; Wm. Balhatchet, tenor; Beulah Layden, violinist; Gus C. Edwards' orchestra; LeRoy North, pianist; 10-1 a. m., Sandy Meek, tenor; Harry Sosnik, pianist; Bill Bourke and Sonny Brown; Johnny Burns, basso; Langdon Brothers, Hawaiian guitarists; LeRoy North, pianist; George Hall, banjoist.

WORD, Batavia, Ill. (275), 8:30 p. m., Sunday school lesson; Donald E. Rice, trombonist; William Loblaw, cornetist; Elbert Snyder, pianist.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Tula Miller, soprano; Margaret Walbank, contralto; Clement Laskowski, tenor; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch; Bob Birdsong and Ben Burke; Ralph Keim, soprano; Marie Wright, soprano; Lew Butler, Giant of Radio; Ralph Snyder; Mary Jane; 1-2, Ginger hour.

WSAI, Cincinnati, Ohio (326), 7 p. m., popular concert; 8, Atwater Kent Radio artists; 9, Silvertown Cord orchestra.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner music.

WTAS, Elgin, Ill. (302.8), 8-12 midnight, Purple Grackle boys; Herbie Mintz, Violet Eaton, Roland Hinckle, Flo Henrie, Lilian Bernard, Phil Wilcox, Brock Sisters.

WTIC, Hartford, Conn. (348.6), 6 p. m., Emil Heimberger's Hotel Bond trio; Mrs. Mildred Abbey Johnson, soprano.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 7, concert from WEAF.

Central Standard Time Stations

KFNF, Shenandoah, Iowa (266), 7:30 p. m., concert, Julian, Nebr., Mrs. Sterling Wildberger, director.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., Lawson Reid, organist.

KWKH, Shreveport, La. (273), 3:30 p. m., piano music; 8-9:30, musical program.

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble; 7, classical program; 8, Curb's the limit army, Gen. Warren Tingdale commanding; 10, popular program.

WCBD, Zion, Ill. (344.6), 8 p. m., cornet quartet; clarinet duet, Studebaker, Klawonn; Esther Strachan, reader; Mrs. Sparrow, contralto; Josephine Martin, pianist; Mark Whiteside, baritone; G. R. Sparrow, tenor.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 7-9 p. m., program, WEAF, Atwater Kent Radio artists; Silvertown Cord orchestra.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's Radio orchestra; 6-7, book talk, Louis Mecker; Plantation players.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Lone Star Five's Seven-piece orchestra; 8:30-9:30, farmers' hour, W. B. Chenoweth and his Cornfield symphony orchestra; Cotton Patch choral club; 11-12, George W. Caldwell and his Beaux Arts orchestra.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8-10, Dexter's Wisconsin and Elger's Creole Roof orchestras.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, auspices Helen Eichenberger.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., musical program; 11-12, dance program.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra; saxaphone quartet; male quartet; saxaphone quartet.

WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., Menger hotel trio; 9:30-10:30, Jimmy's Joys dance music.

WOC, Davenport, Ia. (483.6), 7-8 p. m., Atwater Kent Radio artists; 8-9, Silvertown Cord orchestra, WEAF; 11-12, LeClaire hotel orchestra; Peter MacArthur, baritone.

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 7:40 p. m., Fishing streams and fishing, Jack Boaz, fishing scout; 7:45, plastic and facial surgery, Dr. T. Floyd Brown; 8-9, program, Starr Piano company, Hollywood Rythmn Kings in arrangements of Gennett records; Ina Mitchell Butler, soprano; Jack Wilson and his ukulele; 9-10, program, Don P. Smith, Inc., Diana-Moon dance orchestra, Frank Pierce and Vic Beall, comedy songs, Rogers' Hawaiian trio; 10-11, Warner Brothers frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361), 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, "The Lottery Man," KGO players; Arion trio; 10-12, Ben Black's orchestra.

KGW, Portland, Ore (491.5), 7:30-8 p. m., baseball scores; 10-12, dance music, Jackie Souder's orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies hour with Jane Hughes, screen starlet; Piggly Wiggly Girls stringed trio, Uncle John; 8-10, de luxe program, arranged and presented by J. Howard Johnson; 10-10:30, Piggly Wiggly Girls stringed trio; 10:30-12, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KJR, Seattle, Wash. (384.4), 8:30-10 p. m., Puget Sound Savings and Loan Association; 10:30-12, Post-Intelligencer, Keep Joy Radiating Order of the Bats in their Belfry.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-8, program, John A. Evans corporation, Hacienda Park orchestra; 8-10, program, Beverlyridge company; 10-11, Ray Wests Cocoanut Grove dance orchestra from Ambassador hotel.

KTAB, Oakland, Calif. (215), 9-11 p. m., program.

Friday, September 4

Friday, silent night for: CHNC, CKAC, KFAE, KFMQ, KGO, KLDS, PWX, WCBD, WCTS, WFI, WHAZ, WIP, WKRC, WLW, WOR, WRC, WREO, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CNRT, Toronto, Can. (356.9), 6:30 p. m., Luigi Romanelli and his King Edward hotel concert orchestra; 9:30, Edna Reid, soprano; Reginald Stewart, pianist; 11:30, Luigi Romanelli and his King Edward hotel dance orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 12:30-12:55 p. m., musical program; 1:15-1:30, musical program; 7:30-7:45, sports talk, Thornton Fisher; 7:45-8, Ray, uke, whistling and songs; 8-8:15, Florence Gutman, soprano; 8:15-8:30, Frank and Charles Lauria, violinist and pianist; 8:45-9, Ray, ukulele; 9-9:15, Florence Gutman, soprano; 9:15-9:30, Frank and Charles Lauria; 10-10:15, Radio Question Box; 10:15-10:55, Frank Lauria and his orchestra; 10:55-11:05, time signals and weather report; 11:05-11:30, Frank Lauria and his orchestra.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 8, address Current Motor topics; 10, dance music, Sanders' Inn.

WCAU, Philadelphia, Pa. (278), 8 p. m., John A. Shields, violinist; Elizabeth Olive Gear, accompanist; 9, musical review; 9:30, Rennie Carmack, songs; 10:30, Jack Myers' Musical Architects.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Anne Ritz, soprano; 4:15-4:30, Aaron Hirsch, violinist; 4:30-4:45, Anne Ritz; 4:45-5, "Chinese Women," Marcella Crohn Rubel; 6-7, dinner music, Waldorf-Astoria; 7-7:30, musical program; 7:30-7:45, "The Return of Sir Hobgoblin," Blanche Elizabeth Wade; 7:45-8, Modena Scoville, pianist; 8-8:30, "Happiness Candy Boys;" 8:30-9, Eagle Neutrodyne trio; 9-9:15, lecture, Roy C. Scafe; 9:15-9:30, Modena Scoville; 9:30-9:40, talk, Lawrence S. Mayers; 9:40-10, James Blauvelt, tenor; 10-11, concert, S. S. Leviathan orchestra; 11-12, Hotel Bossert Marine Roof orchestra.

WEBJ, New York, N. Y. (272.6), 7-7:15 p. m., Radcliffe dance orchestra; 7:30-7:45, National Czecho-Slovakian band; 8-8:15, Rudolph Joskowitz; violinist; 8:30-9, Arthur Pryor's concert band.

WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:30, program, Whitings Milk company; 8, program, Neapolitan Ice Cream company; 8:30, Jean Cant, violinist and singer; Lillian Cant, pianist; 9, Ed Andrews and his Nautical Garden orchestra.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford concert trio; 3, Caroline Hoffman, pianist; 6:45, Bellevue Startford Roof Garden orchestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 7-7:30, Winger's Crescent Park entertainers; 9-10, Sparks Harmony Kings; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, lecture; 8, Seaside hotel trio; 11:15, Strand theater organ recital.

WHN, New York, N. Y. (361.2), 4:30-4:45 p. m., Uncle Robert's chat to children and grown folk; 8-8:30, Colonial aces; 10:30-11, Roseland dance orchestra; 11:30-12, club Alabam orchestra; 12-12:30, a. m., Silver Slipper revue.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 3 p. m., Song of the Surf; 3:30, Comfort's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 8 p. m., musical program; 9, Maine Creamery hour; 11, Providence Biltmore dance orchestra.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 2:30, playlet, students, National School of Oratory; 4:30, Vincent Rizzo's dance orchestra; 7:30, Dream Daddy's bedtime stories; 8, Chas. Frey's dance orchestra; 8:45, Emmet Welch's Minstrels; 10, Morning Glory club concert; Arcadia cafe dance orchestra; Chas. Frey's Million Dollar Pier dance orchestra; Rufus and Rastus, songs; Carl Zoehrns, song writer.

WMCA, New York, N. Y. (340.7), 6:30-7:30 p. m., Ernie Golden and his Hotel McAlpin orchestra; 7:40-7:45, talk, W. Curtis Nicholson; 8-8:10, "Hints for Better Reception," H. C. Burr; 8:15-8:30, talk, Louis Wiley; 8:30-9, Columbia Amusement Park program; 9-10, Hardmans' hour of music.

WNYC, New York, N. Y. (526), 6-7 p. m., French lessons by V. Harrison Berlitz; 7:10-7:30, song recital; 7:30-7:35, police alarms; 7:45-8, piano recital; 8:15-10:15, concert from the Mall, Central Park; 10:15-10:30, violin recital.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra; 8, recital; 9, WOO orchestra; 10, organ recital, Newell Robinson; 10:30, A. Candelori's dance orchestra.

WOR, Newark, N. J. (405.2), 6:15-6:30 p. m., sports talk, Bill Wathey; 6:30-7, Man in Moon; 7-7:30, Howard Oliver and his Log Cabin orchestra.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., concert.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Congress hotel;

DANCING

Central Standard Ti

Saturday, August

8, Kgw, Wgy, Wn
Wpg, Wtas; 8:05, W
8:30, Webh, Wgy, W
Wsmb; 9, Weaf, W
Wmca, Wqj, Wrc, W
Wtas; 9:30, Wsai, W
Wgn, Wjjd, Wrc;
Kpo, Kths, Wahg, W
Wkrc, Wmbf, Wreo, W
10:30, Webh, Wges;
Kfwb, Koa, Wahg, W
Wfaa, Wjjd, Wkrc, W
11:15, Wdaf, 11
Wges; 11:45, af;
Kgo, Kgw, K Kn

Monday, Au

Wkrc, Wmbb, W s; 8
Weaf, Wsmb; 9:5, V
Wor; 9, Wo V
Wmbf, Wta 9
Wahg; 9:25, Kths; 9
Wcae, Wjjd; 10, K
Wgr, Whn, Wmbf, W
Wtam; 10:30, W
Wjjd; 11, Who, W
11:30, Wjjd; 11:45, W

Tuesday, September

8, Wmbb, Wtas; 8
Wcau, Webh, Wip;
Wcx, Weaf, Wip, W
Wmbf, Wmca, V
Wtas; 9:30, Wcae, W
Wgn, Wjjd, Woai;
Whar, Wmbf; 10
Wcee, Webh, Wges, W
Wkrc, Woaw; 11, K
11:30, Wjjd; 12, Kgo

Wednesday, Septem

2: 8, Kgw, Whad, W
Wkrc, Wmbb, W
8:30, Kyw, Wcau, W
Wjz, Wkrc, Wmaq, W
9, Kfwb, Kyw, W
Wgr, Whad, Wmbf, W
Wqj; 9:05, Wahg; 9
Wahg; 9:30, Kfi, W
Webh, Wges, Wgn, W
Wtas; 10, Kfre, K
Kgw, Kyw, Wreo, V
Wmbf, Wtam; 10
Wcee, Wges, Wsmb;
Wjjd; 11:30, W
11:45, Wdaf; 12,
Kpo, Wqj.

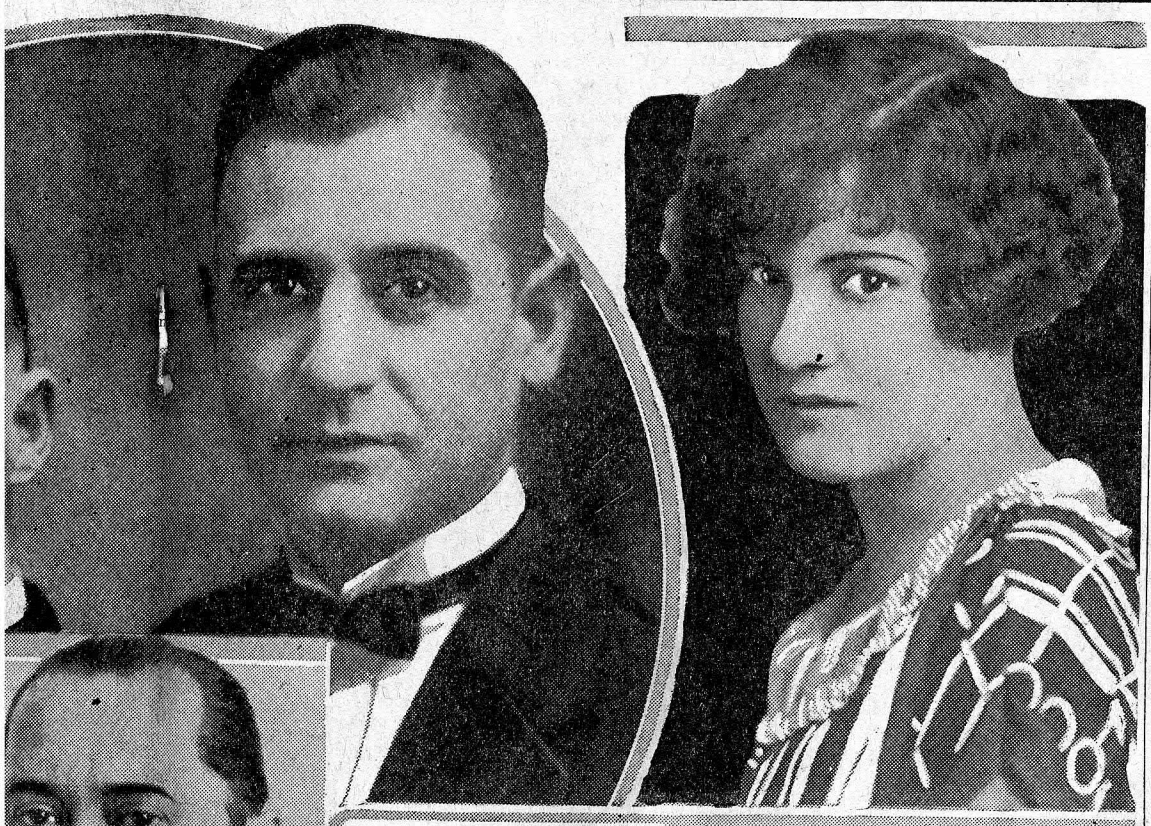
Thursday, Septembe

8, Wfi, Win, W
Wmbb, Wrc, Wtas; 8
Wcau, Webh, Wi
Wsmb; 9, Weaf, V
Wmbf, Wmca, Wqj, V
Wtas; 9:25, Kths; 9
Wgn, Woai, Wsmb;
Wmbf; 10:30, Webh;
Kfwb, Wfaa, V
Wmak, Woc; 12, K
Kgw, Khj, Knx, K
Wqj.

Friday, September 4

Kyw, Wcae, Wear, W
Wmbb, Wtas; 8:30, K
Wcau, Webh, Whn, V
Wmaq, Woo; 9, K
Wcae, Wcx, Weaf, V
Wmbf, Woaw, Wqj; 9
Wahg; 9:30, Wcee, W
Wjjd, Wtas; 10, K
Whar, Wmbf; 10
Wcee, Webh, Wjjd;
Kfwb, Who; 11:45, W
12, Khj, Wqj.

CH, AT KOA; BOW-WOWS BARK AT WLW



Ivan Francisci gives the Sunday afternoon musicale at WEAR. He also directs the Hotel Cleveland orchestra dinner concerts Wednesdays. Mrs. Goldie Funk is the new WOAW hostess. Although her chief duty is to welcome visitors to the studio, she often entertains before the microphone.

DANCING

Central Standard Time

Saturday, August 29: 8, Kgw, Wgy, Wmbb, Wpg, Wtas; 8:05, Wip; 8:30, Webh, Wgy, Wjz, Wsmb; 9, Weaf, Wmbf, Wmca, Wqj, Wtc, Wreo, Wtas; 9:30, Wcae, Wges, Wgn, Wjjd, Wrc; 10, Kpo, Kths, Wahg, Wcco, Wkrc, Wmbf, Wreo, Wpg; 10:30, Webh, Wges; 11, Kfwb, Koa, Wahg, Wcee, Wfaa, Wjjd, Wkrc, Woc; 11:15, Wdaf; 11:30, Wges; 11:45, Wdaf; 12, Kgo, Kgw, Khj, Knx.

Monday, August 31: 8, Wkrc, Wmbb, Wtas; 8:30, Weaf, Wsmb; 9:05, Wjz, Wor; 9, Wcco, Wgr, Wmbf, Wtam; 9:05, Wahg; 9:25, Kths; 9:30, Wcee, Wjjd; 10, Kpo, Wgr, Whn, Wmbf, Woaw, Wtam; 10:30, Wcee, Wjjd; 11, Who, Wkrc; 11:30, Wjjd; 11:45, Wdaf.

Tuesday, September 1: 8, Wmbb, Wtas; 8:30, Wcau, Webh, Wip; 9, Wcx, Weaf, Wip, Wmaq, Wmbf, Wmca, Wqj, Wtas; 9:30, Wcee, Wges, Wgn, Wjjd, Woai; 10, Whar, Wmbf; 10:30, Wcee, Webh, Wges, Wjjd, Wkrc, Woaw; 11, Kfwb; 11:30, Wjjd; 12, Kgo.

Wednesday, September 2: 8, Kgw, Whad, Whn, Wkrc, Wmbb, Wtas; 8:30, Kyw, Wcau, Webh, Wjz, Wkrc, Wmaq, Woo; 9, Kfwb, Kyw, Weaf, Wgr, Whad, Wmbf, Who, Wqj; 9:05, Wahg; 9:15, Wahg; 9:30, Kfi, Wcee, Webh, Wges, Wgn, Wjjd, Wtas; 10, Kfve, Kfwb, Kgw, Kyw, Wcco, Who, Wmbf, Wtam; 10:30, Wcee, Wges, Wsmb; 11, Wjjd; 11:30, Wges; 11:45, Wdaf; 12, Khj, Kpo, Wqj.

Thursday, September 3: 8, Wfi, Win, Wjar, Wmbb, Wrc, Wtas; 8:30, Wcau, Webh, Wmaq, Wsmb; 9, Weaf, Wip, Wmbf, Wmca, Wqj, Wtc, Wtas; 9:25, Kths; 9:30, Wgn, Woai, Wsmb; 10, Wmbf; 10:30, Webh; 11, Kfwb, Wfaa, Who, Wmak, Woc; 12, Kgo, Kgw, Khj, Knx, Kpo, Wqj.

Friday, September 4: 8, Kyw, Wcae, Wear, Weei, Wmbb, Wtas; 8:30, Kyw, Wcau, Webh, Wan, Wjz, Wmaq, Woo; 9, Kyw, Wcae, Wcx, Weaf, Wgr, Wmbf, Woaw, Wqj; 9:15, Wahg; 9:30, Wcee, Wgn, Wjjd, Wtas; 10, Kfve, Whar, Wmbf; 10:30, Wcee, Webh, Wjjd; 11, Kfwb, Who; 11:45, Wdaf; 12, Khj, Wqj.

7:30-8:30, Home Lover's hour; 10-12:30, midnight revue, Paul Whiteman's Collegians.

WBBM, Chicago, Ill. (226), 8-10 p. m., Stewart-Warner program; Alamo orchestra; William Molnaire; Sunset male quartet; Charlie and Dave.

WBZ, Springfield, Mass. (333.1), 6 p. m., Hotel Kimball trio; 8, "Looking into Mysterious Morocco," Lt. Col. Charles Wellington Furlong; 8:40, Bill Boyle's entertainers; 9, Eastern States Exposition orchestra; "New England Agriculture," Dr. Arthur W. Gilbert.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 10, dance music.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., children's hour; 8-8:30, talks, prominent Clevelanders; 8:30-11, dance program.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Uptown theater; Howard Neumiller, pianist; 9:30-10:30, Oriole orchestra; WEBH Light Opera company; 11:30-1, Oriole orchestra; Three Musketeers, Fowler and Tamara's South American Troubadours; Correll and Gosden, Rita McFawn.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 8:30-9:30, studio program; 10:30-11:30, jazz scamper program.

WGY, Schenectady, N. Y. (379.5), 1 p. m., "Citizenship for Women," Florence C. Tabor; 5:30, International Sunday school lesson; 6, program, Albany Strand theater orchestra; Floyd H. Walter, organist; 6:40, "Believe Me, Zantippe," Frederick Ballard, WGY players; 9:30, Keystone trio.

WIBO, Chicago, Ill. (226), 2-4 p. m., program for Shut-ins, Dan Russo, Ted Fiorito, Harry Geise, Joe Allabough, Zeigler Sisters; 6-8, Jack Sprat concert trio; 10-2, Phyllis Feingold, Dorothy Davie Dillow, Dan Russo, Ted Fiorito, Harry Geise, Joe Allabough, Paul Small.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's Venetian room ensemble, Book-Cadillac hotel; 10, Blue room dance orchestra.

WLW, Cincinnati, Ohio (422.3), 12:15 p. m., Gene Johnson, organist.

WMAQ, Chicago, Ill. (447.5), 6 p. m., organ recital, Chicago theater; 6:30, Jack Chapman's orchestra; 8, Jack Chapman's orchestra; 8:30, to be announced; 9:30, Jack Chapman's orchestra.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., Trianon ensemble; Hazel O'Neil, soprano; Lindsay McPhail, pianist; 8:30-10:30, Trianon orchestra; Fisher and Wayne; Woodlawn theater orchestra; Morey Alswang, banjoist; Florence Tenney; Jock Murnane, baritone; Clyde Hager.

WOK, Homewood, Ill. (217.3), 6-7 p. m., Herman Bing, tenor; Edith Hart, soprano; Kenneth Dunn, pianist; Gus C. Edwards' orchestra; LeRoy North, pianist; 10-1 a. m., Harry Davis, tenor; Berger Wedberg, tenor; Al George, banjoist; LeRoy North, pianist; Gus C. Edwards' orchestra; Rose Kutta, soprano.

WORD, Batavia, Ill. (275), 8:30, p. m., Uncle Dan's half-hour Radio Study club; studio recital, Laporte Van Sant and pupils.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Elsie D. Hoffman, soprano; Vivien Purcell, reader; Madame Clough Ramar, pianist; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; West Brothers; William Richardson, Jack Lavin, tenor; Dr. H. Lucille Long; Oscar Gardner; Eleanor Terry, Marie Pollette, Rainbo stars; 1-2, Ginger hour.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner dance music, Golden Pheasant orchestra.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle orchestra; Herbie Mintz, Marie Wright, Tommy Dunlap, Brock Sisters, Art Stiller.

WTIC, Hartford, Conn. (348.6), 6 p. m., Travelers Jongleurs; 7:10, Irene Bourk, soprano; 7:55, Madame Eugenie Tessier, blind prima-donna; 8:05, talk; 8:30, Emil Heimberger's Hotel Bond orchestra; William W. Prout, whistler; 9, concert orchestra, S. S. Leviathan.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, Goldman band, WEAF.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., Buick Little symphony; 7:30-8, Esther Mills, soprano; C. L. Mills, tenor; 8-9:30, saxophone quartet, Sinclair and Ruth Anita Matheny, May Aliene Sinclair, Zellmond Matheny; Charles Sinclair, clarinetist; Zelmond Matheny, celist; Harmonica girls.

KFDM, Beaumont, Texas (315.6), 8-10 p. m., Magnolia Petroleum company's refinery band.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., concert, Denver, Mo., Mrs. Fred L. R. Hill, director.

KFVE, University City, Mo. (240), 10 p. m., Van Horn Farm orchestra.

KSD, St. Louis, Mo. (545.1), 7 p. m., Arne Arnesen's concert orchestra.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., Meyer Davis ensemble; Ray Mullins orchestra.

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble; 7, club night, Camp Fire girls' program; 10, popular program.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:15 p. m., dinner concert; 8, Gordon Cooke ensemble; 9:05, Hugo Philler Goodwin, organist.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's string trio; 6-7, address, Kansas City Children's bureau; Tell-Me-a-Story lady; Plantation players; 8-9:30, popular music program; 11:45-1 a. m., Merry Old Chief; Plantation players; Johnnie Campbell's Kansas City club orchestra; Charles Dornberger's Kansas City Athletic club orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Hauulea School of Hawaiian music; 8:30-9:30, Emmett Peck, violinist.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8:30-10, Wisconsin theater review.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., one-hour concert, auspices Louisville Railway Inspector's quartet.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., Stewart Watson, baritone; Williamson Brothers; Leonard Kirkwood, pianist; 11-12, Kirkwood hotel orchestra.

WOAN, Lawrenceburg, Tenn. (282.8), 9-10 p. m., Vaughan Radio orchestra; saxaphone quartet.

WOC, Davenport, Ia. (483.6), 4-5 p. m., Crescent orchestra; 8-8:15, talk, "Will It Pay the Farm Boy to Go to College?" Dr. H. J. Waters; 8:15-9:15, Mrs. Herbert Wundes soprano; Ted Sloat, baritone; Mrs. S. J. Burich, organist.

Pacific Standard Time Stations

KFWA, Ogden, Utah (216), 9-10 p. m., Becker Products company; 10-11, studio musicale.

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 8, scientific football, Tom McNamara; 8-10, "Fisherman's Paradise," Frederick A. Adams.

Mountain Standard Time Stations

KFOA, Seattle, Wash. (454.3), 6-6:45 p. m., Hoffman orchestra; 6:45-8:15, Sherman, Clay and company program; 8:30-10, Times studio program; 10-11:30, Eddie Harkness and his orchestra.

KFWB, Hollywood, Calif. (252), 8-9 p. m., program, Monte Mar Vista Subdividers; Monte Mar Vista orchestra, Violet Preston, blues singer, Dorothy Dodd, ballads; 9-10, Oriole syncopators, Emma Kimmel, soprano, Decker's Hawaiian trio, Valry Sisters, vocal duets; 10-11, Warner Bros. frolic, direction Charles Wellman.

KGO, Oakland, Calif. (361), 3-4 p. m., Norman Woodside's Metropolitan orchestra; Frank Gibney, tenor; 4-5:30, orchestra, Hotel St. Francis; 6-7, dinner concert.

KGW, Portland, Ore. (491.5), 7:30-8 p. m., baseball scores; 9-10:30, concert, Sherman, Clay and company studio.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Richard Headrick, Vyola Von, screen juveniles, bedtime story by Uncle John; 8-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KJR, Seattle, Wash. (384.4), 8:30-10 p. m., Post-Intelligencer studio program; 10-11, Gordon Kilbourne and his orchestra.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-7:30, dinner hour music; 7:30-8, program, Eastern Outfitting company; 8-9, West Coast theaters; 9-10, KNX feature program; 10-11, dance music; 11-12, Ray West and his Cocoanut Grove dance orchestra from Ambassador hotel.

KTAB, Oakland, Calif. (215), 8-10 p. m., KTAB exclusive artists.

KTCL, Seattle, Wash. (305.9), 7-8 p. m., Simonds Saw & Steel company; 9-10, Western Auto Supply company; 10:35-12, Earl Gray's Butler hotel orchestra.

Index to Classical Concerts

TABULATED below is a time table of the stations giving classical concerts this week. Stations are divided into the four different standard times in use. The hours are given in the kind of time in use at each listed station. By using this table as an index and referring to the complete programs below, full information will be obtained.

Classical

Atlantic or Eastern Daylight Saving Time Stations

Saturday, August 29: 6, WEAF; 6:05, WIP; 6:30, WCAE; 6:45, WPG; 7, WEAF, WJZ, WNYC; 7:30, CKAC, WEAF, WGBS; 7:34, WNYC; 7:45, WEAF; 8, WBBR, WEAF, WFI. WHAR, WIP, WMCA, WNYC; 8:05, WPG; 8:15, WNYC; 8:25, WJZ; 8:30, WMCA; 8:40, WBBR; 8:45, WEAF, WGR; 8:50, WIP; 9, WCAE, WMCA, WPG; 10:15, WEAF; 10:30, WEAF.

Sunday, August 30: 6, WOO; 6:30, WCAE; 7, WJZ; 7:20, WCAE, WCTS, WEAF, WEEI, WJAR; 8, WGBS; 8:15, WLIT; 8:45, WJY; 9, WBBR, WHAR, WJZ; 9:15, WCAE, WCTS, WEAF, WEEI, WFI, WJAR; 10, WBBR, WIP; 11, WHAR.

Monday, August 31: 6, WEAF, WGR; 6:05, WIP; 6:30, WCAE; 7, WJZ; 7:15, WEAF; 7:30, WAHG, WEEI, WOO; 7:45, WEEI; 8, WAHG, WEEI, WHAR, WLIT, WOO; 8:15, WNYC; 8:30, CHNC, WMAK; 8:45, WEAF, WOO; 9, WCAE, WGR, WLIT, WOO; 9:15, WAHG; 9:40, WOO; 10, CHNC, WGR, WJZ; 10:15, WEAF, WOO; 11, WHN.

Tuesday, September 1: 6, WGR; 6:05, WIP; 6:30, WCAE; 7, WEAF, WEBJ, WGR; 7:15, WJZ; 7:30, CKAC, WCAU, WEAF, WEEI, WJY; 8, WCAE, WCAU, WEAF, WEEI, WGR, WIP, WJY, WJZ; 8:05, WFI; 8:15, WEBJ, WNYC; 8:25, WJZ; 8:30, WCAE, WCAU, WEBJ, WEEI, WFI, WGBS; 8:50, WIP; 9, WCAE, WEAF, WEEI, WFI, WGBS, WGR, WJAR; 9:30, WGBS, WGR; 10, WCAE, WEAF, WEEI, WFI, WMCA; 11, WHAR.

Wednesday, September 2: 6, WEAF, WGR; 6:05, WIP; 6:30, WCAE, WGR; 7:30, WEAF, WEEI, WOO; 7:45, WAHG, WNYC; 8, WAHG, WCAU, WEAF, WEEI, WGR, WOO; 8:15, WAHG, WNYC; 8:30, WEEI, WGR, WJZ; 8:45, WAHG, WEBJ; 9, WCAE, WEAF, WEBJ, WEEI, WGR, WOO; 9:15, WEBJ; 9:45, WJZ; 10, WEAF, WOO.

Thursday, September 3: 6, WEAF, WGR, 6:05, WIP; 6:30, WCAE; 7:30, WCAU, WGBS, WEEI, WHAR, WOO; 8, WCAU, WEAF, WEEI, WFI, WGR, WIP, WJAR; 8:10, WJZ; 8:15, WNYC; 8:30, WHAR, WJZ; 8:50, WIP; 9, WCAE, WCAU, WEAF, WEEI, WFI, WGR, WMCA; 9:30, WGBS, WMCA; 10, WCAE, WCTS, WEEI, WJZ.

Friday, September 4: 6, WEAF, 6:05, WIP; 6:30, WCAE; 7, WEAF, WJZ; 7:10, WNYC; 7:30, CKAC, WEBJ, WEEI; 7:45, WEAF, WNYC; 8, WCAU, WEBJ, WEEI, WGR, WHAR, WJAR, WOO; 8:15, WAHG, WNYC; 8:25, WJZ; 8:30, WCAE, WEBJ, WEAF, WMCA, WOO; 9, WCAE, WCAU, WEAF, WJAR, WMCA, WOO; 9:15, WEAF; 10, WEAF, WOO; 10:15, WNYC; 10:45, WHAR; 11, WHAR.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, August 29: 6, KYW, WCX, WIBO, WGES, WMAQ, WTAM; 6:30, WGN; 6:45, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:15, WJJD; 7:25, WGY; 7:30, WRC; 7:35, KYW, WLW; 7:45, WLS; 8, WJR, WORD, WSAI, WTAM; 8:15, 9,WSAI; 8:30, PWX, WGN; 8:45, KDKA; 9, WMAQ; 9:15, WSAI.

Sunday, August 30: 6, WCX, WGES; 6:30, WHT; 6:45, WORD; 7, WEAR, WEBH, WGY, WMBB; 7:45, WGY; 8, WBZ, WCX, WLS, WLW, WQJ; 8:15, WREO, WWJ; 8:30, WEBH; 8:45, WBZ; 9, WGBU, WGN, WGY, WQJ; 10, WGBU, WKRC.

Monday, August 31: 6, WBZ, WCX, WGES, WMAQ, WTAM, WWJ; 6:30, WGN; 6:55, WTIC; 7, WEAR, WHT; WJR, WLW; 7:15, WJJD; 7:20, WWJ; 7:30, WCX, WHT; 7:40, WGY; 8, WBZ, WCX, WTAM; 8:15, WHAZ; 8:30, WBZ, WCX, WHAZ; 8:45, KDKA; 9, WBZ, WKRC, WORD, WTAM; 9:15, WBZ, WHAZ; 10, WSAI, WTAM; 11, WLW; 12:30, WHT.

Tuesday, September 1: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN, WLW; 6:45, WGY, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WMBB, WQJ, WWJ; 7:10, WTIC; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WEBH, WRC, WTIC; 7:45, KYW, WSAI; 8, KYW, WBZ, WCX, WEAR, WSAI; 8:10, WTIC, WREO; 8:30, WBZ, WCX, WGN, WMAQ; 8:45, KDKA, KYW; 9, WEAR, WORD, WSAI; 10, KYW, WEAR, WKRC; 10:30, KDKA; 12:30, WHT.

Wednesday, September 2: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:15, WJJD; 6:30, WGN; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:15, WJJD; 7:30, WCX, WEBH, WHT; 8, KYW, WBZ, WCX, WTAM; 8:15, WBZ; 8:30, PWX, WBZ, WCX, WGN, WORD; 8:45, KDKA; 8:50, WBZ; 8:55, WMAQ; 10, WLW, WTAM; 11, WLW.

Thursday, September 3: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WGY; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ, WSAI, WWJ; 7:30, WBZ, WCX, WEBH, WGY, WHT, WRC; 8, WCX, WEAR, WSAI; 8:15, WREO; 8:30, WCX, WGN; 8:45, KDKA; 9, WBZ, WGY, WORD, WSAI; 10, KYW, WEAR; 10:15, KDKA; 10:30, WGY; 12:30, WHT.

Friday, September 4: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WJJD; 7, KYW, WHT, WIBO, WJR, WMBB, WQJ, 7:10, WTIC; 7:15, WJJD; 7:20, WGY; 7:30, WCX, WEBH; 7:55, WTIC; 8, KYW, WBAV, WBZ, WCX, WWJ; 8:15, WBZ; 8:30, WBZ, WCX, WGN, WMAQ; 8:45, KDKA, WBZ; 10:30, WHT.

Central Standard Time Stations

Saturday, August 29: 6, KFAB, WOAW; 6:15, WCCO; 6:30, WFAA, WSMB; 7:30, KFNF, WHAS; 8, WCCO, WSB; 8:30, WFAA, WHAS, WMC; 8:35, KYW; 9, WOAW, WOC.

Sunday, August 30: 6:30, KLDS; 7:30, WHO; 8, KFDM, WCBD, WOS; 9, WOAN; 9:15, KLDS, WCCO; 9:25, KTHS; 9:30, WOC; 10, KFVE; 10:30, WOC.

Monday, August 31: 6, KFAB, WOAW; 6:30, WFAA, WSMB; 6:45, WOAW; 7:30, KFNF, WHO; 8, WCBD, WHAD, WHO, WOS, WSB; 8:30, WFAA; 9, KFKX, KSD, WHAD, WOAN, WOAW; 9:25, KTHS.

Tuesday, September 1: 6, KFAB, WHAD, WOAW; 6:05, WCCO; 6:25, WOAW; 6:30, WFAA, WSMB; 7, KSD, WCCO, WOC; 7:30, KFAB, KFNF, WHAS, WHO; 8, KFDM, KLDS, WOC; 8:30, WFAA, WHAS, WMC; 9, KFMQ, WOAN, WOAW; 10, WOAW; 11, WFAA, WMC.

Wednesday, September 2: 6, KFAB, WHAD; 6:30, WHO, WOAW, WSMB; 7, KSD; 7:30, KFNF, KSD, WHAS, WHO; 8, WCCO, WDAF, WOS; 8:30, WHAS, WOAI; 9, WOAN, WOC; 9:25, KTHS; 11:30, WCCO, WHAD.

Thursday, September 3: 6, WHAD; 6:30, WFAA, WOAW, WSMB; 7, WCCO, WOC; 7:30, KFNF, WHAS, WHO; 8, KLDS, WCBD, WOC; 8:30, WFAA, WHAS, WMC; 9, WOAN; 9:25, KTHS; 10:30, KFRU; 10:45, WSB; 11, WFAA.

Friday, September 4: 6, KFAB, WHAD; 6:15, WCCO; 6:30, WFAA, WOAW, WSMB; 7, KSD; 7:30, KFAB, KFNF, WHAS, WHO; 8, KFDM, WCCO, WOS, WSB; 8:30, WFAA, WHAS, WHO, WMC; 9, KFDM, KFKX, WOAN, WOAW, WOC; 9:05, WCCO.

Mountain Standard Time Stations

Saturday, August 29: 8, KOA.

Monday, August 31: 6:30, KOA; 8:10, KOA; 9-10, KFWA.

Tuesday, September 1: 6:30, KOA; 7:30, KOA.

Wednesday, September 2: 6:30, KOA; 8, KOA; 9-11, KFWA.

Thursday, September 3: 6:30, KOA.

Friday, September 4: 6:30, KOA; 8:10, KOA; 9-11, KFWA.

Pacific Standard Time Stations

Saturday, August 29: 6, KFOA, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 7:30, KNX; 8:10, KGO; 8:15, KHJ.

Sunday, August 30: 6:30, KHJ; 6:35, KPO; 7, KHJ, KNX; 8, KHJ, KNX, KPO; 9, KHJ, KNX; 10, KNX.

Monday, August 31: 6, KFOA, KGO; 6:30, KNX; 6:45, KFOA; 7, KPO; 7:30, KNX; 8, KTAB; 9, KTCL.

Tuesday, September 1: 6, KFOA, KGO; KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX, KTCL; 8, KGO, KGW, KHJ, KGO, KTAB, KTCL; 8:30, KFOA; 9, KGW, KPO.

Wednesday, September 2: 6, KFOA, 8:30, KFAE, KFOA, KPO, KTAB; 9:30, KHJ; 10, KGW, KTCL.

Thursday, September 3: 6, KHJ; 6:30, KNX, KTCL; 7, KNX; 8, KGO, KGW, KPO; 9, KGW, KPO.

Friday, September 4: 6, KFOA, KGO, KHJ, KTCL; 6:15, KPO; 6:45, KFOA; 7:30, KFAE, KNX; 8, KHJ, KNX, KPO, KTAB; 8:30, KFAE, 9, KGW, KPO, KTCL.

STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
217.3	WOK	275.3	WJAS	313	CNRA	361.2	WHN	405.2	WOR	468.5	WCAP
226	WBBM	278	KOIL	315.6	KFDM	365.6	WDAF	406	WBAR	468.5	WRC
226	WIBO	278	WCAU	315.6	WAHG	365.6	WHB	**410.7**	CKAC	475.9	WBAP
240	KFVE	278	WLBL	315.6	WGBS	370	CYB	416.4	WCCO	475.9	WEEI
243.8	WAMD	278	WRBC	319	WGR	370.2	WEBH	**421**	KIAF	475.9	WFAA
250	WGES	280.2	WNAC	319	WSMB	370.2	WGN	422.3	WLW	**480**	CYL
250	WMBB	282.8	WOAN	322.4	KOA	374.8	KTHS	**428.3**	WSB	**483.6**	WOC
252	KFWB	285.5	WKAR	325.9	WSAI	379.5	WGY	428.3	KPO	**483.6**	WSUI
252	WGCP	285.5	WREO	326	WKRC	379.5	WHAZ	434.5	CNRO	491.5	KGW
261	KFWA			330	CYX	384.4	CKY	434.5	NAA	491.5	WEAF
265.5	WMAK	293.9	KJS	333.1	WBZ	**384.4**	KJR	435	AT9	499.7	WMC
266	KFNF	293.9	WBAV	336.9	KNX	384.4	WMBF	**434.5**	CFCN	508.2	KLX
266	WBCN	293.9	WEAO	340.7	KFAB	389.4	WEAR	**440.9**	KLDS	508.2	WIP
268	WCTS	296.9	KPRC	340.7	WKAQ	389.4	WTAM	440.9	WDWF	508.2	WOO
272.6	WBBR	299.8	KFMQ	340.7	WMCA	394.5	WFI	440.9	WOS	516.9	CJCA
272.6	WEBJ	**299.8**	KSL	344.6	WCBD	394.5	WLIT	**447.5**	WMAQ	516.9	WCX
272.6	WFBH	299.8	WPG	344.6	WLS	394.5	WOAI	**447.5**	WQJ	516.9	WJR
273	WRW	302.8	WJJD	348.6	KFAE	399.8	WHAS	454.3	KFOA	526	WHO
275	KFAU	302.8	WTAS	348.6	WTIC	399.8	WHT	454.3	WJZ	526	WNYC
275	WCAC	**305.9**	KTCL	352.7	WWJ	400	PWX	455	KTW	526	WOAW
275	WHAD	305.9	WJAR	356.9	CFCA	405.2	KHJ	461.3	WCAE	535.4	KYW
275	WHAR	309.1	KDKA	356.9	CHNC	405.2	WJY	**467**	KFI	545.1	KFUO
275	WORD			361.2	KGO					545.1	KSD

INSTRUCTIONS FOR USE OF TABLES

THE "Evening at Home with the Listener In" table is not difficult to understand and use. It is this fact that makes it so popular with the readers of Radio Digest. It is presented in three different standard times; Eastern, Central and Pacific. Two of these are presented each week. Listeners using one of the three kinds of time named, should utilize the table printed in that time and so designated by its headline.

For listeners whose standard of time is not shown here, the following instructions should be remembered:

Listeners using **Mountain time:** Use table for Pacific time but add one hour to every figure given. Can also use Central time table by subtracting one hour from every figure given.

Listeners using **Eastern daylight saving,** or **Atlantic time:** Use Eastern time table by adding one hour to every figure.

Listeners using **Central daylight saving time:** Use Eastern time table. No changes are necessary.

The periods given in the "Evening at Home" tables are only representative of each station's evening sign-on and sign-off hours, and on Sunday, the late afternoon sign-on and sign-off. If a station has an intermittent rather than continuous program, the table cannot show this.

Above is given a list of all stations in the "Evening at Home" tables, arranged in order of the wave lengths used (or supposed to be used) by the stations. This arrangement provides a handy index for the other tables.

The "Evening at Home" tables are **corrected every week.** The number of changes often run as high as thirty per cent of the whole. Keep the "Evening at Home" tables **from the current issue** at the side of your receiver.

An Evening at Home with the Listener In

(FOR CENTRAL TIME) (Tabular form and listings copyrighted. Reproduction is forbidden.) (FOR EASTERN TIME Or Cities Using Central Daylight Saving Time)

Call	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
AT9	Silent	5:00- 6:00	Silent	Silent	Silent	7:00- 8:55	Silent	AT9	Fort Bragg, N. C.	435	Silent	6:00- 7:00	Silent	Silent	Silent	8:00- 9:55	Silent	AT9
CFCA	Silent	6:00- 7:00	Silent	7:15- 8:15	7:15- 8:15	7:15- 8:15	Silent	CFCA	Toronto, Ont.	356.9	Silent	7:00- 8:00	Silent	8:15- 9:15	8:15- 9:15	8:15- 9:15	Silent	CFCA
CFCN	11:00- 1:00	Silent	Silent	Silent	Silent	9:00-10:00	Silent	CFCN	Calgary, Alta.	434.5	12:00- 2:00	Silent	Silent	Silent	Silent	10:00-11:00	Silent	CFCN
CHNC	Silent	Silent	6:30- 7:30	Silent	Silent	Silent	Silent	CHNC	Toronto, Ont.	356.9	Silent	Silent	7:30- 8:30	Silent	Silent	Silent	Silent	CHCN
CJCA	10:00-12:00	8:30- 9:30	8:30-10:30	8:30- 9:00	7:00- 9:00	10:00-12:00	9:00-12:00	CJCA	Edmonton, Can.	516.9	11:00- 1:00	9:30-10:30	9:30-11:30	9:30-10:00	8:00-10:00	11:00- 1:00	10:00- 1:00	CJCA
CKAC	5:30- 9:00	Silent	Silent	5:30- 9:00	Silent	6:30- 9:00	Silent	CKAC	Montreal, Que	410.7	6:30-10:00	Silent	Silent	6:30-10:00	Silent	6:30-10:00	Silent	CKAC
CKY	6:30- 8:15	7:00- 9:45	Silent	8:30-10:45	Silent	8:00- 9:00	8:30- 9:45	CKY	Winnipeg, Man.	384.4	7:30- 9:15	8:00-10:45	Silent	9:30-11:45	Silent	9:00-10:00	9:30-10:45	CKY
CNRA	Silent	Silent	Silent	6:30- 7:30	Silent	Silent	6:30- 7:30	CNRA	Moncton, Can.	313	Silent	Silent	Silent	7:30- 8:30	Silent	Silent	7:30- 8:30	CNRA
CNRO	6:30-11:30	Silent	Silent	Silent	6:30-11:30	Silent	Silent	CNRO	Ottawa, Ont.	434.5	7:30-12:30	Silent	Silent	Silent	7:30-12:30	Silent	Silent	CNRO
CYB	10:30-11:45	Silent	Silent	9:15- 10:15	Silent	Silent	Silent	CYB	Mexico City, Mex.	370	11:30-12:45	Silent	Silent	10:15-11:15	Silent	Silent	Silent	CYB
CYL	Silent	8:00- 9:30	Silent	8:00- 9:30	Silent	Silent	8:00- 9:30	CYL	Mexico City, Mex.	480	Silent	9:00-10:30	Silent	9:00-10:30	Silent	Silent	9:00-10:30	CYL
CYX	Silent	Silent	9:15-10:30	Silent	Silent	Silent	9:15-10:45	CYX	Mexico City, Mex.	330	Silent	Silent	10:15-11:30	Silent	Silent	Silent	10:15-11:45	CYX
KDKA	7:45- 8:55	6:00- 7:00	7:45- 8:55	7:45-10:30	7:45- 8:55	7:00-10:30	7:45- 8:55	KDKA	Pittsburgh, Pa.	309.1	8:45- 9:55	7:00- 8:00	8:45- 9:55	8:45- 9:30	8:45- 9:55	8:00-11:30	8:45- 9:55	KDKA
KFAB	6:00- 7:00	4:00- 5:00	6:00- 9:30	6:00- 8:30	6:00- 9:30	Silent	6:00- 9:30	KFAB	Lincoln, Nebr.	340.7	7:00- 8:00	5:00- 6:00	7:00-10:30	7:00- 9:30	7:00-10:30	Silent	7:00-10:30	KFAB
KFAE	Silent	Silent	Silent	Silent	9:30-11:00	Silent	Silent	KFAE	Pullman, Wash.	348.6	Silent	Silent	Silent	Silent	10:30-12:00	Silent	Silent	KFAE
KFAU	Silent	Silent	9:00-11:00	Silent	Silent	Silent	9:00-11:00	KFAU	Boise, Idaho	275	Silent	Silent	10:00-12:00	Silent	Silent	Silent	10:00-12:00	KFAU
KFDM	Silent	8:00- 9:00	Silent	8:00-10:30	Silent	Silent	8:00-10:30	KFDM	Beaumont, Texas	315.6	Silent	9:00-10:00	Silent	9:00-11:30	Silent	Silent	9:00-11:30	KFDM
KFI	8:45- 2:00	6:00- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	KFI	Los Angeles, Calif.	467	9:45- 3:00	7:00- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	KFI
KFMQ	Silent	Silent	Silent	9:00-10:00	7:30- 8:30	Silent	Silent	KFMQ	Fayetteville, Ark.	299.8	Silent	Silent	Silent	10:00-11:00	8:30- 9:30	Silent	Silent	KFMQ
KFNF	7:30- 9:30	6:30- 9:15	7:30- 9:30	7:30- 9:30	7:30- 9:30	7:30- 9:30	7:30- 9:30	KFNF	Shenandoah, Ia.	266	8:30-10:30	7:30-10:15	8:30-10:30	8:30-10:30	8:30-10:30	8:30-10:30	8:30-10:30	KFNF
KFOA	8:00- 1:30	Silent	8:00-12:00	8:00- 1:00	8:00-12:00	Silent	8:00- 1:30	KFOA	Seattle, Wash.	454.3	9:00- 2:30	Silent	9:00- 1:00	9:00- 2:00	9:00- 1:00	Silent	9:00- 2:30	KFOA
KFUO	Silent	8:15- 9:15	8:00- 9:00	Silent	9:15-10:15	Silent	Silent	KFUO	St. Louis, Mo.	545.1	Silent	9:15-10:15	9:00-10:00	Silent	10:15-11:15	Silent	Silent	KFUO
KFVE	10:00-12:00	Silent	10:00-12:00	10:00-12:00	10:00-12:00	Silent	10:00-12:00	KFVE	University City, Mo.	240	11:00- 1:00	Silent	11:00- 1:00	11:00- 1:00	11:00- 1:00	Silent	11:00- 1:00	KFVE
KFWA	Silent	Silent	10:00-12:00	Silent	10:00-12:00	Silent	10:00-12:00	KFWA	Ogden, Utah	261	Silent	Silent	11:00- 1:00	Silent	11:00- 1:00	Silent	11:00- 1:00	KFWA
KFWB	9:00- 1:00	11:00- 1:00	8:30- 1:00	9:45- 1:00	9:00- 1:00	9:00- 1:00	9:00- 1:00	KFWB	Hollywood, Calif.	252	10:00- 2:00	12:00- 2:00	9:30- 2:00	10:45- 2:00	10:00- 2:00	10:00- 2:00	10:00- 2:00	KFWB
KGO	10:00- 3:00	5:30-11:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00- 3:00	Silent	KGO	Oakland, Calif.	361.2	11:00- 4:00	6:30-12:00	11:00- 1:00	11:00- 1:00	11:00- 1:00	11:00- 4:00	Silent	KGO
KGW	8:00- 2:00	9:45-11:00	8:00- 9:00	11:00- 1:00	8:00- 1:00	10:00- 2:00	8:00-12:30	KGW	Portland, Ore.	491.5	9:00- 3:00	10:45-12:00	9:00-10:00	12:00- 2:00	9:00- 2:00	11:00- 3:00	9:00- 1:30	KGW
KHJ	7:30- 1:00	8:00- 1:00	9:00- 3:30	7:30- 1:00	7:30- 1:00	7:30- 1:00	7:30- 1:00	KHJ	Los Angeles, Calif.	405.2	8:30- 2:00	9:00- 2:00	10:00- 4:30	8:30- 2:00	8:30- 2:00	8:30- 2:00	8:30- 2:00	KHJ
KIAF	Silent	4:00- 5:00	9:00-10:00	Silent	9:00-10:00	Silent	9:00-10:00	KIAF	Sihtipok, Minn.	421	Silent	3:00- 4:00	8:00- 9:00	Silent	8:00- 9:00	Silent	8:00- 9:00	KIAF
KJR	Silent	9:00-10:00	9:00- 1:00	Silent	9:00-12:00	10:30- 2:00	10:30- 1:00	KJR	Seattle, Wash.	384.4	Silent	10:00-11:00	10:00- 2:00	Silent	10:00- 1:00	11:30- 3:00	11:30- 2:00	KJR
KJS	Silent	9:15-11:30	Silent	10:00-11:00	Silent	10:00-11:00	Silent	KJS	Los Angeles, Calif.	293.9	Silent	10:15-12:30	Silent	11:00-12:00	Silent	11:00-12:00	Silent	KJS
KLDS	Silent	6:30-10:00	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent	KLDS	Independence, Mo.	440.9	Silent	7:30-11:00	Silent	9:00-10:00	Silent	9:00-10:00	Silent	KLDS
KLX	Silent	Silent	8:00- 1:00	Silent	8:00- 1:30	Silent	8:00-12:30	KLX	Oakland, Calif.	508.2	Silent	Silent	9:00- 2:00	Silent	9:00- 2:30	Silent	9:00- 1:30	KLX
KNX	10:00- 4:00	7:00- 1:00	8:30- 2:00	8:30- 2:00	9:00-12:00	8:30- 2:00	8:30- 2:00	KNX	Hollywood, Calif.	336.9	11:00- 5:00	8:00- 2:00	9:30- 3:00	9:30- 3:00	10:00- 1:00	9:30- 3:00	9:30- 3:00	KNX
KOA	9:00-12:00	5:00-10:00	7:30-10:00	8:30- 9:30	7:30-12:00	7:30- 8:30	7:30-10:00	KOA	Denver, Colo.	322.4	10:00- 1:00	6:00-11:00	8:30-11:00	9:30-10:30	8:30- 1:00	8:30- 9:30	8:30-11:00	KOA
KOIL	7:30-12:00	7:30- 9:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	KOIL	Council Bluffs, Ia.	278	8:30- 1:00	8:30-10:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	KOIL
KPO	8:35- 2:00	8:30-12:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	9:00- 1:00	KPO	San Francisco, Calif.	428.3	9:35- 3:00	9:30- 1:00	9:30- 2:00	9:30- 2:00	9:30- 2:00	9:30- 2:00	10:00- 2:00	KPO
KPRC	7:30-10:00	8:00- 9:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	Silent	KPRC	Houston, Texas	296.9	8:30-11:00	9:00-10:00	8:30-11:00	8:30-11:00	8:30-11:00	8:30-11:00	Silent	KPRC
KSD	7:00- 8:00	Silent	9:00-10:00	7:00- 8:00	7:00- 8:00	Silent	7:00- 8:00	KSD	St. Louis, Mo.	545.1	8:00- 9:00	Silent	10:00-11:00	8:00- 9:00	8:00- 9:00	Silent	8:00- 9:00	KSD
KSL	9:00-12:00	10:00-12:00	9:00-12:00	10:00-12:00	9:00-12:00	9:00-12:00	10:00-12:00	KSL	Salt Lake City, Utah	299.8	10:00- 1:00	11:00- 1:00	10:00- 1:00	11:00- 1:00	10:00- 1:00	10:00- 1:00	11:00- 1:00	KSL
KTCL	8:50- 2:00	9:50-12:10	9:00-11:00	9:00- 1:00	9:00- 1:00	Silent	9:00- 2:00	KTCL	Seattle, Wash.	305.9	9:50- 3:00	10:50- 1:10	10:00-12:00	10:00- 2:00	10:00- 2:00	Silent	10:00- 3:00	KTCL
KTHS	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00	KTHS	Hot Springs, Ark.	374.8	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	KTHS
KTW	Silent	9:00-11:30	Silent	Silent	Silent	Silent	Silent	KTW	Seattle, Wash.	455	9:30-10:30	Silent	Silent	9:30-10:30	Silent	9:30-10:30	Silent	KTW
KYW	6:00-12:30	3:00- 4:00	Silent	6:00-10:30	6:00-12:30	6:00-10:30	6:00-12:30	KYW	Chicago, Ill.	535.4	7:00- 1:30	4:00- 8:00	Silent	7:00- 11:30	7:00- 1:30	7:00- 11:30	7:00- 1:30	KYW
NAA	Silent	Silent	6:45- 7:00	6:45- 7:00	6:25- 7:40	6:45- 7:00	6:45- 7:00	NAA	Radio, Va.	434.5	Silent	Silent	7:45- 8:00	7:45- 8:00	7:25- 8:40	7:45- 8:00	7:45- 8:00	NAA
PWX	7:30-10:00	Silent	Silent	Silent	7:30-10:00	Silent	Silent	PWX	Havana, Cuba	400	8:30-11:00	Silent	Silent	Silent	8:30-11:00	Silent	Silent	PWX
WAHG	11:00- 1:00	Silent	6:00-12:00	Silent	5:30-10:00	Silent	6:00- 9:30	WAHG	Richmond, N. Y.	315.6	12:00- 2:00	Silent	7:00- 1:00	Silent	6:30-11:00	Silent	7:00-10:30	WAHG
WAMD	10:00-11:00	2:00-10:00	Silent	10:00-11:00	10:00-11:30	10:00-11:30	10:00-11:00	WAMD	Minneapolis, Minn.	243.8	11:00-12:00	3:00-11:00	Silent	11:00-12:00	11:00-12:30	11:00-12:30	11:00-12:00	WAMD
WBAP	7:00- 8:00	11:00-12:00	7:30-12:00	7:30-10:45	7:30-10:45	7:30-10:45	7:30-10:45	WBAP	Fort Worth, Tex.	475.9	8:00- 9:00	12:00- 1:00	8:30- 2:00	8:30-11:45	8:30-11:45	8:30-11:45	8:30-11:45	WBAP
WBAR	Silent	10:00-11:00	9:00-10:00	Silent	8:00- 9:00	7:30- 8:30	Silent	WBAR	Sisiht, Wis.	406	Silent	11:00-12:00	10:00-11:00	Silent	9:00-10:00	8:30- 9:30	Silent	WBAR
WBAV	Silent	Silent	7:00- 9:00	Silent	Silent	Silent	7:00- 8:00	WBAV	Columbus, O.	293.9	Silent	Silent	8:00-10:00	Silent	Silent	Silent	8:00- 9:00	WBAV
WBBM	7:00-11:00	3:00- 1:00	Silent	7:00-11:00	7:00- 9:00	7:00-11:00	7:00- 9:00	WBBM	Chicago, Ill.	226	8:00-12:00	4:00- 2:00	Silent	8:00-12:00	8:00-10:00	8:00-12:00	8:00-10:00	WBBM
WBBR	6:00- 7:00	6:00- 7:30	Silent	Silent	Silent	Silent	Silent	WBBR	Staten Island, N. Y.	272.6	7:00- 8:00	8:00- 9:30	Silent	Silent	Silent	Silent	Silent	WBBR
WBCN	8:00-12:00	4:00-11:00	Silent	8:00-12:00	7:00-11:00	8:00- 1:00	8:00-12:00	WBCN	Chicago, Ill.	266	9:00- 1:00	5:00-12:00	Silent	9:00- 1:00	8:00-12:00	9:00- 2:00	9:00- 1:00	WBCN
WBZ	Silent	6:00- 8:45	5:00- 8:55	5:00- 8:55	5:00- 8:55	5:00- 8:55	5:00- 8:55	WBZ	Springfield, Mass.	333.1	Silent	7:00- 9:45	6:00- 9:55	6:00- 9:55	6:00- 9:55	6:00- 9:55	6:00- 9:55	WBZ
WCAC	Silent	Silent	6:00- 8:00	Silent	6:00- 8:00	Silent	6:00- 8:00	WCAC	Plainfield, Conn.	275	Silent	Silent	7:00- 9:00	Silent	7:00- 9:00	Silent	7:00- 9:00	WCAC
WCAE	6:30- 7:30	4:30- 5:30	6:30-10:00	6:00- 9:00	6:30-10:00	6:00- 9:00	6:00- 9:00	WCAE	Pittsburgh, Pa.	461.3	7:30- 8:30	5:30- 6:30	7:30-11:00	7:00-10:00	7:30-11:00	7:00-10:00	7:00-10:00	WCAE
WCAP	Silent	3:00- 8:15	6:00- 9:30	Silent	6:00- 9:30	Silent	6:00- 9:00	WCAP	Washington, D. C.	468.5	Silent	4:00- 9:15	7:00-10:30	Silent	7:00-10:30	Silent	7:00-10:00	WCAP
WCAU	Silent	Silent	Silent	4:30- 9:30	4:30- 9:30	4:30- 9:30	4:30- 9:30	WCAU	Philadelphia, Pa.	278	Silent	Silent	Silent	5:30-10:30	5:30-10:30	5:30-10:30	5:30-10:30	WCAU
WCBD	Silent	1:30- 9:00	7:00- 9:30	Silent	Silent	7:00- 9:30	Silent	WCBD	Zion, Ill.	344.6	Silent	2:30-10:00	8:00- 10:30	Silent	Silent	8:00-10:30	Silent	WCBD
WCCO	6:05-11:00	4:10-10:15	6:00-11:00	6:00- 9:00	6:00-12:30	6:00-10:00	6:00-11:00	WCCO	Minn.-St. P., Minn.	416.4	7:05-12:00	5:20-11:15	7:00-12:00	7:00-10:00	7:00- 1:30	7:00-11:00	7:00-12:00	WCCO
WCTS	Silent	5:20- 9:15	Silent	Silent	Silent	8:00- 9:00	Silent	WCTS	Worcester, Mass.	268	Silent	6:20-10:15	Silent	Silent	Silent	9:00-10:00	Silent	WCTS
WCX	5:00- 6:00	2:30- 8:00	5:00- 8:00	5:00-10:00	5:00- 8:00	5:00- 8:30	5:00- 8:00	WCX	Detroit, Mich.	516.9	6:00- 7:00	3:30- 9:00	6:00- 9:00	6:00-11:00	6:00- 9:00	6:00- 9:30	6:00- 9:00	WCX
WDAF	6:00- 7:00	4:00- 5:30	6:00- 1:00	6:00- 7:00	6:00- 1:00	6:00- 7:00	6:00- 1:00	WDAF	Kansas City, Mo.	365.6	7:00- 8:00	5:00- 6:30	7:00- 2:00	7:00- 8:00	7:00- 2:00	7:00- 8:00	7:00- 2:00	WDAF
WDWF	Silent	Silent	Silent	6:30- 7:30	Silent	Silent	Silent	WDWF	Providence, R. I.	440.9	Silent	Silent	Silent	7:30- 8:30	Silent	Silent	Silent	WDWF
WEAF	4:00-10:00	5:20- 8:15	4:00- 9:30	4:00-10:00	4:00-10:00	4:00-10:00	4:00-10:00	WEAF	New York, N. Y.	491.5	5:00-11:00	6:20- 9:15	5:00-10:30	5:00-11:00	5:00-11:00	5:00-11:00	5:00-11:00	WEAF
WEAO	Silent	Silent	Silent	Silent	7:00- 8:00	7:00- 8:00	Silent	WEAO	Columbus, Ohio	293.9	Silent	Silent	Silent	Silent	8:00- 9:00	8:00- 9:00	Silent	WEAO
WEAR	6:00-7:00	1:30- 6:00	6:00- 7:00	6:00- 9:00	6:00- 7:00	6:00-10:00	6:00-10:00	WEAR	Cleveland, Ohio	389.4	7:00- 8:00	2:30- 7:00	7:00- 8:00	7:00-10:00	7:00- 8:00	7:00-11:00	7:00-11:00	WEAR
WEBH	6:30-11:30	6:00- 8:00	Silent	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30	WEBH	Chicago, Ill.	370.2	7:30-12:30	7:00- 9:00	Silent	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30	WEBH
WEBJ	Silent	Silent	Silent	6:00- 7:00	5:00- 7:00	Silent	6:00- 7:00	WEBJ	New York, N. Y.	272.6	Silent	Silent	Silent	7:00- 8:00	6:00- 8:00	Silent	7:00- 8:00	WEBJ
WEEI	Silent	5:20- 8:20	6:00- 9:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	WEEI	Boston, Mass.	475.9	Silent	6:20- 9:20	7:30-10:00	6:30-10:00	7:00- 9:00	7:00-10:00	7:30-10:00	WEEI
WFAA	8:30-12:00	6:30-11:00	6:30- 9:30	6:30-12:00	Silent	6:30-12:00	6:30- 9:30	WFAA	Dallas, Tex.	475.9	9:30- 1:00	7:30-12:00	7:30-10:30	7:30- 1:00	Silent	7:30- 1:00	7:30-10:30	WFAA
WFBH	9:30-12:00	3:00- 6:00	9:30-12:00	9:30-12:00	9:30-12:00	9:30-12:00	9:30-12:00	WFBH	New York, N. Y.	272.6	10:30- 1:00	4:00- 7:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	WFBH
WFI	Silent	5:30- 8:15	Silent	6:00- 8:00	Silent	6:00- 9:00	Silent	WFI	Philadelphia, Pa.	394.5	Silent	6:30- 9:15	Silent	7:00- 9:00	Silent	7:00-10:00	Silent	WFI
WGBS	4:00-10:00	1:30- 8:30	Silent	4:00-10:00	Silent	4:00-11:00	Silent	WGBS	New York, N. Y.	252	5:00-11:00	2:30- 9:30	Silent	5:00-11:00	Silent	5:00-12:00	Silent	WGBS
WGCP	Silent	5:30-10:00	5:30-10:00	Silent	5:30-10:00	Silent	5:30-10:00	WGCP	New York, N. Y.	315.6	Silent	6:30-11:00	6:30-11:00	Silent	6:30-11:00	Silent	6:30-11:00	WGCP
WGES	9:30- 1:00	9:30- 1:00	Silent	9:30- 1:00	9:30- 1:00	9:30- 1:00	9:30- 1:00	WGES	Oak Park, Ill.	250	10:30- 2:00	10:30- 2:00	Silent	10:30- 2:00	10:30- 2:00	10:30- 2:00	10:30- 2:00	WGES
WGN	5:30-10:30	1:30- 9:00	Silent	5:30-10:30	5:30-10:30	5:30-10:30	5:30-10:30	WGN	Chicago, Ill.	370.2	6:30-11:30	2:30-10:00	Silent	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30	WGN
WGR	6:45- 8:15	1:00- 2:00	6:00-11:00	6:00- 9:00	6:00-11:00	6:00- 9:00	5:00-11:00	WGR	Buffalo, N. Y.	319	7:45- 9:15	2:00- 3:00	7:00-12:00	7:00-10:00	7:00-12:00	7:00-10:00	6:00-12:00	WGR
WGY	8:00-11:00	5:30-10:00	5:30- 7:30	6:10-10:00	Silent	5:45-10:30	6:15- 9:30	WGY	Schenectady, N. Y.	379.5	9:00-12:00	6:30-11:00	6:30- 8:30	7:10-11:00	Silent	6:45-11:30	7:15-10:30	WGY
WHAD	6:00- 7:00	3:15- 4:15	6:00-10:00	6:00- 7:00	6:00-12:30	6:00-10:00	6:00- 9:30	WHAD	Milwaukee, Wis.	275	7:00- 8:00	4:15- 5:15	7:00-11:00	7:00- 8:00	7:00- 1:30	7:00-11:00	7:00-10:30	WHAD
WHAR	5:30- 8:30	7:00-10:00	5:30- 7:00	5:30-11:00	Silent	5:30- 8:30	5:30-11:00	WHAR	Atlantic City, N. J.	275	6:30- 9:30	8:00-11:00	6:30- 8:00	6:30-12:00	Silent	6:30- 9:30	6:30-12:00	WHAR
WHAS	7:30- 9:00	4:00- 5:00	Silent	7:30- 9:30	7:30- 9:00	7:30- 9:00	7:30- 9:00	WHAS	Louisville, Ky.	399.8	8:30-10:00	5:00- 6:00	Silent	8:30-10:30	8:30-10:00	8:30-10:00	8:30-10:00	WHAS
WHAZ	Silent	Silent	7:15- 9:15	Silent	Silent	Silent	Silent	WHAZ	Troy, N. Y.	379.5	Silent	Silent	8:15-10:15	Silent	Silent	Silent	Silent	WHAZ
WHB	Silent	8:00- 1:00	7:00- 8:00	Silent	7:00- 8:00	8:00-10:30	7:00- 8:00	WHB	Kansas City, Mo.	365.6	Silent	9:00- 2:00	8:00- 9:00	Silent	8:00- 9:00	9:00-11:30	8:00- 9:00	WHB
WHN	5:30- 8:00	5:30-10:00	5:30-10:00	5:30-10:00	5:30- 9:00	5:30-10:00	5:30-10:00	WHN	New York, N. Y.	361.2	6:30- 9:00	6:30-11:00	6:30-11:00	6:30-11:00	6:30-10:00	6:30-11:00	6:30-11:00	WHN
WHO	Silent	7:30- 8:30	7:30-12:00	7:30- 8:30	6:30-12:00	7:30-12:00	7:30-12:00	WHO	Des Moines, Ia.	526	Silent	8:30- 9:30	8:30- 1:00	8:30- 9:30	7:30- 1:00	8:30- 1:00	8:30- 1:00	WHO
WHT	6:00-12:00	11:00- 9:30	6:00-12:00	6:00-12:00	6:00-12:00	6:00-12:00	6:00-12:00	WHT	Deerfield, Ill.	399.8	7:00- 1:00	12:00-10:30	7:00- 1:00	7:00- 1:00	7:00- 1:00	7:00- 1:00	7:00- 1:00	WHT
WIBO	5:00- 7:00	5:00-11:00	Silent	5:00- 2:00	5:00-11:00	5:00- 2:00	5:00- 1:00	WIBO	Chicago, Ill.	226	6:00- 8:00	6:00-12:00	Silent	6:00- 3:00	6:00- 3:00	6:00- 3:00	6:00- 2:00	WIBO
WIP	6:00-10:05	Silent	Silent	6:00-11:00	Silent	6:00-11:00	Silent	WIP	Philadelphia, Pa.	508.2	7:00-11:05	Silent	Silent	7:00-12:00	Silent	7:00-12:00	Silent	WIP
WJAR	Silent	5:20- 8:15	5:45- 6:45	5:30- 8:30	5:30- 6:30	6:00- 9:00	6:00-10:00	WJAR	Providence, R. I.	305.9	Silent	6:20- 9:15	6:45- 7:45	6:30- 9:00	6:30- 7:30	7:00-10:00	7:00-11:00	WJAR
WJAS	5:00-10:00	Silent	5:00-10:00	5:00-10:00	5:00-10:00	5:00-10:00	5:00-10:00	WJAS	Pittsburgh, Pa.	275.3	6:00-11:00	Silent	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00	WJAS
WJJD	5:45-12:00	7:45- 9:00	5:45-12:00	5:45-12:00	5:45-12:00	Silent	5:45-12:00	WJJD	Mooseheart, Ill.	302.8	6:45- 1:00	8:45-10:00	6:45- 1:00	6:45- 1:00	6:45- 1:00	Silent	6:45- 1:00	WJJD
WJR	6:00-10:00	Silent	6:00-10:00	6:00- 7:00	6:00-10:00	6:00-10:00	6:00-10:00	WJR	Detroit, Mich.	517	7:00-11:00	Silent	7:00-11:00	7:00- 8:00	7:00-11:00	7:00-11:00	7:00-11:00	WJR
WJY	Silent	6:15- 7:15	Silent	6:30- 9:15	Silent	6:30- 8:00	6:45- 7:45	WJY	New York, N. Y.	405.2	Silent	7:15- 8:15	Silent	7:30-10:15	Silent	7:30- 9:00	7:45- 8:45	WJY
WJZ	5:00- 9:30	6:00- 9:00	6:15- 7:15	6:10- 9:30	7:30- 9:30	6:30- 9:30	6:15- 8:45	WJZ	New York, N. Y.	454.3	6:00-10:30	7:00-10:00	7:15- 8:15	7:10-10:30	8:30-10:30	7:30-10:00	7:15- 9:45	WJZ
WKAQ	Silent	6:00- 8:00	Silent	Silent	6:00- 8:00	Silent	Silent	WKAQ	San Juan, P. R.	340.7	Silent	7:00- 9:00	Silent	Silent	7:00- 9:00	Silent	Silent	WKAQ
WKAR	11:30- 1:00	Silent	6:00- 7:00	Silent	7:00- 8:15	Silent	6:00- 7:00	WKAR	Lansing, Mich.	285.5	12:30- 2:00	Silent	7:00- 8:00	Silent	8:00- 9:15	Silent	7:00- 8:00	WKAR
WKRC	9:00-11:00	9:00-10:00	7:00-11:00	9:00-11:30	7:00- 9:30	Silent	Silent	WKRC	Cincinnati, O.	326	10:00-12:00	10:00-11:00	8:00-12:00	10:00-12:30	8:00-10:30	Silent	Silent	WKRC
WLBL	Silent	Silent	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent	WLBL	Stevens Point, Wis.	278	Silent	Silent	Silent	9:00-10:00	Silent	9:00-10:00	Silent	WLBL
WLIT	Silent	Silent	5:30- 9:00	Silent	5:30- 9:00	Silent	5:30- 9:00	WLIT	Philadelphia, Pa.	394.5	Silent	Silent	6:30-10:00	Silent	6:30-10:00	Silent	6:30-10:00	WLIT
WLS	6:45-12:00	6:30- 7:55	Silent	6:00-12:00	6:00-10:30	6:00- 7:55	6:00-10:30	WLS	Chicago, Ill.	344.6	7:45- 1:00	7:30- 8:55	Silent	7:00- 1:00	7:00-11:30	7:00- 8:55	7:00-11:30	WLS
WLW	5:00- 7:00	5:30- 7:30	7:15- 9:30	6:00- 9:00	6:00-10:00	6:00-11:15	Silent	WLW	Harrison, O.	422.3	6:00- 8:00	6:30- 8:30	8:15-10:30	7:00-10:00	7:00-11:00	7:00-12:15	Silent	WLW
WMAK	Silent	Silent	7:30- 9:15	Silent	Silent	10:00-11:00	Silent	WMAK	Lockport, N. Y.	265.5	Silent	Silent	8:30-10:15	Silent	Silent	11:00-12:00	Silent	WMAK
WMAQ	7:00- 9:00	Silent	Silent	7:00- 9:15	7:00- 8:45	7:00- 9:15	7:00- 9:15	WMAQ	Chicago, Ill.	447.5	8:00-10:00	Silent	Silent	8:00-10:15	8:00- 9:45	8:00-10:15	8:00-10:15	WMAQ
WMBB	6:00- 9:30	6:00- 9:30	Silent	6:00- 9:30	6:00- 9:30	6:00- 9:30	6:00- 9:30	WMBB	Chicago, Ill.	250	7:00-10:30	7:00-10:30	Silent	7:00-10:30	7:00-10:30	7:00-10:30	7:00-10:30	WMBB
WMBF	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	WMBF	Miami Beach, Fla.	384.4	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	WMBF
WMC	7:30- 9:30	Silent	7:30- 9:30	7:30-12:00	Silent	7:30- 9:30	7:30-12:00	WMC	Memphis, Tenn.	499.7	8:30-10:30	Silent	8:30-10:30	8:30- 1:00	Silent	8:30-10:30	8:30- 1:00	WMC
WMCA	4:30-10:00	5:00- 5:30	4:30-10:00	4:30-10:00	4:30-10:00	4:30-10:00	4:30-10:00	WMCA	New York, N. Y.	340.7	5:30-11:00	6:00- 6:30	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	WMCA
WNAC	6:00- 8:00	1:00- 7:30	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	WNAC	Boston, Mass.	280.2	7:00- 9:00	2:00- 8:30	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	WNAC
WNYC	4:30- 8:20	7:00- 9:00	5:00- 8:20	5:20- 8:20	5:30- 8:30	5:20- 7:30	5:30- 8:20	WNYC	New York, N. Y.	526	5:30- 9:20	8:00-10:00	6:00- 9:20	6:20- 9:20	6:30- 9:30	6:20- 8:30	6:30- 9:20	WNYC
WOAI	8:30- 9:30	8:00-10:30	8:30- 9:30	8:30-10:30	8:30- 9:30	9:30-10:30	Silent	WOAI	San Antonio, Texas	394.5	9:30-10:30	9:00-11:30	9:30-10:30	9:30-11:30	9:30-10:30	10:30-11:30	Silent	WOAI
WOAN	Silent	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	WOAN	Lawrenceburg, Tenn.	282.8	Silent	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	WOAN
WOAW	6:00-12:00	9:00-10:00	6:00-11:00	6:00- 1:00	Silent	6:00-10:00	6:00-10:00	WOAW	Omaha, Nebr.	526	7:00- 1:00	10:00-11:00	7:00-12:00	7:00- 2:00	Silent	7:00-11:00	7:00-11:00	WOAW
WOC	9:00-12:00	8:00-11:30	Silent	6:30- 9:00	9:00-10:00	7:00-12:00	8:00- 9:00	WOC	Davenport, Ia.	483.6	10:00- 1:00	9:00-12:30	Silent	7:30-10:00	10:00-11:00	8:00- 1:00	9:00-10:00	WOC
WOK	9:00-12:00	6:00-12:00	6:00-12:00	9:00-12:00	9:00-12:00	9:00-12:00	9:00-12:00	WOK	Homewood, Ill.	217.3	10:00- 1:00	7:00- 1:00	7:00- 1:00	10:00- 1:00	10:00- 1:00	10:00- 1:00	10:00- 1:00	WOK
WOO	Silent	5:30- 6:30	5:30-10:00	5:30- 6:30	5:30-10:00	5:30- 6:30	5:30- 9:30	WOO	Philadelphia, Pa.	508.2	Silent	6:30- 7:30	6:30-11:00	6:30- 7:30	6:30-11:00	6:30- 7:30	6:30-10:30	WOO
WOR	4:15-10:00	Silent	4:15-10:00	4:15- 5:30	4:15-10:00	4:15- 5:30	4:15- 5:30	WOR	Newark, N. J.	405.2	5:15- 9:00	Silent	5:15- 9:00	5:15- 6:30	5:15- 9:00	5:15- 6:30	5:15- 6:30	WOR
WORD	7:30- 9:30	5:45- 7:00	7:30- 8:45	7:30- 9:00	7:30- 9:00	7:30- 9:00	7:30- 9:30	WORD	Batavia, Ill.	275	8:30-10:30	6:45- 8:00	8:30- 9:45	8:30-10:00	8:30-10:00	8:30-10:00	8:30-10:30	WORD
WOS	Silent	8:00- 9:00	8:00-10:00	Silent	8:00-10:00	Silent	8:00-10:00	WOS	Jefferson, City, Mo.	440.9	Silent	9:00-10:00	9:00-11:00	Silent	9:00-11:00	Silent	9:00-11:00	WOS
WPG	5:00-10:00	1:15- 9:00	5:00- 9:30	6:00- 9:00	Silent	5:00-10:15	5:00- 9:00	WPG	Atlantic City, N. J.	299.8	6:00-11:00	2:15-10:00	6:00-10:30	7:00-10:00	Silent	6:00-11:15	6:00-10:00	WPG
WQJ	6:00- 2:00	6:00- 9:00	Silent	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	WQJ	Chicago, Ill.	447.5	7:00- 3:00	7:00-10:00	Silent	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	WQJ
WRBC	Silent	7:30- 8:30	7:30- 8:30	Silent	Silent	Silent	Silent	WRBC	Valparaiso, Ind.	278	Silent	8:30- 9:30	8:30- 9:30	Silent	Silent	Silent	Silent	WRBC
WRC	6:00-10:30	Silent	Silent	6:00-11:00	Silent	6:00-10:00	Silent	WRC	Washington, D. C.	468.5	7:00-11:30	Silent	Silent	7:00-12:00	Silent	7:00-11:00	Silent	WRC
WREO	9:00-11:00	Silent	Silent	7:15- 8:45	Silent	7:15- 8:45	Silent	WREO	Lansing, Mich.	285.5	10:00-12:00	Silent	Silent	8:15- 9:45	Silent	8:15- 9:45	Silent	WREO
WRW	8:00-10:30	7:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	WRW	Tarrytown, N. Y.	273	9:00-11:30	8:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	WRW
WSAI	7:00-12:30	2:00- 3:00	9:00 11:00	6:45- 9:00	9:00-11:00	6:00- 9:00	Silent	WSAI	Mason, O.	325.9	8:00- 1:30	3:00- 4:00	10:00-12:00	7:45-10:00	10:00-12:00	7:00-10:00	Silent	WSAI
WSB	8:00-12:00	7:30- 9:15	8:00-12:00	8:00-12:00	10:45-12:00	8:00-12:00	8:00-12:00	WSB	Atlanta, Ga.	428.3	9:00- 1:00	8:30-10:15	9:00- 1:00	9:00- 1:00	11:45- 1:00	9:00- 1:00	9:00- 1:00	WSB
WSMB	8:30-10:30	Silent	8:30-11:30	Silent	8:30-10:30	8:30-11:00	Silent	WSMB	New Orleans, La.	319	9:30-11:30	Silent	9:30-12:30	Silent	9:30-11:30	9:30-12:00	Silent	WSMB
WSUI	Silent	9:00-10:00	8:00- 9:00	Silent	Silent	Silent	Silent	WSUI	Iowa City, Ia.	483.6	Silent	8:00-11:00	8:30-10:00	Silent	Silent	Silent	Silent	WSUI
WTAM	5:00-11:00	Silent	5:00-11:00	5:00- 6:00	5:00-12:00	5:00- 6:00	5:00- 6:00	WTAM	Cleveland, O.	389.4	6:00-12:00	Silent	6:00-12:00	6:00- 7:00	6:00- 1:00	6:00- 7:00	6:00- 7:00	WTAM
WTAS	7:00- 9:30	7:00-11:00	7:00- 9:30	7:00- 9:30	7:00- 9:30	7:00-11:00	7:00- 9:30	WTAS	Elgin, Ill.	302.8	8:00-10:30	8:00-12:00	8:00-10:30	8:00-10:30	8:00-10:30	8:00-12:00	8:00-10:30	WTAS
WTIC	Silent	Silent	4:55- 6:00	4:55- 7:45	Silent	4:55- 6:00	5:00- 7:30	WTIC	Hartford, Conn.	348.6	Silent	Silent	5:55- 7:00	5:55- 8:45	Silent	5:55- 7:00	6:00- 8:30	WTIC
WWJ	Silent	5:20- 9:00	5:00- 8:00	5:00- 8:00	5:00-10:00	5:00-11:30	5:00- 9:00	WWJ	Detroit, Mich.	352.7	Silent	6:20-10:00	6:00- 9:00	6:00- 9:00	6:00-11:00	6:00-12:30	6:00-10:00	WWJ

Radio Digest Illustrated

Published by the Radio Digest Publishing Company, Inc.
510 North Dearborn Street
Chicago, Illinois
Telephones: State 4372, 4373, 4374, 4375

E. C. RAYNER, Publisher

Eastern Office, Park-Lexington Building, 247 Park Ave., New York. Telephones: Ashland 8144, 8145, 8146

Member of the Audit Bureau of Circulations

241

PUBLISHED WEEKLY

SUBSCRIPTION RATES
Yearly in U. S. and Possessions and Canada, $5.00
Foreign postage, $1.00 additional. Single copies, 10 cents.

Vol. XIV **Saturday, August 29, 1925** **No. 8**

A Nation of Rooters

IS FOOTBALL a dangerous sport—one that should be restricted and perhaps abolished? Or is the game one the average boy and youth may play with perfect safety and assurance that the exercise so gained is beneficial to body and brain building?

Tom McNamara, veteran football coach, is starting a series of educational talks on the sport at KOA, Denver. He plans to tell all about it. Included in his series will be the history, principles, training, rules and plays of all kinds.

This coach is nationally known and has many bright spots in his career. He knows football—and better—he knows how to teach it. His word can be accepted as authoritative. He maintains that football of today is a body-building, not body-wrecking sport.

He hopes to convert dubious parents to the advisability of allowing their sons to play the game. He wants to teach the fine points to high school and college players.

Not alone is his series for players, prospective players and their parents, but for the football fan who sits, fascinated, on the cold seats of the bleachers swept by chilled November breezes. McNamara will tell these enthusiasts how to enjoy the fine points.

Football is certainly not the dangerous game it was ten or fifteen years ago, before sane rules were adopted to protect the players. The "flying wedge" is no more. Many other bone-breaking plays have disappeared—ruled out. Today there is no more danger in playing football than baseball.

We believe Mr. McNamara's series of talks will do an immense good for the game and for the youth of the land as well. This nation should take its sports more seriously—not by attending the contests of various sorts, but by engaging in them.

The trouble is that America is a too perfectly organized mob of rooters and rooters only.

Broadcasting Systems Compared

WILLIAM DUBILIER, well-known Radio manufacturer, likes the British broadcasting system. Fred Smith, director of WLW, comments favorably on the German plan which is not wholly unlike the English. Both men know American broadcasting and should rate as impartial and fair judges.

Is, then, the United States on the wrong track? No! Undoubtedly it takes many more stations to cover this country effectively than it does Europe and the British Isles, and we have no reason to believe that American programs fail to compare favorably with the best of the foreign.

Our system allows the American initiative to have full sway. The government has but few laws governing Radio. Only absolutely essential regulations are in force. As a result it is our belief that broadcasting development has been much more rapid in the United States.

But still—can more wave lengths be found, shall stations continue to split and divide time until their schedules are negligible or will American Radio engineers find a satisfactory method which will allow several stations to broadcast on the same wave length at the same time?

We trust in the ability of the American engineers, the United States government and the public to handle the situation with their usual initiative. We are sure the public will not allow intolerable receiving conditions to become the common thing.

And we wager that American programs will continue to be just as high or higher in quality than foreign programs subsidized through governmental collection of receiving license fees.

Who's Most Popular Announcer?

WHO will win the 1925 Gold Cup Award of Radio Digest? Who will bear the title of world's most popular Radio announcer for this year? A priceless, solid gold cup, like that given last year to George D. Hay of WLS, is awaiting to be engraved with the name of the winner.

The competition closes Saturday, August 29, at midnight. The votes then will be counted, and the judges will announce the victor in the Digest of September 12. And may the best man win.

RADIO INDI-GEST

Grape Fruit

And now Florida is breaking out with new high powered Radio stations. They propose to broadcast the warm Gulf stream, the budding orange trees, the rustle of the cocoanut palms, and the tinkle of ice on glass all during the cold icy disagreeable winter.

Tune in some place north of Palm Beach,
Where there's also ice and snow;
A town that won't entice me from my home
In cold and chilly Chicago.

The Gender of Radio

Dear Indi: Notice where some Radio men are referring to broadcasting stations as "She" same as a skipper refers to his ship. The girl friend says this is because they are so entertaining and render such sweet and pretty music. I say it is because the blame thing talks but does not think. Which is right?

FJORD KEWPIE.

Although we are not in the habit of deciding arguments between the sexes, we think you are both wrong. You can shut a Radio station off, at will you know, hence the "she" reference is all wet.

A Fish Story

A fisherman friend of ours is off Radio for life. Last Sunday, just as he finished telling the boys at the camp about the big muskie that broke his pole and got away, some one tuned in Zion on the portable and the voice of Voliva was heard saying, "A liar is lower than the fish that rest on the bottom of the ocean."

Correct

Willis: Do you think the Radio is driving out the phonograph?

Gillis: I don't know, but it certainly is drowning it out.—Judge.

We are using the above joke for two reasons: first, it seems clever enough to aid us in filling a few lines of space; Second, it will show the Radio editor of a certain New England paper the customary way to give credit for clipped matter. Said N. E. editor used our recent verse entitled "sTatiC" on his page under the headline **"Our** Regular Radio Rhyme" and did not even think of telling the eager world the source of the Rhyme. In so much as the old muse has not been working lately, we fear that the Radio editor up there in the old whaling town of New Bedford will have to use his scissors on some other sheet to fill his (?) **"Our"** column.

PERSONS WHO LISP CANNOT BROADCAST
(News Headline)

Fine! Now we can tell that cute little blond, who thays the jutht adorth whithkey and thoda on thultry thummer eveningth with uth how much we really care to have her company and not be afraid that she will broadcast our story to the world.

Radio to Help Swedes Learn to Talk English
(Another Headline)

Why not try it out on a few Americans?

Well, What of It?

Dear Indi; Now days when a girl wins a beauty contest the first thing they do with her is to drag her to a microphone and have her say "hello" to a bunch of people who have never heard of her before, thus making her a "Radio Star" and putting her in line for more publicity.

Certain husbands are thinking of banding together and forming a society to legislate marriage ceremonies off the air as being too gruesome for Benedicts to listen-in on.

CAP.

Sum More Tecknickle Stuff

Continuing last week's imbecilic definitions:

FREQUENCY. An attribute of electricity bills first noticed after the fan starts using a home made battery charger.

GRID. The thing used as the basis for pan cakes. Apparently has nothing to do with Radio.

GRID LEAK. When Aunt Jemima spills the batter.

GROUND CONNECTION. Combines with condenser for bum jokes, oft times sent to Indi. Most of them deal with coffee grounds.

HARMONIC. Has to do with overtones and oft times causes annoyance, especially when a female trio is announced as being harmonic.

IMPEDANCE. A detour sign in the middle of the only good road in the country.

(More next week, maybe)

After telling of the proposed plan to broadcast records made by famous men in later day British history, an editorial in a New York state paper makes this remark: "Don't give 'em the ether; give 'em chloroform. Let the live ones have a chance!" Rather a neat pun as puns go, say we, although we do believe that some of the has-beens of history could put more life on the air than can some of the alleged performers of today.

Berlin is starting a school for Radio announcers. A compulsory course in all business schools in the U. S. covering the same ground would do much to clear up the telephone congestion in this country. We talk to several business men a day over the telephone and only understand about one half of what they say. We also talk to one or more announcers each day and always get every word, even when they ask for loans.

Radio Auto-Suggestion

Dear Indi: A lady here has put forward the theory in all seriousness that the recent broadcasting of the sea from Plymouth on a cool evening resulted in her husband catching cold by auto-suggestion!

LONDON BOBBY.

Who Will He Be?

Condensed
BY DIELECTRIC

The quality of piano tones from the mike of WLW, Cincinnati, is not far from perfect. In fact, it is almost impossible to believe that such tone is not produced without the aid of Radiophony. In addition to hearing this instrument under favorable broadcasting conditions, listeners were provided with a clever artist rendering a pleasing program in their studio.

WCCO, the Gold Metal station at St. Paul-Minneapolis, undoubtedly pleased most of their audience with soprano solos accompanied by a harpist. At the risk of having the paid critic of NWG think we are copying him. I make bold to state that on few Radio concerts will there appear a feature more musically delightful than this combination—at least where the harp is benefited by good transmission. This column merely directs attention to certain things heard from various stations at different times with some attempt at valuation.

Some months ago, we were tuning to WOS, Jefferson City, Mo., quite often, but of late this has not been the case and no one reason explains the change in listeners habits. The pianist, who formerly entertained from that station is no longer to be heard from it and the schedule of broadcasting is curtailed somewhat. The other evening, they had in place of singing, reciting to musical accompaniment. What did YOU think of it?

WNAC, Boston, celebrated its third anniversary on the air with a program of some length. This is another of the old timers enjoying a large Radio clientele and certainly the popularity is well deserved. Whatever share Jean Sargent has had in placing this station among the leaders, her name is closely linked with the Shepard Stores. The anniversary program included every feature one could imagine as suitable for broadcasting—put out in the usual WNAC manner.

It would be the object of every listener in to catch WHAS, Louisville, Ky., silent during the periods specified were the character of prize offered fully known. You have seen reference in Radio Digest to this contest and know what is required of you to win, so go to it. This arrangement of Foster songs has no counterpart to my knowledge. Much time has been spent and rare musicianship applied to the arrangements. My copy is not pigeonholed; it's in use.

A very interesting evening was arranged for the Radio pageant from the Ritz-Carlton hotel in New York city, including combined orchestras of the larger movie houses and directed by well-known leaders. It is unfortunate that Carl Edwards was unable to lend his talent to the leading of this body of musicians, though listeners were pleased with the artistic work of Dr. Hugo Riesenfeld as director.

While one of those pleasing organ recitals was under way through Station WTAM, the Willard battery studio in Cleveland, two enjoyable numbers made many fans happy.

No more appropriate program could have been arranged to commemorate the marvelous operatic tenor, Caruso, than KDKA, Pittsburgh, presented. Most of the arias so closely associated with his memory were included in numbers selected by the symphony players. This idea of broadcasting concerts dedicated to deceased musicians, such as Victor Herbert and Enrico Caruso, might successfully be emulated by other prominent broadcasting stations.

Preventing Trouble in Radio Reception

Part I—Battery Care and Information

By James McDonald

IT IS surprising how much trouble a perfectly good Radio receiver can cause in the hands of those unskilled in its operation. When our Radio engineers design the sets, everything that can possibly cause bewilderment on the part of the owner is eliminated and operation is reduced to two or three large dials, calibrated either in degrees, fractions of a hundred or wave lengths. The owner of the Radio store likes the looks of the receiver, tries it, displays it and finally sells it to a new listener, confidant that he has a new booster and Radio enthusiast.

Then the store's phone begins to ring. The set won't work; it won't even emit a groan, much less music. Out goes the service car and a technical man—probably the one who made the installation. Usually it is because the family has run the set about fifteen hours each day for the first week of its use and forgot what the service man told them about throwing the battery on charge—at least occasionally. That point settled, the service man drives back with a sigh of relief, ready for new installations.

Two days later—another hurry up call. The service man is informed that the fan has read somewhere that changing the tubes around in the sockets might help, tried it, and now the blamed thing won't work again. If the set is going to be always in trouble he can take it back. Examination shows that one of the tubes has a pin a fraction of an inch shorter than the others and that, while it works in one socket, the tube cannot function in others. Pulling up the corresponding socket springs in each socket remedies that.

No One Is to Blame

That is a typical example. Now let us see who is at fault. Not the manufacturer of the set; nothing went wrong in the

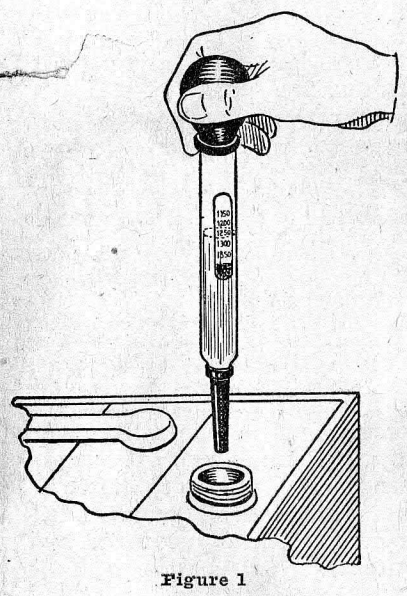


Figure 1

receiver itself. Not the owner of the Radio store; he sold a new set in good condition, with new tubes, batteries and a perfect antenna installation. Not the owner; he bought a Radio that was supposed to bring in entertainment from any of two score stations at the turn of the dials.

No one is to blame. This is just an unfortunate condition which exists for the time being and will gradually be ironed out as Radio progresses and new selling methods are found. The undesirable effects of the situation can be eliminated very easily, however, by the purchaser and owner.

There are certain points in connection with Radio sets that should be attended to every so often just as one has new oil put in the crank case of the car every 500 miles and has the steering wheel parts greased every 5,000. In the one case it is to prevent mechanical trouble; in Radio it is to prevent electrical trouble. Your Radio set is a delicate piece of mechanism from the standpoint of the energy involved; a few grains of dust that would not stop the movement in a fine watch will, if in the wrong place, pull down the efficiency of a Radio far more than one imagines.

Receiver Care Easily Learned

It is not at all difficult for any owner of a Radio receiver to learn the things that must be done and how to do them. With all the first class sets on the market now, there are operating directions enclosed that explain the setting up of the set and its accessories and tell something of the tuning. Few of them, however, give the little but important points that the more experienced Radio man knows can cause trouble, and usually do. The writer hopes to bring these points more firmly to mind and explain just how they are done, to the end that purchasers of complete sets and home builders alike may get better results.

The storage battery is the most frequent source of grief, so we will discuss it first. Electricity is put into it from the electric light socket (through chargers) and withdrawn from it to light the tubes in the receiver. Naturally it can only hold so much and will light the tubes to sufficient brightness only a certain number of hours. When that number of hours has been used up, more electricity must be put in. That operation is called recharging, "putting the battery on charge" or "throwing" it on charge. One must have some means of telling when its supply of electricity is nearly used up and when it has been fully replaced. This is done with a device known as a "hydrometer," an essential to every Radio set owner whose set is operated from a storage battery.

Its usual form is shown in figure 1, as is the method of using it. The inner float will be found to have numbers up and down its side from about 1100 to 1350 (or 1.100 to 1.350). The pointed end of the device (usually rubber tube tipped) is inserted through one of the filler cap holes in the top of the battery, the bulb is squeezed and, with the tip below the level of the liquid, is then released, which will draw up liquid into the hydrometer. The float will rise and the surface of the liquid will be found even with one of the graduations. Do not take up so much liquid into the hydrometer that the float goes up into the bulb. If the battery has been in use for some time, the reading will probably be 1150 or 1200; if battery has just been on charge, the reading will probably be 1280 to 1320. Those are the minimums and maximums between which the readings will vary and indicate accurately the amount of available current. When reading has been taken, squirt the liquid back into the cell. Be careful not to get it on rugs, floor or clothes.

An amusing incident was recently related to the writer which brought out another suggestion that would otherwise never have occurred as being necessary. A very charming lady who enjoyed her set, but was not familiar with it in the least, called the "trouble shooter," let him nearly tear the set apart looking for the difficulty, and then explained that she looked in the battery, saw that the "water" was muddy in color, wanted nice clean water in her battery and had, therefore, poured out the liquid into the sink and replaced it with pure hydrant water.

That is not just water in the battery; that is a mixture of distilled water and sulphuric acid. The battery will not work on anything else—and the balance between these two liquids must be kept correct. If, when testing your battery, you notice that the level of the liquid is below the tops of the plates, which you can see by peering down through the filler holes, add only "distilled" water, and just enough to bring the level of the liquid about one-quarter inch above the plates. The water evaporates, the acid does not; it is always inside.

When charging the battery, it will be noticed that drops of liquid collect on the

(Continued on page 22)

PREVENTING TROUBLE

(Continued from page 21)

top. You are also likely to spill a few drops when testing. This liquid must be removed or it will destroy the battery and make reception noisy. An ordinary dry rag or one dampened with water will not do. Something must be used to neutralize the acid. Ammonia water, available in practically every home, serves this purpose and it is only necessary for the set owner to **dampen** a rag or sponge with "cleaning" ammonia water and apply as in

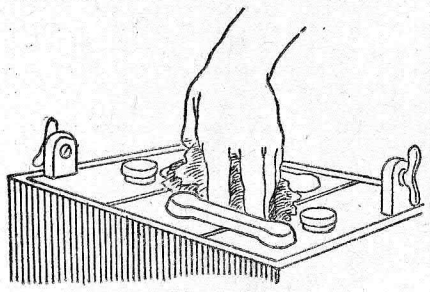


Figure 2

figure 2. Be careful to get under the connecting straps of lead and close up around the lead terminal lugs. The grooves between cells should also be cleaned out thoroughly as it is across these that intermittent leakage could occur to make undesirable noises in the set.

When through thoroughly cleaning all reachable parts, including the lead terminals and the thumb nuts or binding posts, apply vaseline or grease to the lead connecting bars and to the terminal strips. Connect the leads from the set and cover the binding post or thumb nut with the grease. This will prevent corrosion by the fumes and liquid that come from the cells.

The terminals on a battery are known as the "positive" and the "negative." It is essential in charging, and connecting for use, that they be distinguished from one another. If color is used by the maker, the positive post is always painted red and the negative is black or unpainted. Some makers prefer to stamp the case close to the terminals with + (positive) and — (negative) marks. Others abbreviate or spell the terms out and stamp them at or on the connecting posts. While this matter of positive and negative is not important on some chargers, **it is on most of those available** and should be watched carefully. After awhile one does it automatically. When connecting to the set, however, this is always of importance and usually the receiver will not function if these leads are reversed.

Care of B Batteries

There are two types of B batteries in general use. One is the type composed of fifteen or thirty flashlight size dry cells (sealed in) and the other is that composed of 12 or 24 small storage battery cells. A third form is the Edison storage B battery.

There are few precautions relative to the use of the dry cell type as it is practically trouble free and cannot be charged. It should, however, always be set on the side intended by the makers to be the bottom. The small cells which make up the unit (and are contained within the outer metal or cardboard container) are then in an upright position. Thus they will deteriorate at the slowest speed and will give the longest life. These B batteries are made in the two sizes mentioned above and rated as 22½-volt or 45-volt units. When new, they should give this rated voltage if a good quality voltmeter is placed across the terminals. This voltage will gradually drop with the use of such batteries until a point is reached at which a cell is no longer useful. This "dead" point will be further discussed.

Voltmeters all look alike, but vary somewhat in their interior construction. The cheaper ones are known as "low resistance" meters and will give a fairly accurate reading; those higher in price are "high resistance" meters and give a much more reliable idea of the condition of a battery. Whether either type is used, the reading should never be taken after a B battery unit has had a rest of several hours due to the set not having been in operation. Take B battery readings immediately after using the receiver an evening or at least two hours. That will give the voltage being supplied to your set, not that which can only momentarily be obtained due to recuperation.

When to Discard B Battery Units

When, on such a test, the meter shows that a unit supplies but 17 volts, although rated at 22½, or can furnish but 34 volts pressure if of the 45-volt size, throw away the low reading battery unit. Some may feel that there is still useful life in the battery and that it could be hooked up with new units, but this should not be done as the chemical action within the old cells has eaten through the zinc cases of the cells to such an extent that the reaction furnishing electricity is irregular

(Continued on page 24)

Easy Methods of Making Receivers Selective

Part I—Single Circuit Regenerative Types

By John G. Ryan

BACK in the early days of the public's introduction to Radio, the fall of 1921 and spring of 1922, any concoction of Radio apparatus that would put signals into a pair of head receivers or loud speaker was welcome and satisfied its proud owner. As long as any five or six of the dozen stations then broadcasting could be heard more or less regularly, purchasers and builders were well pleased.

Then came more stations and more receivers, running into millions. Single circuit sets disturbed one's neighbors and, in addition, would not separate two powerful locals. Hence, they fell into disfavor in all localities except the far West and the South. The range and selectivity possible in three circuit regeneratives seemed to satisfy for some months and then the desire for range broke out and radio frequency amplification was essential to desirability in a set.

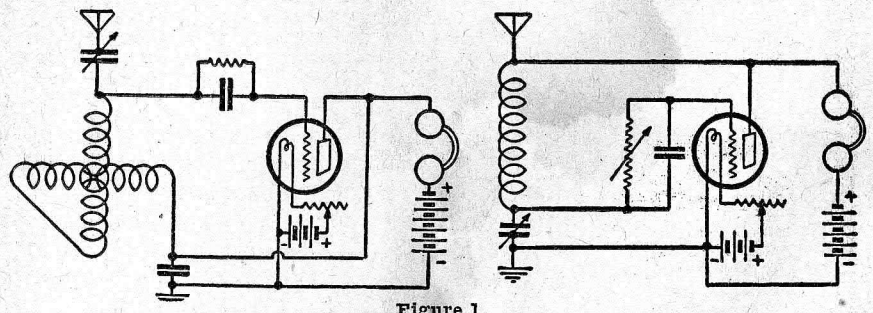


Figure 1

Range But No Selectivity

Untuned radio frequency transformers of the small, laminated-iron core type enjoyed popularity for some time but they permitted tuning only across the loop connected to the first grid circuit or across the secondary of a coupler attached to an aerial and ground. The selectivity was insufficient for the very great number of stations within the range of such receivers. It was plain that more tuned circuits must be had and, since they should preferably be the grid circuits, the Radio field immediately saw air core, tuned secondary, radio frequency transformers on the market by the score. In over 100 different types and sizes, these still exist.

The latest demand from the immense army of listeners is for both range and selectivity and, at the same time, simplicity of control is wanted. The superheterodyne fills this to some extent but the choice of these sets to the man wanting one already assembled and wired is rather limited and the price is beyond the reach of many. There are many kits on the market for those who will construct a set, but the outlay for a seven to nine tube set is rather steep, and the majority of users of Radio sets still have three, four and five tube installations.

Thus we have three major types to consider when discussing problems of selectivity; the regenerative, with or without audio amplification, the five tube set, with or without neutralization, and the superheterodyne, with either air or iron cores. There are certain points common to all three in the matter of improvement of the selectivity, while there are, of course, other features to be changed that are individual to the exact type of set.

The two most widely used single circuit sets are shown schematically in figure 1. Their range is remarkable and, in good locations, with properly installed antennas and grounds, either is apt to do coast to coast on a pair of phones. They are simple to operate and inexpensive to construct. These are the good points.

On the other hand they are bad radiators and will put "birdies" in other receivers located over a wide area. In addition to thus spoiling the other fellow's fun, they will not usually, under present broadcasting conditions, give their owners a great deal of satisfaction, for they cannot eliminate a powerful local or separate moderately distant stations on close wave channels and having equal intensity.

Both of these circuits should be altered to that shown in figure 2. This would not be expensive as each already has the variable condenser for figure 2 and needs only a three circuit coupler to change it over. For most localities this unit can be of the aperiodic fixed primary type that consists of about 10 turns of primary wound next to 45 to 60 turns of secondary with a rotor tickler at one end of the secondary. Locations where there are too many broadcasters will require a unit with rotor primary also, and may even need a wave trap in the antenna circuit. The construction of a wave trap was outlined on the Questions and Answers page of Radio Digest of July 25 date.

Low Loss Construction

The advantages of low loss construction have been greatly exaggerated, and fans have been led to believe that this was the salvation of Radio and would solve all their worries. Nevertheless there is much of merit in low loss types of windings. Any of the baskets, pancakes, herringbones, banks, air spaced and skeletonized windings available are an improvement over the old tube layer wound type, although none of the new types tests up sufficiently better than the rest to make it an outstanding favorite.

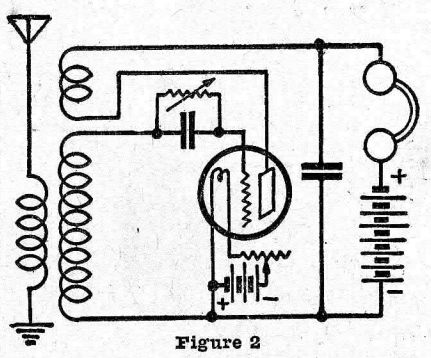
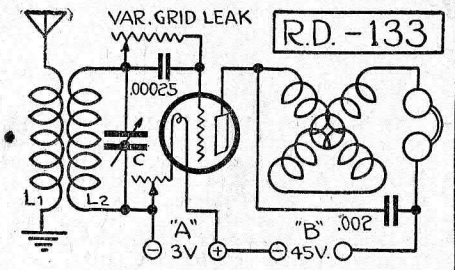


Figure 2

There is one point the reader should understand before building circuit 2. The volume on certain stations may be cut down slightly from that obtained when either circuit of figure 1 is used, but the advantage gained in selectivity should

(Continued on page 24)

USE NEUTROFORMER IN SINGLE TUBE SET



Here is R. D. hook-up No. 133 which uses a unit the same as a Radio frequency transformer in the neutrodyne set. The coil L_1 consists of 10 turns of number 26 dsc. wire on a 3-inch tube which is slipped inside of coil L_2. This latter coil consists of 58 turns of number 26 dsc. on a 2¾-inch tube. C represents a 23-plate condenser attached to the coil L_2.

To tune, vary C for the wave length variations and follow up with the variometer for regeneration. Keep the two in such relation that it is just below the point where a rushing sound is heard. If properly constructed and operated the set will give excellent results on a 199 tube with an electric light circuit aerial. With the same kind of an aerial and two 199 tubes as audio frequency amplification I have heard Mexico City, stations in California and two Cuban stations. I have a total list of 88 stations.—Fred W. Bradley, Ann Arbor, Mich.

CHNC, TORONTO RADIO

(Continued from page 5)

associate-engineer and operator of the station; Chas. E. Bodley is the concert master; Arthur Blight is musical director; Miss Eve Baker looks after programs, and Miss Lorena Combs is the hostess.

All of the staff have yet to receive their first pay envelope but in spite of the voluntary nature of the organization, CHNC has long since gained the name of being the "on time" station and this, coupled with the quality of entertainment broadcast from this station and the very high class of transmission, has made CHNC one of the most popular broadcasting stations in that territory where it is heard to advantage.

GAINING SELECTIVITY

(Continued from page 23)

more than compensate for this. What if you could not hear KFI at 3 o'clock in the morning? You probably will be able to pull WDAF through WGN and hear it without "background" from the latter, which you couldn't do before.

So much for the coupler. If the variable condenser you have been using is of the old style with friction contact to the rotor through the bearings, or with rotor and stator insulated only by thin bushings of fiber through the end plates, it will be worth while to get one of the new ones with pig tail connection, skeletonized metal end plates and side bars of good dielectric; also a vernier, either in the condenser construction or in the dial. Do not omit the bypass condenser shown, which should be between .001 mfd. and .0025 mfd. capacity. It is small, but extremely important in this hook-up.

Other Important Factors

If, in assembling any outfit, you can do without a baseboard and attach all units to the panel direct or on brackets, so much the better. Wiring will thus be clear of all solid matter and is easier to put in. If this cannot be done conveniently, use a base panel of bakelite or hard rubber, attached to the front panel with brackets. This permits the wiring of filament leads beneath the sub-base and makes a good looking job. The use of a wooden baseboard is not desirable, but if wood must be used, keep all wiring at least ⅜ inch away from it and, preferably, encased in spaghetti. Paint that baseboard with Radio cement, shellac or paraffine, and do not omit the edges or ends where moisture gets in the easiest.

The batteries play an important part in the use of regenerative outfits, whether single or three circuit. So far as actual operation is concerned, the efficient use of regeneration is in striking the proper balance between filament brilliancy, plate potential and feed-back. The last named is controlled by the operator, but if either of the other two is weak, results will be inconsistent and regeneration at higher wave lengths will be poor or impossible. The filament should be operated according to the voltage, not amperage, measured across the terminals on the socket after the set has been in operation an hour or two. The plate circuit energy should be measured with a voltmeter across the binding posts on the set. This reading also should be taken after set has been running awhile, for, if tested after a rest, the batteries may have recuperated sufficiently to show a creditable momentary voltage which will later drop when in use.

Some may feel that there should be a connection from the negative A circuit to the ground binding post in circuit 2. There would be slightly better volume and, possibly, slightly wider range, but the selectivity would not be as good, especially if a rotor primary is provided. Something must be sacrificed these days to get selectivity. It might as well be volume. Better get more stations clearly within a 500-mile radius than the same number composed of part of those inside of 500 miles and a few wavering, fading "occasionals" at 1,500 and 2,000 miles.

An adjustable or variable grid leak will be found an advantage when using this set. It is surprising how results can be improved by finding the correct value of resistance at this point. Cartridge types of leaks in clips will do. In the writer's opinion it would be better to put the variable grid leak behind the panel where it can be adjusted for best strength and clarity on a fairly distant station when the set is first put into use, or the tube changed, and then left alone. It is too much of a temptation on the panel and either the builder or his family is always playing with it—which does the leak itself no good and makes results inconsistant. The usual suggestions such as "keep the leads short, solder all connections, pull up socket springs and keep the condenser away from the end of the tuner secondary," all apply to this type of set.

(In the next issue Mr. Ryan will make suggestions for the improvement of five tube sets now built and suggestions to those contemplating the construction of new ones. Even though they contain three tuned circuits, there are many five tubers that are not selective.—Editor's Note).

PREVENTING TROUBLE

(Continued from page 22)

and intermittent and crackling noises resembling static will be heard. Dry B battery units usually last from four to eight months, depending on the amount of their use.

When connecting B batteries together or to the set, which is usually done with wire covered with insulation containing either rubber or paraffine, there is a tendency to hastily remove the outer covering and slip the apparently bare wire into the clips. Take an extra moment or two to scrape the wire core as shown in figure 3.

A good contact is thus provided that will not make noises in the set or later result in no current at a place which is hard to find. These clip connections can be apparently perfect, but only careful examination and shaking will bring to light the fact that unremoved insulation

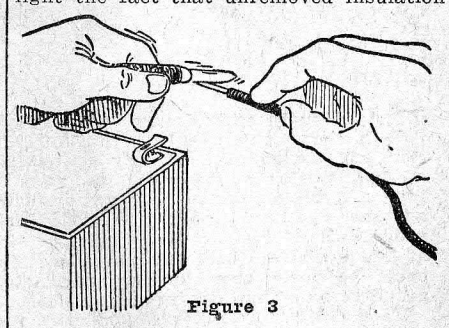


Figure 3

is preventing contact at the points where the clip pinches the wire.

(In the next installment of his series, Mr. McDonald will conclude the battery discussion by considering storage B supplies. He will then tell of the minor mechanical defects in parts due to improper usage or rough treatment.—Editor's Note.)

ON GERMANY, SMITH

(Continued from page 7)

phonograph music. On the evening of June 19, 1920, this station was connected by telephone line with the state opera house in Berlin, and the lovely music of "Madame Butterfly" went out upon the infinite waves as the first complete opera broadcast to the world. On the day we were at Konigswusterhausen they were dedicating a new set having 10-kilowatt power.

Revenue and Centralization

The license fee in Germany is high. Every owner of a receiving set must pay two marks a month, $6.00 a year. Of this money, for every two marks, one mark ten goes to the broadcasting companies and the remainder to the postal department. With this money the operating companies pay their expenses. There are now in Germany nearly one million owners of sets paying the monthly license. This makes about a quarter of a million dollars yearly to each of the broadcasting companies.

The national culmination of the broadcasting plan in Germany will be the permanent connecting of all stations by telephone lines.

(TO BE CONTINUED)

A. B. C. Course in Radio Fundamentals

Chapter XXIII—The Electron Tube as an Amplifier

By David Penn Moreton

THE function of a vacuum tube when used as an amplifier consists in reproducing on a larger scale in the plate circuit, the variations impressed upon the grid or input circuit. If an alternating potential be impressed upon the grid of a three-electrode vacuum tube, by connecting an alternating current generator between the grid and filament of the tube, there will be a pulsating current produced in the plate circuit due to an

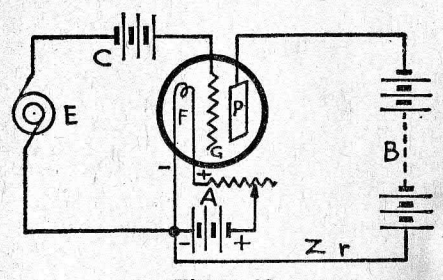


Figure 98

alternating current being superimposed upon the normal steady plate current.

This alternating current in the plate circuit is the same as would flow if the external plate circuit of the tube were connected to an alternating current generator having an internal resistance and capacity equal to that of the tube and generating an alternating electrical pressure equal to $k \times E_g$, k being the amplification factor of the tube. This important relation may be demonstrated as fellows, by considering the operation of the tube shown in figure 98. The filament is heated by the battery A. The grid is connected to the filament through a battery C, which determines the operating point of the tube on the static characteristic curve, and also through an alternating current generator E, which provides the alternating voltage to be amplified. The plate P is connected to the negative side of the filament through a battery B and an external circuit, having an impedance Z, which includes the internal resistance of the battery but not the internal resistance of the tube.

Effect of External Factors

Let us first assume that the external plate circuit of the tube has no impedance, that is, the inductance, capacity and resistance are all equal to zero. Under these conditions the potential of the plate E_p is always equal to the electrical pressure of the battery B, and an alternating grid potential of + e and — e volts will produce corresponding variations in the plate current along the plate current-grid voltage static characteristic curve of the tube, corresponding to the particular plate voltage at which the tube is being operated. For example, if the tube is being operated with a plate potential corresponding to that of curve A in figure 99, and the grid potential is varied in value between the points + e and — e, the plate current will vary along the curve A between the points I_1 and I_2.

Let us now assume that there is a resistance r in the external plate circuit of the tube. The electrical pressure of the battery B is no longer applied to the plate alone but a part of this pressure will appear between the terminals of the resistance r. Representing the current in the plate circuit by I_p and the internal resistance of the tube by R then the electrical pressure of the battery E_b will be equal to $(I_p \times r) + (I_p \times R)$. The filament current I_p times the resistance r is the value of the electrical pressure between the terminals of the resistance r, and the filament current I_p times the resistance R is the value of the electrical pressure between the plate and the filament of the tube.

If the grid potential is varied so as to produce an increase in the plate current I_p, it is obvious that the electrical pressure between the terminals of the resistance r, which is equal to $I_p \times r$, will increase in value. Since the electrical pressure of the battery B remains practically constant, there must, as a result of the increase in the electrical pressure between the terminals of the resistance r, be a corresponding decrease in the electrical pressure between the plate and the filament of the tube.

On the other hand if there is a change in grid potential which results in a decrease in the value of the plate current I_p, there will be a decrease in the electrical pressure between the terminals of

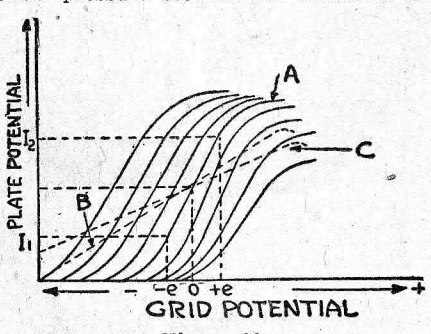


Figure 99

the resistance and an increase in the electrical pressure between the plate and filament of the tube.

It is thus apparent that, on account of the external plate circuit resistance, the plate potential of the tube is not constant, but depends upon the plate current, and varies in just the opposite direction to the variations in the plate current.

Dynamic Characteristic Curves

It follows from the above discussion that when there is a resistance in the external plate circuit, and the grid potential is varied in value, the operation of the tube no longer follows the static characteristic curve of the tube, which is determined with a constant potential between the plate and the filament, but follows a different curve called the dynamic characteristic. The shape of the dynamic characteristic depends upon the shape of the static characteristic curve of the tube and also on the amount of resistance or impedance in the external plate circuit. The general shape of the dynamic characteristic curve of a tube is shown by curve B in figure 99. All of the solid line curves which corresponding in general form to curve A are static characteristic curves for different plate voltages and constant filament currents. If the resistance of the external plate circuit is increased there will be a change in the slope of the dynamic characteristic curve as shown by curve C in figure 99. Each of the curves B and C correspond to a certain plate potential and, if this is changed, there will be a corresponding shift in the curves for a given external plate to filament impedance.

The greater the external plate impedance of a tube, the greater the variation in plate potential E_p due to a given

(Continued on page 26)

COURSE

(From page 25)

current brought about by ...ion in grid potential. As an case the dynamic characteristic would be parallel to the horizontal ...rid-voltage axis of figure 99, showing ...at variations in the grid potential of the tube would produce no variation in the plate current but maximum variations in the potential between the plate and filament of the tube, which would be amplified variations of the grid potential variations.

This last statement may be explained by reference to figure 100. In this figure the plate circuit outside the tube is composed of the battery B and a coil L of extremely high impedance. If an alternating potential is applied between the grid and the filament, there will be an alternating current produced in the plate circuit, or rather, there will be an attempt to produce an alternating current through the coil L which has a very high impedance. Any change in the value of the current in the coil L will result in there being an electrical pressure induced in the coil whose direction at all times is such as to oppose the change in current in the coil.

If the inductance is large, as was previously assumed, the current in the plate circuit will not change a great deal while the alternating counter induced electrical pressure in the coil will be equal and opposite to the alternating pressure tending to produce the plate current variations, which is equal to the amplification factor of the tube K times the alternating electrical pressure e_g impressed upon the grid. The electrical pressure between the terminals of the impedance coil L will be an amplified reproduction of the potential variation between the grid and the filament.

There is, of course, some current in the plate circuit but it is very small and the dynamic characteristic curve of the tube has very little slope. The variation in the electrical potential between the terminals of the coil L depends upon the current and the impedance of the coil. The impedance of the coil depends upon the resistance of the coil, the inductance of the coil and its distributed capacity.

Resistance vs. Impedance

A high resistance may be substituted for the impedance coil L in figure 100. The electrical pressure between the terminals of the resistance is so great that a very small potential exists between the plate and filament of the tube. Then, in order to have a sufficiently high potential between the plate and the filament of the tube, and obtain an appreciable current, it is necessary to use a very high B battery potential which is generally undesirable.

When an impedance is used, as shown in figure 100, the resistance of the coil may be made quite low without affecting the operation, since the amplification is due to the induced electrical pressure in the coil which depends upon the inductance of the coil and the rate of change of the current taking place in the coil. This results in a large voltage amplification with a low resistance in the plate circuit and a comparatively low plate battery voltage.

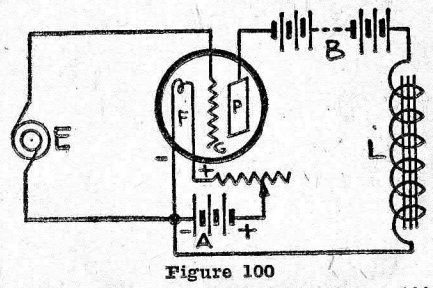


Figure 100

If the inductance coil L, in figure 100, be shunted by a variable condenser, then the natural frequency of the circuit composed of the coil L and condenser may be adjusted to the frequency of the alternating potential applied to the grid of the tube. With this arrangement the impedance of the external plate circuit will be a maximum and becomes greater the less the resistance of the circuit composed of L and the capacity of the condenser.

(Having shown most clearly the action within a single tube used as an amplifier, Professor Moreton will next show how several tubes may be used together in what is known as cascade amplification. If one tube and its transformer amplify twenty times, two tubes in cascade give, not forty, but an amplification of 400.—Editor's Note).

Hear Mooseheart in Peru

Ralph Shugart, engineer of the Moose Station WJJD, Mooseheart, Ill., had a great thrill a few days ago when a letter was received from L. Anciaux who lives in Arequipa, Peru, South America. Senor Anciaux said, among other things, that WJJD came in on his set in South America, 5,000 miles from Mooseheart, with "extraordinary volume despite static,—hard to separate from KDKA." He said the weather was clear but the "atmospheries" were heavy.

The Reader's View

Superpower vs. Smaller Stations

I am a constant reader of Radio Digest, and I would like to express my opinion on a much discussed topic; superpower stations and smaller stations. Superpower stations are a very fine thing for entertainment, but low power stations should not be eliminated from the game. It furnishes me much pleasure to pick up a twenty-watt station a thousand miles away. Distance is still the fad and will continue to be so, because distance is the thrill of Radio, and without a thrill, a thing is worthless.

Some people say that a twenty-watt station on the same wave length with a superpower station causes interference, this is almost impossible, because a superstation drowns out a weaker station.

Just a word about selectivity. Although I have a one-tube set, I am able to tune out a strong nearby station and tune in a weaker station which is but two meters away. I have received a large number of distant stations and I have not experienced any interference that could not be eliminated entirely by sharp tuning.

Some people say: "I don't care for distant reception. Give me a local program and I am satisfied." If you listen in to their set, nine times out of ten you will find that they are unable to pick up stations more than 150 miles distant. They have never received distance, and do not know what it feels like. Give them a dose and they will come back for more.

Most of the trouble experienced would be eliminated if the person operating the set would learn how to do sharp tuning. If a set can't tune stations six meters apart, the proper thing to do is to "junk" it and buy one that will. It does not necessarily have to be a $250 set, as a low priced set, properly built by recognized manufacturers, will do the trick.

When I pick up my Crosley one-tube receiver, I hear a great number of stations trying to gain admittance to my earphones. I let them in one at a time without any interference whatsoever. I have received a total of 137 stations from all parts of the United States, 10-watt, 20-watt, 50-watt, 500-watt, 1,000-watt, and 5,000-watt.

I look forward to the superpower stations for pleasure and enjoyment, but give me distance too. The superstations always furnish good programs, and when I am after entertainment I tune to them. Let the superpower stations continue to broadcast entertainment for the Radio public, but do not crowd the low power stations **entirely** off the air.—M. S., Washington, Pa.

Give More Sunday Night Sermons

I wish you would use your good offices to induce more of the larger broadcasting stations, that is, the stations with the more powerful transmitters, to broadcast sermons on Sunday evenings. Quite a number broadcast the usual morning sermons and in many instances sign off for the remainder of the day. It is a matter of general knowledge, I assume, that the great majority of listeners have no sets that will get a day station in full volume unless very near.

The night transmission, of course, is much more effective and satisfactory, and I feel that if the great stations—which are doing so much to elevate mankind—would give us more Sunday night sermons the cause of religion would be advanced and the incidental benefits to society enjoyed and realized.

I am sure Radio Digest does not object to the advancement of this cause and I feel equally sure the big stations are not adverse thereto. I imagine that any suggestions you may feel like making along this line would at least have the thoughtful attention of the great stations. W. C. R., Nashville, Ark.

Waiting for Announcer

Fully agree with J. M. Hill, of Olympia, Wash., about this announcing business, as Mr. Hill sets forth in an intelligent manner.

Oftentimes I get tired waiting to hear the name of the person talking. Of course some may say that it makes no difference who it is if the speaker is worth listening to and tells the truth. We all know that this is not satisfactory to most of us. A talk by the President carries more interest than a much better talk, perhaps, by some other man. I, like most other Radio fans, cannot sit all day and night at the Radio and when I hear fine singing, music or speaking, I like to know the city and station from which I am getting this pleasure. It would not interfere with a speaker, after he has spoken ten minutes, for him to announce his name and the city in which he is speaking. We all naturally suppose that music or a speech is broadcast for the benefit of those "listening in" therefore why not give us the full pleasure of knowing all about it—J. M. Page, Jerseyville, Ill.

DX English Circuit Hears America

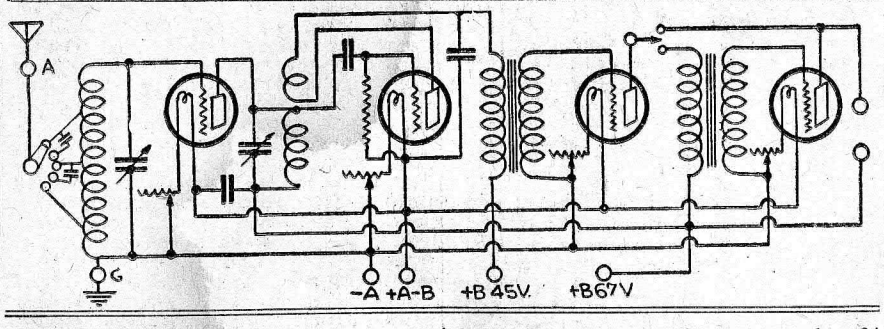
Four Tube British Set Is Exceptionally Good

Here is a hook-up that my friend in England receives America on during any good Radio night. He advises that he has tried all the hook-ups and he finds this the best. I hooked my set like it last February and have no trouble getting coast-to-coast reception.

The plate tuned impedance coil and the regeneration coil may well be honeycombs in an adjustable coil holder although other forms and means of coupling can be used. You do not need a potentiometer in this circuit. The filameter rheostats give you the same results and you will probably find that you get much louder signals by cutting down the current on the first tube.

For DX work, the detector tube current should be varied for best results. To switch out the last tube (second audio) turn the switch to the right and cut off the rheostat on that tube. When you've become accustomed to handling this circuit I think you will prefer it to anything you've tried. I know we do.—J. H. Stevenson, Oak Station, Pa.

DIAGRAM OF OVERSEAS RECEIVER



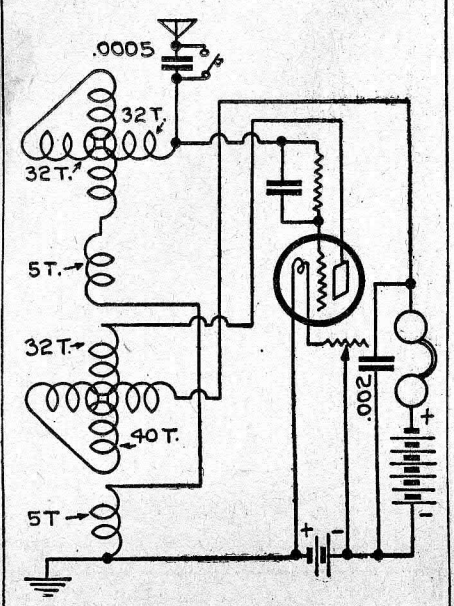
WORKSHOP KINKS EARN A DOLLAR—

THERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much interested in obtaining such material. Send them in with full details, including stamped envelope, so rejected copy may be returned. The work must be entirely original, not copied.

RADIO KINKS DEPARTMENT
Radio Digest,
510 North Dearborn St., Chicago

Two Variometer Hook-Up

I am enclosing my favorite single tube set with which I have obtained exceptional results. It is very easily built and is easy to operate, there being only one tuning control. Using one tube with an aerial 90 feet long, including lead-in, and a WD-12 tube, I get Calgary, Alberta, Los Angeles, Havana, Hollywood and Portland, Ore. In one week 70 stations were logged.



Two variometers are wound on the same 4-inch cardboard tube. The rotors have a diameter of 3 inches. The stator of the aerial variometer consists of 32 turns of number 24 dcc. copper wire. This is then continued 5 turns on each side of the stator of the plate variometer. The plate variometer has a stator of 32 turns of number 24 dcc. wire and a rotor of 40 turns of the same wire on 3-inch tube. The tuning rotor is 32 turns number 24 dcc. wire on the other 3-inch tube.

The switch in the aerial circuit is closed for long wave lengths and opened for short wave lengths. The .002 mfd. phone condenser is connected across the phones and B battery, which is 22½ volts. Be sure to connect the tuning rotor to the aerial and the rotor of the plate variometer to the phones.—Edward Fulmer, Greer, Ohio.

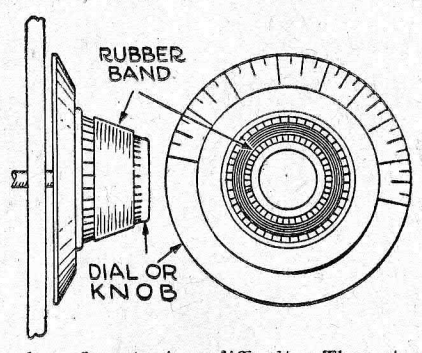
Single Wire Aerial and Lead-In

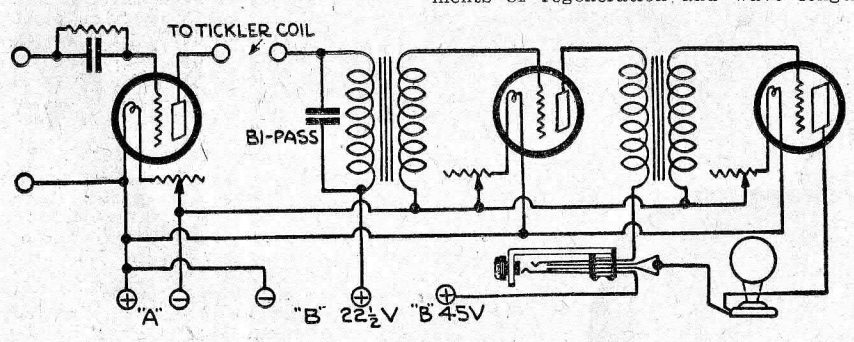
Persons who have no facilities for soldering the lead-in wire to the aerial can drop one end of the aerial wire proper from the insulator so as to make a lead-in, if they are careful to wrap the end of the wire that is to become the lead-in around the aerial.

Distortion is more frequently caused by a distant station on a closely similar wave length than by a defect in the receiver. It may even be that the signals from this interferer cannot be heard, but are sufficient to break up the wave stream of the desired station.

Hand "Anti-Skid" for Dial

On even the best dials the hand has a tendency to slip at times, and the necessity of gripping hard to prevent slip makes fine tuning difficult. Then too, there is hand capacity at certain adjustments of regeneration and wave length which seems to be effective through the Bakelite of which the dials are made. I therefore tried out the idea shown in the attached sketch which solved both of these difficulties very nicely. A large rubber band is all that is necessary.—Robert Harrington, Dayton, O.





New Jack Circuit

The single jack arrangement shown in accompanying sketch of detector and two stage amplifier hook-up was due to the fact that only a single jack of the four spring variety was available. This rig has proven satisfactory, economical and convenient. Inserting phones in jack gives one stage for head phone work, removing plug the signal appears in loud speaker with two stages.—T. B. Taylor, Jacksonville, Fla.

Expect Close Study by Engineers, Public Cooperation to Oust Noise

Rensselaer Polytechnic Institute Professor Tells of Experiments at WHAZ in Efforts to Down All Unnecessary Interference; Says Some Noise Will Always Be Present

TROY, N. Y.—Radio noises cannot be entirely eliminated except by sacrifies which the public would be unwilling to make, but through the close study of engineers of public utilities corporations and Radio broadcasting and the cooperation of the Radio audience, we have every reason to expect that unnecessary noises will rapidly disappear. This salient opinion was expressed by Prof. Wynant J. Williams, associate professor of electrical engineering at Rensselaer Polytechnic Institute, Troy, N. Y., and eminent communication engineer in whose department is the experimental broadcasting station WHAZ. Professor Williams was delivering a demonstration lecture at Hartford, Conn., under the auspices of the American Institute of Electrical Engineers, on "Causes of Interference in Radio Reception," which became a public address in the largest auditorium in the city through the insistent interest of Radio listeners in the problem of Radio noises and congestion of the air. Among other things he said:

To Limit Noise

"If we wish to limit the amount of noise produced, we must limit the amount of electromagnetic disturbance in the broadcasting medium. The problem consists of maintaining a low power level compared with the power level of the transmitted programs. With regard to the upper power limit for broadcasting there is room for considerable difference of opinion. Our experience with station WHAZ at Troy, has convinced us that there is no necessity for these so-called superpower broadcasting stations. When we know that a 500-watt station can be consistently heard throughout the cool weather (about forty weeks a year for the last three years) all the way across this continent in one direction and in Europe in the other direction, we can hardly be criticized for taking the stand that a power level of approximately this value is sufficiently high to meet the needs of the Radio audience. When it is necessary to lift the power level of the country, when something of national importance is being broadcast, it can be done very satisfactorily by linking together by wire several broadcasting stations chosen on account of their location.

Why So Noisy?

"Most people wonder why Radio should be so noisy. They forget that most of the applications that engineers have recently made of the findings of science to the solution of our everyday problems have produced considerable noise. For instance, most of us can remember in the early days of the automobile industry how noisy automobiles were. However, automobile engineers soon found a method of reducing the noise below that point at which the public felt it objectionable. Typewriter designers have at last been able to produce machines which, for all practical purposes, can be considered noiseless.

Differences in Noise

"Radio broadcasting is the latest child of the physical sciences, and like every other child, we should expect it to be noisy. We do not object to a baby being noisy, for we feel that it shows the child is healthy, and if given a fair chance will grow to be a useful man or woman. However, if the baby is making a noise because its nurse is not properly caring for it, common sense tells us that the thing to do it to change nurses and put the child in the hands of those who are capable of properly caring for it. Similarly with Radio, a number of the noises which we encounter in this field are perfectly natural and show a perfectly healthy development condition. There are, however, other noises which can be directly traced to those who are responsible for this new development. This, however, should give us no cause for worry, for as soon as the Radio public realizes the cause of these unnecessary noises it will unquestionably take steps to change nurses.

Electromagnetics Cause

"After we have eliminated the unnecessary noises, we cannot expect to have a zero noise level, or, in other words, no noise at all. We must always bear in mind that wherever we have electrical energy there is a possibility of producing an electromagnetic disturbance in the medium used for broadcasting, which will produce noise in a receiving set.

"Noise is sound energy, and since it is possible to transform one form of energy into another it is possible to transform electrical energy into sound energy. In fact, this is the function of the Radio receiving set, so if we wish to limit the amount of noise produced we must limit the amount of electromagnetic disturbance in the broadcasting medium.

Is Theoretically Simple

"From the technical point of view the intereference problem is thus seen to be theoretically simple, whereas practically it is a very difficult one, owing principally to its size. The problem merely consists of maintaining the electromagnetic disturbance at such a low level, compared with the power level of the transmitted programs, that when both of these are transformed into sound energy the resulting noise level will be so relatively low that it will not be generally considered objectionable.

"To give some idea of the relative importance of Radio broadcasting, compared with other utilities which function through the use of electrical energy, and are therefore potential sources of disturbances, I wish you would picture in your imagination what civilization would be without these public utilities. If it were necessary to completely abolish these public services in order that Radio broadcasting might be enjoyed, would you be willing to go without the facilities placed at your disposal by the electric light and power company, the telephone and telegraph company, the railroads and the electric railways? No sane person would be willing to make the sacrifice, and yet at times Radio listeners become so irritated by the noises they receive through interference that they talk and act as if they would.

No Transmitting Monopoly

"Now, as a matter of fact, all these public utilities, including broadcasting, which use the same medium have to find a way of supplying the public with the quality of service the public has a right to demend without materially interfering with one another. None of these utilities can have a monopoly of this transmitting medium, and the amount of use alloted to each should be determined wholly upon the relative values to society of the service rendered. This is a problem for the social engineer and must be worked out before a complete solution of the interference problem can be made.

"When the public is educated to the point where it sees interference in its true light all of the unnecessary friction between those who experience interference and those who are unintentionally the cause will disappear. Under this condition the trouble, if it is a real one, can usually be located and corrected in a reasonably short time."

Austria Claims Highest Set

VIENNA.—The Innsbruck branch of the "Freier Radio Bund," has set up in the Alpine club refuge on the Padaster Joch, in the Austrian Alps what is claimed to be the highest altitude receiving station in the world, though it may be topped by one or two of the French Alpine club stations which it is proposed to put up shortly. The height above sea-level is well over 8,000 feet.

Questions and Answers

Adjusting Super Parts

(14182) RJD, Hamilton, Ohio.

I have a couple of little questions involving a super-het which I wish you would answer for me if possible. Incidentally, I wish to state that you publish the finest list of programs and the only accurate up-to-the-minute list of stations in this country.

In matching the intermediate frequency transformers of a super-het and using a wave meter, from which winding do you remove the wire if the wave length is too high, the primary or the secondary? In matching an input transformer to intermediate frequency transformers how would you go about it? Also, in case of an output transformer. In a super, if tubes are matched and transformers matched what would cause broad tuning?

A.—In matching intermediate frequency transformers and using wave meter a few turns should be removed from the secondary coils if any of them are found to be too high. In matching an input or output transformer to a set of intermediates you would put a variable condenser across the tuned circuit which would be either the primary or secondary or both and adjust for maximum response. When this setting has been determined the capacity at that setting can be found and a fixed setting at that capacity substituted. The tuned circuit of the filter transformer whether input or output should have the same wave length as the peak wave length of the intermediates. In a super, if tubes are matched and transformers are matched broad tuning could be caused by a filter circuit that was not sharp enough or by a poorly designed oscillator circuit or by an inefficient loop tuning circuit.

Low Loss Coils in Neutrodyne

(14183) RNR, Knoxville, Iowa.

This has reference to the low loss tuned radio frequency receiver as outlined in Radio Digest of April 25 this year. I have a three tube reflexed neutrodyne and have installed in this set the Rico straight line variable condensers, .0005 mfd. with 3 to 1 audio transformers. The neutroformers are wound as follows: primary of 6 turns, secondary of 65 turns of number 26 dsc. wire.

What I wish to know is, shall I use the same capacity of coil that Mr. Walters has used in his receiver, such as the same size wire, same number of turns in primary and secondary? As I have only a three tube reflexed set I thought perhaps there would be some difference in data on coils.

A.—We wish to advise that if your condensers are full .0005 mfd. the coils to be installed in your receiver should be exactly as described by Mr. Walters. The fact that the set is reflexed does not make any difference in these constants. Since you are going to eliminate some losses which tend to stabilize your reflex you may have some slight trouble through howls and squeals when you first put the rebuilt set into operation. However, if you put bypass condensers from the B plus end of each transformer to the plus filament circuit, much of the tendency to howl will be eliminated. A little adjusting on the angles of the coils would also be desirable and a vertical shield six inches high and the depth of the cabinet between stages will prevent much interstage coupling.

Oscillator and Autodyne

(14178) ALN, Pueblo, Colo.

I am going to build the super-heterodyne described in the Radio Digest of June 27 and July 4, except that it will be installed in a cabinet and panel mounted. I wish to know if I may expect full results in this circuit by using Haynes-Griffin late type filter and intermediate transformers. I wish to wind the oscillator on a 3⅜-inch stator and a 2¾-inch rotor. Please advise windings on same. Is any heterodyne described in the back numbers of the Digest using the autodyne coil. I do not remember seeing anything covering this principle.

A.—If you are going to use Haynes-Griffin filter and intermediate transformers the writer would strongly advise the purchase of one of their oscillator couplers and the use of their wiring diagram. It is not a good policy to wind ones own oscillator for any make of filter unless one is extremely familiar with all of the data on that filter, chiefly the wave length it is supposed to pass best. We have not

(Continued on page 30)

RULES TO FOLLOW WHEN ASKING QUESTIONS

The Question and Answer department offers service to Radio Digest readers without charge but asks that the following suggestions be read carefully before writing.

1—Search carefully the back issues which you have, as the point in question has probably been covered several times before.

2—Letters for this department should be kept separate from all correspondence to other departments and on other subjects.

3—Questions should be written on one side of paper only and each sheet should bear the sender's name and address. All letters should be accompanied by a self-addressed stamped envelope of standard business size.

4—Unsigned (or anonymous) letters cannot be answered, either on this page or by letter, nor can those without address.

5—No circuits of any standard manufactured receiver will be published.

6—No comparative statements on advertised apparatus will be given except as to efficiency in some particular circuit.

7—Drawing diagrams on a separate sheet of paper will save time and enable us to give all questions more attention.

8—Write each question as a separate paragraph.

9—Make a copy of your letter and diagrams, to which we can refer without re-drawing.

10—The names and addresses of the writers of letters published will not be released except with the writer's permission.

11—We want to be of assistance to you in your difficulties, but are sometimes limited because of the length and time required for the proper consideration of the questions asked. Therefore, please make your letters brief.

QUESTIONS & ANSWERS

(Continued from page 29)

published any super circuits in which an autodyne coil is used since reports from our readers would indicate that the use of such a coil does not favor selectivity. That is the only fault of the * * * * * super featured by * * * * * and users have found it very good in every other way except as to selectivity.

Regeneration on High Wave Lengths

(14185) EHW, North Troy, N. Y.

My set is homemade using two tubes, Ambassador coil and their hook-up, Acme .0005 mfd. condenser and Acme transformer; everything the best I could buy. Aerial and lead-in total 80 feet, ground 17 feet, both well insulated. Wave lengths from 230 to 380 meters come in loud and distinct but any wave length above 380 is so faint I cannot hear signals or call letters at all. Could you advise me what is cure for this trouble.

A.—It looks to us as though you did not have enough plate voltage on your detector tube. As the writer recalls it, the Ambassador circuit shows 22 volts on the detector plate, but if you are using a 199 tube this should be increased to 45 or even 67 volts. There should be a bypass condenser of .002 mfd. connected from the P binding post on the audio transformer to the plus filament binding post on the tube socket. The audio amplifier should have 90 volts of B battery on the plate with a C battery of 4½ volts between the F terminal of the transformer and the negative A circuit on the input side of the rheostat.

Tuned R. F. Is Popular

(14065) GB, Campbellstown, Ohio.

Could you tell me the main circuits employed in the sets now on the market?

A.—The circuit employed in the majority of sets on the market at this time is known as the tuned radio frequency and in all cases it is practically the same as the circuit used in either the Freshman or the Marv-O-Dyne, which were shown in recent operating and trouble shooting articles in Radio Digest. The second most used circuit is the neutrodyne employed by such manufacturers as are licensed by the Hazeltine corporation, while the third most popular circuit is the reflex. The super-heterodyne would be employed by many more manufacturers if its use were not controlled by patents held by the Westinghouse Electric and Manufacturing company.

Radio Fair Exhibits Need World's Largest Hall Now

NEW YORK.—Radio annihilates space in spreading messages of cheer throughout the world. Who knows but that the Hertzian waves are sweeping on to the very stars.

And now Radio, as America's greatest infant industry, is annihilating space in another way.

The largest hall in the world has been engaged for the Second Radio World's fair, to be held the week of September 14 to 19. It is the 258th Field Artillery Armory, Kingsbridge Road and Jerome avenue. The auditorium is five times as large as Madison Square garden, now being town down to be replaced by an immense skyscraper office building.

Radio for French Airdromes

PARIS.—Orly airdrome, near Paris, has been fitted with Radio installation, and this will be extended gradually to all French airdromes. The purpose is to keep airplanes informed of meteorological bulletins and any information that may be of use to the flyers.

Wisconsin "Hams" to Give Tourist Service

Madison A. R. R. L. Chapter to Forward Visitors' Messages

MADISON, Wis.—Are you touring to strange and distant cities? Would you like to get in touch with friends in your home town, or let them know your whereabouts quickly?

Then just drop your message into one of a group of boxes in your city park and it will be collected by carrier and "Radioed" back home, perhaps for many hundred miles.

Such a project is now being carried out by the Madison, Wis., branch of the American Radio Relay league. Members of this chapter, eager to be at the forefront of developments in Radio, are instituting in Madison a Radio service for tourists, enabling travelers to send messages free of charge to friends and relatives back home.

The Burgess Battery company here will handle these messages over its stations, 9XH and 9EK, in order to advertise the city of Madison to the world.

Radiophone Broadcasting Stations

Corrected Every Week—Part I

United States

AQ6, Canton, O. 425 meters. Hdqts. 135th Field Artillery O. N. G.

AT9, Fort Bragg, N. C. 435 meters. 750 watts. U. S. Government. Announcer, Lieut. James Y. LeGette. Slogan, "The Pioneer Broadcasting Station of the Army." Tues, Thurs, Sat, 8-9:55 pm, dance music, talks, bands, fights. Sun, 8-9:55 pm, service. Eastern.

AV7, St. Paul, Minn. 400 meters. 6th Inf. Minn. Nat'l Guard, St. Paul Armory. Irregular schedule. Central.

AW5, Dayton, O. McCook Field, Eng. Division air *service. Exp. work only.

KDKA, E. Pittsburgh, Pa. 309.1 meters. 1,000 watts. Westinghouse Elec. & Mfg. Co. Announcer, H. W. Arlin. Slogan, "The Pioneer Broadcasting Station of the World." Daily ex Sun, 9:45-10 am, 11:55, time, 12, market reports, weather; 2:30-5:30, baseball, music; 7, baseball; 9:55, time, daily except Sun, Sat; 12:15 pm; 7:45 pm, talks. Daily ex Sat, Sun, 8:30 pm; 8:45, concert; 9:55, time. Sat, 8:45 pm, concert; 9:55, time. Tues, Thurs, 10:30 pm. Sun, 9:45 am, 3 pm, 3:45, 6:45. Eastern.

KDLR, Devils Lake, N. Dak. 231 meters. 5 watts. *Radio Elec. Co. Wilson Ins. Agency. Daily ex Sun, 12:10 pm, weather; 6:15, markets; orchestra. Mon, 9:30-11:30 pm. Sun, 4:30-6. Central.

KDPM, Cleveland, O. 250-1817 meters. 750 watts. Westinghouse Elec. & Mfg. Co. Announcer, H. W. Irving. Experimental station.

DYL, Salt Lake City, Utah. 245.8 meters. 50 watts. Newhouse Hotel. Announcer, Gene Pack. Slogan, Out on the Great Divide." Daily ex Sun, 3-4 pm, 6-8, news, music, entertainment. Sun, 11-1 am. tain.

Bakersfield, Calif. 209.7 meters. 100 watts. Frank Daily ex Sun, 8-9 pm, reports, music. Pacific. coln, Nebr. 340.7 meters. 500 watts. Nebraska to Co. Announcer, Gayle Grubb. Daily ex s, 6-7 pm. Mon, Wed, Fri, 7:30-9:30 pm; n; Sun, 4 pm, church services. Central. ix, Ariz. 273 meters. 100 watts. McArthur ercantile Co. Announcer, Arthur C. An- an, "Where Summer Winters." Daily ex :30 pm, news, weather, stock reports, ain.

Wash. 348.6 meters. 500 watts. State shington. Announcer, Ivar Melander. talks, music. Pacific.
o. 278 meters. 500 watts. Western

261 meters. 100 watts. Univ. of M. Orsborn. Tues, Sat, 9 pm, s by faculty. Thurs, 7:30 pm ts. Mountain.
231 meters. 50 watts. Uni-

277.6 meters. 750 watts. Boise H. l Taylor. Slogan, "Intermountain Sat, Sun, 4-4:45 pm, markets, Fri, 8-10 pm, concert. Mountain.
if. 214.2 meters. 50 watts. Radio There Is Always a Friend from Mon, Thurs, 8-10 pm. Pacific. 5 meters. 50 watts F. A. But- C. O. Boettger. Daily ex Sun, kets, weather, reports. Mountain.
lf. 224 meters. 70 watts. W. K. brothena, 8-9 pm, Bible lesson, sermon.

watts sh. 249 meters. 50 watts. First nterm. Announcer, Frank Tovey. Sun, ry 30. Pacific.

Wash. 224 meters. 100 watts. Lesse *Bros. Daily ex Sun, 7:15-8:15 pm. Pacific.

KFCB, Phoenix, Ariz. 238 meters. 100 watts. Nielsen *Radio Supply Co. Announcer, E. A. Nielsen. Slogan, "When It's Wintertime in Michigan, It's Summer Time Down Here." Daily 7-7:30 pm, bedtime stories. Mountain.

KFCC, Helena, Mont. 248 meters. 10 watts. The First Congregational church.

KFCF, Walla Walla, Wash. 256 meters. 100 watts. Frank A. Moore. Slogan, "The Valley They Liked So Well They Named It Twice." Mon, 8-10 pm. Thurs, Fri, 8-12 midnight. Pacific.

KFCY, Le Mars, Ia. 252 meters. 50 watts. Western Union College. Announcer, D. O. Kime. Slogan, "College on the Hill." Fri, 9-11 pm, central.

KFDD, Boise, Idaho. 275 meters. 50 watts. St. Michael's Episcopal Cathedral. Announcer, E. Mark Hanford. Sun, 11:15-12:30 pm, 7:30-9:15. Mountain.

KFDH, Tucson, Ariz. 258 meters. 50 watts. Univ. of *Ariz. Announcer, Max Voss Kuehler.

KFDJ, Corvallis, Ore. 254 meters. 500 watts. Oregon Agricultural College.

KFDM, Beaumont, Tex. 315.6 meters. 500 watts. Magnolia Petroleum Co. Announcer, Magnolene Mike. Slogan, "Kall for Dependable Magnolene." Tues, Fri, 12:30-12:55 pm, band concert; 7-7:30, children's hour; 8-10:30, concerts. Sun, 11-12 m, 8-9 pm. Central.

KFDX, Shreveport, La. 250 meters. 100 watts. First Baptist church. Announcer, Hugh Claycomb. Temporarily off the air.

KFDY, Brookings, S. D. 273 meters. 50 watts. S. D. State College. Announcer, G. A. Rietz. Daily ex Sun, 12:15 pm, livestock markets. Central.

KFDZ, Minneapolis, Minn. 231 meters. 10 watts. Harry O. Iverson.

KFEC, Portland, Ore. 248 meters. 50 watts. Meier & Frank Co., Inc. Daily ex Sun, 12 m, weather, reports; 4-5 pm, music; 6:30 pm, weather, crop, markets, reports. Sat, 11 am-12 m, children's hour. Pacific.

KFEL, Denver, Colo. 254 meters. 50 watts. The W. L. Winner Radio Shop. Announcer, Eugene P. O. Fallon. Daily ex Sun, 11 am, 2 pm, 4. Tues, Thurs, Sat, 10-12 midnight, dance. "Top of the World" studio. Mountain.

KFEQ, Oak, Nebr. 268 meters. 500 watts. J. L. Scroggin. Announcer, Clarence Koch. Wed, 9-10 pm, Sun, 4:30-6 pm. Central.

KFEY, Kellogg, Ida: 233 meters. 10 watts. Bunker Hill & Sullivan Mining & Con. Co. Announcer, Walter C. Clark. Slogan: "Voice of the Coeur D'Alene." Closed for the summer.

KFFP, Moberly, Mo. 242 meters. 50 watts. First Baptist Chuch. Announcer, Granville Ray. Slogan, "The Gospel Messenger of the Air."

KFFV, Lamoni, Ia. 250 meters. 100 watts. Grace- *land College. Mon, Thurs, 7:30 pm. Sun, 7:45 pm, service. Central.

KFGC, Baton Rouge, La. 268 meters. 100 watts. Louisiana State University. Temporarily off the air.

KFGD, Chickasha, Okla. 252 meters. 200 watts Okla. College for Women. Tues, Thurs, 8 pm, music, lectures. Wed, 10 am, chapel service. 11 pm, special jazz program. Central.

KFGH, Stanford Univ., Calif. 270.1 meters. 500 watts. Leland Stanford Junior University. No regular schedule.

KFGQ, Boone, Ia. 226 meters. 10 watts. Crary *Hardware Co. Announcer, Harold E. Wilcox. Slogan: "Daniel Boon Station." Wed, 8-9 pm. Sun, 3-4 pm. Central.

KFGX, Orange, Tex. 250 meters. 500 watts. First Presbyterian church.

KFHA, Gunnison, Colo. 252 meters. 50 watts. Western State College of Colorado. Announcer, E. Russel Wightman. "Where the Sun Shines Every Day." Tues, Fri, 6:30 pm, bedtime story; 8 pm, musicale; 10:30, orchestra. Mountain.

KFHL, Oskaloosa, Iowa. 240 meters. 10 watts. Penn College.

KFI, Los Angeles, Calif. 467 meters. 3000 watts. Earle C. Anthony, Inc. Announcer, Glen Rice. Slogan, "The Radio Central Super-Station." Daily ex Sat, Sun, 5:30-6:10 pm, 6:45-11. Sat, 5:30-6:10 pm, 6:45-3 am. Sunday, 10-10:45 am, 4-5 pm, 6:30-11, 11-12 m, first Sun of month; 11-12:30 pm, third Sun of month. Pacific.

KFIF, Portland, Ore. 248 meters. 100 watts. Benson Tech. School.

KFIO, Spokane, Wash. 266 meters. 100 watts. Radio Club of North Central H. S. Fri, 8-9:30 pm. Pacific.

KFIQ, Yakima, Wash. 256.3 meters. 100 watts. First Methodist Church. Announcer, Dr. I. M. Miller. Wed, 7:30 pm, organ. Sat, 7 pm. Sun, 11 am, 7:30 pm. Pacific.

KFIU, Juneau, Alaska. 226 meters. 10 watts. Alaska Elec. Light & Power Co. Announcer, O. E. Shoembell. Mon, Wed, Fri, 6-7 pm. Alaskan.

KFIZ, Fond du Lac, Wis. 273 meters. 100 watts. Daily Commonwealth and Wisconsin Radio Sales, Inc. Announcer, Albert Mayer. Daily ex Sun, 5 pm, music, news, markets, weather. Central.

KFJB, Marshalltown, Iowa. 248 metrs. 10 watts. Marshall Elec. Co. Announcer, E. N. Peak. Slogan: "Marshalltown, the Heart of Iowa." Daily ex Sun, 10 am, markets. Tues, Fri, 8:30 pm. Central.

KFJC, Junction City, Kan. 218.8 meters. 10 watts. R. B. Fegan.

KFJF, Oklahoma City, Okla. 261 meters. 225 watts. *National Radio Mfg. Co. Announcer, Tired Hand. Slogan: "Radio Headquarters." Daily ex Sun, 9:40 am, 12:15 pm, markets; 2:15, markets; 3, 4, 5, 6, 7, baseball; 7, weather, news. Mon, Fri, 8:30-10:30 pm, band. Thurs, 9 pm, band concert. Sun, 11 am; 8 pm, church services. Central.

KFJI, Astoria, Ore. 246 meters. 10 watts. E. E. Marsh and Liberty Theater. Announcer, E. E. Marsh. Wed, Fri, 10-11 pm, organ. Sun, 10:30-11 pm. Pacific.

KFJM, Grand Forks, N. D. 278 meters. 100 watts. University of North Dakota. Slogan: "Grand Forks, the Educational Center of the State."

KFJR, Portland, Ore. 263 meters. 50 watts. Ashley C. *Dixon & Son. Mon, 7:30-8:30 pm, Boy Scouts; 8-8:15, business talk. Tues, Wed, Thurs, 8-8:30 pm; 8:30-8:45. Tues, 8:45-9 pm. Thurs, 9-10:30 pm. Sat, 1:30-2:30 pm. Pacific.

KFJX, Cedar Falls, Iowa. 258 meters. 50 watts. Iowa State Teachers' College. Educational programs.

KFJY, Fort Dodge, Iowa. 246 meters. 50 watts. Tun-Wall Radio Co. Announucer, Carl Tunwall. Daily 5:15 pm, markets, news, weather, bulletins. Sun, 11 am. Central.

KFKA, Greeley, Colo. 273 meters. 50 watts. Colorado State Teachers' College. Announcer, Brewer Boardman.

KFKQ, Conway, Ark. 250 meters. 100 watts. Conway Radio Lab.

KFKU, Lawrence, Kan. 275 meters. 500 watts. University of Kansas. Announcer, John F. Patt. Slogan, "Up at Lawrence on the Kaw."

KFKX, Hastings, Nebr. 288.3 meters. 2000 watts. *Westinghouse Elec. & Mfg. Co. Slogans, "The Empress of the Air," "The Pioneer Re-Broadcasting Station of the world." Daily ex Sat, Sun, 12:30-1 pm, markets. Mon, Fri, 9-11 pm, music. Central.

KFKZ, Kirksville, Mo. 226 meters. 10 watts. F. M. *Henry. Thurs, 9-10 pm, dance music. Sun, 9-10 pm. Central.

KFLP, Cedar Rapids, Ia. 256 meters. 20 watts. Everett M. Foster.

KFLR, Albuquerque, N. M. 254 meters. 200 watts. U. & N. M. Announcer, Phillip S. Donnell. Slogan, "The Sunshine Center of America."

KFLU, San Benito, Texas. 236 meters. 10 watts. Benito Radio club. Announcer, R. W. Thacker. Slogan, "Heart of the Magic Valley." Mon, Thurs, Sat, 8:30-10 pm, concert. Sat. 8:30 pm, Sunday school lesson. Central.

KFLV, Rockford, Ill. 229 meters. 200 watts. Swedish Evangelical Mission Church. Announcer, A. T. Frykman. Fri, 8:30 pm. Sun, 12:30 pm, service for shut-ins (Swedish); 9:30, service (English). Central.

KFLX, Galveston, Texas. 240 meters. 10 watts. George R. Clough.

KFLZ, Anita, Iowa. 273 meters. 100 watts. Atlantic *Automobile Co. Operated by Walnut Grove Hog Remedy Co. Announcer, H. A. Marshall. Daily ex Sun, 11:50-12:15 pm, question box, markets. Tues, Thurs, 8:30-10 pm, music. Central.

KFMQ, Fayetteville, Ark. 299.8 meters. 750 watts. U. *of Arkansas. Tues, 9 pm. Wed, 7:30 pm. Central.

KFMR, Sioux City, Ia. 261 meters. 100 watts. Morningside College. Announcer, Jesse C. Ducommun. Daily ex Sat, Sun, 10:30 am. Wed, 7 pm. Central.

KFMT, Minneapolis, Minn. 263 meters. 100 watts. Dr. George W. Young. Announcer, Dr. George W. Young. Slogan: "Always Young." Mon, 6-8 pm; 8:30-9:30; 9:30-10:30; Tues, 7-8 pm; 9-10; Wed, 6-7 pm, 7-8; 8-8:30. Thurs, 7:30-8 pm, 8:30-9, 9-9:30. Fri, 7-8 pm, 8-9, 9-10. Sat, 9-10 pm. Central.

KFMW, Houghton, Mich. 263 meters. 50 watts. M. G. *Sateren (announcer). Sun, 3-4:30 pm.

KFMX, Northfield, Minn. 336.9 meters. 500 watts. Carlton College. Announcer, Merrill O. Bolen. Off the air until Sept. 15.

KFNF, Shenandoah, Ia. 266 meters. 500 watts. Henry *Field Seed Co. Announcer, Henry Field. Slogan, "Friendly Station in a Friendly Town." Daily ex Sun. 12:15-1:30 pm, 3-4. Daily ex Sun, 7-7:30 pm; 7:30-9:30, concert. Sun, 10:45 am, 2:30 pm, 3-4, services; 6:30-8, Golden Rule; 8-9:15, church service. Central.

KFNV, Santa Rosa, Calif. 227 meters. 5 watts. L. A. Drake. Daily 2-3 pm; 6-6:30, news, music. Pacific.

KFOA, Seattle, Wash. 454.3 meters. 500 watts. Rhodes *Dept. Store. Slogan, "The Gateway to the Orient." Daily ex Sat, Sun, 12:30-1:30 pm. Daily ex Sun, 4-5:15, Times bulletins, concert. Daily ex Sun, Thurs, 6-6:45 pm, orchestra, baseball; 8:30-10 pm. Times program. Mon, Tues, Wed, Fri, 6:45-8:15 pm, studio music. Tues, Fri, Sat, 10:15-11:30 pm, orchestra. Pacific.

KFOL, Marengo, Ia. 234 meters. 10 watts. Leslie M. Schafbuch.

KFON, Long Beach, Calif. 233 meters. 100 watts. Echophone Radio Shop. Slogan, "Where Your Ship Comes In." Daily ex Sun, 5:30-11 pm. Thurs, 5:30-6:30 pm. Sun, 8-9 pm. Pacific.

KFOO, Salt Lake City, Utah. 236 meters. 250 watts. Latter Day Saints University. Announcer, Don C. McRae.

KFOR, David City, Nebr. 226 meters. 100 watts. David City Tire & Elec. Co. Slogan, "The Voice of David City." Announcer, Howard A. Shuman. Temporarily off the air.

KFOT, Wichita, Kansas. 231 meters. 50 watts. College Hill Radio Club. Announcer, Leon Garnett. Slogan, "Radiocasting Church." Sun, 11-12:30 pm; 7:30-9, church services. Mon, 9-10:30 pm, music. Central.

KFOX, Omaha, Nebr. 248 meters. 100 watts. Board of of Education. Technical High. Announcer, Juno Johnson.

KFOY, St. Paul, Minn. 252 meters. 50 watts. Beacon Radio Service. Thurs, 11-12 m. Sun, 3:30-4:30 pm. Central.

KFPG, Los Angeles, Calif. 238 meters. 100 watts. Garretson and Goodan.

KFPL, Dublin, Tex. 252 meters. 15 watts. C. C. Baxter, announcer.

KFPM, Greenville, Tex. 242 meters. 10 watts. The New Furniture Co. Announcer, Dave Ablowich, Jr. Slogan: "The New Furniture Co., the Home of Good Furniture," Located at Greenville, Texas, Where You Find "The Blackest Land, the Whitest People." Daily ex Sun, 2 pm, music. Tues, Wed, Thurs, Fri, 8 pm. Sun, 11 am, services; 7:30 pm, irregularly. Central.

KFPR, Los Angeles, Calif. 231 meters. 500 watts. Los Angeles Co. Forestry Dept. Irregular schedule.

KFPW, Carterville, Mo. 258 meters. 20 watts. St. John M. E. Church, S. Slogan, "Keeping Pace with Christ Means Progress." Wed, Fri, 8-10 pm, popular program. Sun, 1-3 pm, chapel service. Central.

KFPY, Spokane, Wash. 266 meters. 100 watts. Symons *Investment Co. Announcer, E. B. Craney. Daily ex Sun, 6:30-7:30 pm. Mon, Wed, Fri, 8:30-9:30 pm. Sat, 9:30-11 pm. Sun, 8:30-9 pm. Pacific.

KFQA, St. Louis, Mo. 261 meters. 100 watts. The Principia. Sun, 11 am, church service. Central.

KFQB, Fort Worth, Tex. 263 meters. 200 watts. The Searchlight Pub. Co. Announcer, Horace B. Greene. Sun, 11 am, 7:15 pm, church services. Tues, Wed, Thurs, Fri, 7 pm, music. Sat, 8 pm, concert, Bible lecture. Central.

KFQC, Taft, Calif. 231 meters. 100 watts. Kidd Bros. Radio Shop.

KFQH, Burlingame, Calif. 220 meters. 50 watts. Bur- *lingame Chamber of Commerce. Tues, Thurs, 8-10 pm. Fri, 9-12 midnight. Pacific.

KFQP, Iowa City, Iowa. 224 meters. 10 watts. George S. Carson, Jr.

KFQT, Denison, Tex. 252 meters. 10 watts. Texas National Guard. Announcer, Robert Cox.

KFQU, Holy City, Calif. 222 meters. 100 watts. W. Riker. Announcer, Arthur J. Landstrom. Daily ex Mon, 9-10 pm. Sun, 11-12 m., 9-10 pm. Pacific.

KFQW, North Bend, Wash. 215.7 meters. 50 watts. The Photo Radio and Elec. Shop. Announcer, Carl F. Knierim. Slogan: "At the Western Entrance of Snoqualmie Pass." Daily ex Sun, 7:30-8:30 pm. Pacific.

KFQY, Belden, Nebr. 273 meters. 10 watts. Farmers State Bank. Announcer, A. H. Abts. Slogan: "Where Corn Is King."

KFQZ, Hollywood, Calif. 226 meters. 250 watts. Taft *Radio company. Tues, Fri, 9-11 pm. Pacific.

KFRB, Beeville, Tex. 248 meters. 250 watts. Hall Brothers. Temporarily off the air.

KFRC, San Francisco, Calif. 268 meters. 50 watts. City of Paris Dry Goods Co.

KFRL, Grand Forks, N. Dak. 240 meters. 10 watts. Men's Club, First Presbyterian Church.

KFRM, Fort Sill, Okla. 263 meters. 50 watts. James P. Boland.

KFRU, Bristow, Okla. 394.5 meters. 500 watts. Eth- *erical Radio Co. "The Voice of Oklahoma."

KFRW, Olympia, Wash. 218.8 meters. 50 watts. United Churches of Olympia. Slogan, "Make the World a Brotherhood." Thurs, 9-12 midnight, Sun, 11-12 m., 8-9 pm. Pacific.

KFRX, Pullman, Wash. 217 meters. 10 watts. J. Gordon Klemgard. Announcer, Gordon Klemgard. Slogan: "The Only Farmers Radio Station in the World."

KFRY, State College, N. M. 266 meters. 50 watts. New Mexico College of Agriculture and Mechanic Arts.

KFRZ, Hartington, Nebr. 222 meters. 15 watts. The Electric Shop. Announcer, P. M. Thies. Daily ex Sun, 11:55 am, news, markets; 4:15-5:15 pm, entertainment. Sun, 12-1:30 pm, entertainment. Central.

KFSG, Los Angeles, Calif. 275 meters. 500 watts. Angeles Temple. Tues, Thurs, Fri, Sat, 3:30-4:30 pm. Tues, 6:30-7:30 pm. Wed, 2:30-4:30 pm; 6:30-7:30. Thurs, Fri, Sat, 7:30-11 pm. Sun, 10:30-12:30 pm, 2:30-4:30, 7-9:30. Mon silent. Pacific.

KFSY, Helena, Mont. 248 meters. 10 watts. The Van *Blaricom company. Wed, 7:30 pm, music, talks. Mountain.

KFUJ, Breckenridge, Minn. 242 meters. 50 watts. Hoppert Plumbing & Heating Co. and Hoppert Radio Electric Co. Announcer, F. H. Rettig. Slogan, "Where the Red River of the North Finds Its Source." Daily ex Sun, 10:30 am, 5:40 pm, weather. Daily ex Sun, 10:40 am, 1:30 pm, 5:45 pm, markets. Mon, Wed, 8-9 pm. Central.

KFUL, Galveston, Texas. 258 meters. 100 watts. Thomas Goggan & Bros.

KFUM, Colorado Springs, Colo. 242 meters. 100 watts. W. D. Corley. Slogan, "Known for Unsurpassed Mountain Scenery." Tues, Sat. 8:30-10:30 pm. Sun, 11 am, 7:30 pm. Mountain.

KFUO, St. Louis, Mo. 545.1 meters. 500 watts. Concordia Theological Seminary (Lutheran). Announcer, Prof. Walter A. Maier. Mon, 8 pm. Wed, 9:15 pm. Sun, 8:15 pm. Central.

KFUP, Denver, Colo. 234 meters. 50 watts. Fitzsimons General Hospital.

KFUR, Ogden, Utah. 224 meters. 100 watts. Peery Building Co. Tues, Thurs, Sat, 9:50-11:50 pm, dance music. Mountain.

KFUS, Oakland, Calif. 234 meters. 50 watts. The Sherman School.

KFUT, Salt Lake City, Utah. 261 meters. 100 watts. University of Utah. Tues, Thurs, 12:10 pm. Mountain.

KFUU, San Leandro, Calif. 224 meters. 50 watts. *Colburn Radio Laboratories. Announcer, W. R. Fisher. Slogan, "Voice of the Cherry City." Mon, Wed, Fri, 8-9:30 pm. Pacific.

KFUV, Springfield, Mo. 252 meters. 10 watts. G. Pearson Ward.

KFUY, Butte, Mont. 254 meters. 5 watts. Irvine H. Bouchard.

KFUZ, Virginia, Minn. 248 meters. 10 watts. Burton ilers and Albin Lofback. Y. M. C. A. Slogans, "The Arrowhead Station," "Virginia, Minn., the Heart of the Arrowhead Country."

KFVC, Camden, Ark. 242 meters. 10 watts. Bensberg's Music Shop. Announcer, Carl Bensberg. Slogan, "Kum Folks, Visit Camden."

KFVD, San Pedro, Calif. 205.4 meters. 50 watts. McWhinnie Elec. Co.

KFVE, University City, Mo. 240 meters. 500 watts. Film Corp. of America. Slogan, "You will Always Know KFVE by the Tick of Her Clock." Daily ex Thurs, 7-8 pm; 10-12. Central.

KFVF, Hollywood, Calif. 208.2 meters. 250 watts. Kieruff & Ravenscroft Co. Announcer, "Hastings." Pacific.

KFVG, Independence, Kan. 236 meters. 10 watts. First Methodist Episcopal church. Sun, services.

KFVH, Manhattan, Kan. 218.8 meters. 10 watts. Whan Radio Shop. Announcer, Herbert Whan. Slogan, "Kansas Fans Very Happy." Daily ex Sun, 12 m, markets. Thurs, 8-12 midnight, dance music. Fri, 7:30-9 pm. Central.

KFVI, Houston, Texas. 248 meters. 10 watts. Headquarters Troop 56th Cavalry Brigade.

KFVK, Sacramento, Calif. 248 meters. 500 watts. Sacramento Chamber of Commerce.

KFVL, Vancouver, Wash. 231 meters. 10 watts. Army Radio Station.

KFVN, Welcome, Minn. 227 meters. 10 watts. Carl *E. Bagley. Announcer, C. F. Gaarrenstroom. Slogan, "The Voice of Martin Country." Mon, Wed, Fri, 12:30 pm, markets; 9. Sun, 3 pm. Central.

KFVR, Denver, Colo. 246 meters. 50 watts. Moonlight Branch Broadcasting Station.

KFVS, Cape Girardeau, Mo. 224 meters. 50 watts. Cape Girardeau Battery Station.

KFVU, Eureka, Calif. 209.7 meters. 5 watts. The Radio Shop.

KFVW, San Diego, Calif. 246 meters. 500 watts. Airfan Radio Corp.

KFVX, Bentonville, Ark. 236 meters. 10 watts. Radio Shop. Daily ex Sun, 9-12 midnight. Central.

KFVY, Albuquerque, N. M. 250 meters. 10 watts. Radio *Supply Co. Announcer, J. F. Walsh. Slogan, Center of the Sunshine State." Daily ex Sun, 5:30-6:30 pm, dinner concert; baseball. Tues, Fri, 8-9:30 pm, dance music. Mountain.

KFWA, Ogden, Utah. 261 meters. 500 watts. Brow- *ing Brothers Co. Announcer, H. C. Mailander. Slogan, "Keeping Friends with All." Daily ex Sun, 4-5 pm, Zenith hour, stocks, markets, time. Mon, Wed, Fri, 9-10 pm, music. Mon, Wed, 10-11 pm. Sun, 9-12 midnight, music. Mountain.

KFWB, Hollywood, Calif. 252 meters. 500 watts. Warner Brothers.

KFWC, Upland, Calif. 211.1 meters. 50 watts. L. E. *Wall.

KFWD, Arkadelphia, Ark. 266 meters. 500 watts. Arkansas Light & Power company.

KFWH, Chico, Calif. 254 meters. 100 watts. F. *Wellington Morse, Jr. Slogan, "Kind Friends We're Here." Daily ex Sun, 6:15-6:45 pm. Wed, Fri, 8-10 pm. Sun, 9:30-10:30 am; 2-2:45 pm. Pacific.

KFWI, South San Francisco, Calif. 220 meters. 500 *Watts. Radio Entertainments, Inc.

KFWF, St. Louis, Mo. 214.2 meters. 250 watts. St. *Louis Truth Center.

KFWM, Oakland Calif: 206.8 meters. 500 watts. Oak- *land Educational Society.

KFWO, Avalon, Calif. 211.1 meters. 250 watts. Law- *rence Mott.

KFWP, Brownsville, Tex. 214.2 meters. 10 watts. Rio *Grande Radio Supply House.

KFWU, Pineville, La. 238 meters. 100 watts. Louisiana, *La.

KFWV, Portland, Ore. 212.6 meters. 5 watts. Wilbur *Jerman.

KGB, Tacoma, Wash. 249.7 meters. 100 watts. Tacoma *Daily Ledger. Announcer, Alvin Stenso. Slogan, "This is KGB in Tacoma, Washington, the Lumber Capital of America and the Gateway to Mount Tacoma." Mon, Wed, Fri, 7-9 pm. Tues, Thurs, Sat, 7-12 midnight. Pacific.

KGO, Oakland, Calif. 361.2 meters. 3000 watts. Gen. Elec. Co. Announcer, Howard I. Milholland. Daily ex Sun. 7:15-8:15 am, exercises; 8:30, daily strength. 11:30 am, luncheon concert. Daily ex Sat, Sun, 1:30 pm; Sat, 12:30 pm, markets, weather. Mon, Wed, Fri, 3 pm, music. Daily ex Sun, 4-5:30 pm, concert orchestra. Mon, Tues, Wed, Fri, 6-7 pm, music; Mon, Tues, Thurs, Sat, 8 pm, lectures, music. Thurs, Sat, 10-12. Mon, 5:30-6 pm, Children's half hour; Mon. Tues, Wed, Thurs, Fri, 7 pm, stocks, markets, weather, baseball. Thurs, 5:30-6:30 pm, boys' hour. Fri, 5-5:30 pm, girl's half hour; Sun, 11-12 m, 8 pm, church services; 3:30-5 pm, Little Symphony orchestra. Pacific.

KGTT, San Francisco, Calif. 234 meters. 50 watts. Glad *Tidings Tabernacle.

KGU, Honolulu, Hawaii. 270 meters. 500 watts. Marion A. Mulrony, The Honolulu Advertiser. Announcer, W. K. Karmen. Daily, 7:30-9 pm. Tues, Thurs, Sat, special program. Sun, 11 am; 7:30 pm. 150 meridian. 2½ hours earlier than Pacific.

KGW, Portland, Ore. 491.5 meters. 500 watts. Port- *land Morning Oregonian. Announcer, Dick Haller. Slogan, "KGW, Keep Growing Wiser." Daily ex Sun, 11:30-11:45 am, weather; 12:30-1:30 pm, music; 7:30-7:45, weather, police, market, news, baseball. Mon, 6-7 pm. Tues, Wed, Thurs, 9-10 pm. Tues, Thurs, Sat, 10-12 midnight. Tues, Wed, Thurs, 8-9 pm. Wed, 10-11 pm. Fri, 9-10:30 pm, Hoot Owls, 10:30-12 midnight, frolic. Sat, 6-8 pm. Sun, 10:30-12 m, 7:45-9 pm, church services. Pacific.

KGY, Lacey, Wash. 246 meters. 50 watts. St. Martins *College. Announcer, Sebastian Ruth. Slogan, "Out Where the Cedars Meet the Sea." Tues, Thurs, Sun, 7-7:30 am, 12-1:30 pm, 2:30-3:30, 5:30-11. Mon, 8:30-9:30 pm, news, concert, lecture. Pacific.

KHJ, Los Angeles, Calif. 405.2 meters. 500 watts. Los *Angeles Times. Announcer, John S. Daggett. Slogan, "Kindness, Happiness, Joy." Daily ex Sun, Mon, 7 am, 7:30, 12 m, 1:30 pm, 2:30, 3:30, 5:30, 11. Mon, 7-7:30 am, 12-1:30 pm. Sun, 10-12:30 pm, 6-7:30, 8-11. Pacific.

KHQ, Seattle, Wash. 273 meters. 100 watts. Louis Wasmer. Temporarily off the air.

KIAF, Sihtipoc, Minn. 421 meters. 500 watts. Steele Co. Slogan, "Far from the Maddening Crowd." Mon, Wed, Fri, 7-8 pm. Sun, 2-3 pm. Central.

KJBS, San Francisco, Calif. 236 meters. 5 watts. *Julius Brunton & Sons Co. Announcer, Edward Ludes. Daily ex Sun, 9-11:30 am; 2-2:30 pm. Mon, Wed, 8-10 pm. Fri, 8-11:30 pm, "Royal Order Smoked Herring." Pacific.
Julius Branton & Sons Co. Announcer, A. R. McCartney.

KJR, Seattle, Wash. 384.4 meters. 1000 watts. North- *west Radio Service Co. Announcer, Vincent I. Kraft. Slogan, "Radio Headquarters." Daily ex Sun, 1 pm, stocks, markets; 1:15, 1:30-3, music; 6, theater news, baseball. Mon, Wed, 7-8:30 pm.

CHALLENGE!

ONE DOLLAR will be paid to the Radiophan submitting the most errors in any one station's listing in this directory. Letters must reach Radio Digest office not later than one week from date of issue corrected. Readers are not limited to correcting one station, but such corrections must be certified by the stations themselves, and NOT by comparison to other so-called accurate Radiocast directors and lists. Readers also must live in same state or province as stations corrected are located. Station verifications must accompany corrections.

That's just how sure Radio Digest is that this Radiophone station directory is correct! To make the challenge fair for everyone, Radiocast stations and their employes are barred from this offer. Why? Because the Radiocasters are the source of all the data given herein. They are (or should be) interested enough to answer the inquiry sent them every time data on their station appears. This inquiry contains a proof of their last listing and must either be corrected or O K'd as correct and returned to the Digest. Nevertheless, sometimes the stations are careless and mistakes are made. But Radio Digest is so sure of the exactness of this directory that this challenge is made unconditionally.

With reference to the directory: It appears in five parts, serially continuously; the first four parts are station data listings, arranged alphabetically; the fifth part is a state, city index of stations. The information contained in each station data listing is given in the following order: Call letters, city, state, wave length used, watts antenna input, owner's name, announcer's name, slogan used if any, name of listener in "club," schedule of operating hours, and kind of time used, as "Central," "Mountain," etc. Asterisks have been placed in front of corrected listings and new stations in order to distinguish these.

Five successive issues of Radio Digest will give one the most complete and accurate list of Radiocast stations obtainable. This service is original with this publication, and has been maintained from the start. Right of reproduction without permission of any or all of the data contained herein is denied.