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

MOULO PROGRAMS

Vol. XIV

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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

in GSCHENECTADY.—Tests by WGY of book hencetady, on superpower up to 50 kilowatts 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.

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.

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.

for over five weeks.
From Berwyn, Md., came word that the 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.

fact a few thought the power seemed

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. Station WDAF.



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

sible 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 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. 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 Fitz-Rouse, Lane, Hired Hand, Arin 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 swap-ping 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 six-teen. 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

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 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 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

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

auers at the present writing.	
Position Name and Station 1. Graham McNamee, WEAF	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 WRAP	21.689
7. H. W. Arlin, KDKA 8. Leo. Fitzpatrick, WDAF 9. Lambin Kay, WSB	15.827
9 Lee Fitznatrick WDAE	10.216
O Tambin Koy WSR	6 638
10. Robert Emery, WEEI 11. Jerry Sullivan, WQJ	6 548
10. Robert Emery, WEEL	0.405
11. Jerry Sullivan, WQJ	6,400
19 W (4. (Bill) Hav, KEKA	
13. Charles Erbstein, WTAS	5,932
14. N. Dean Cole, WHO	5,724
The Deposit VIII	5 436
16. Stanley Barnett, WOC	5 070
10. Statutey Darmett, WOC	
How to Vote and Get Bo	nus ·

Don't miss a single ballot, for when these are turned into Radio Digest in a group of CONSECUTIVE numbers, extra

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 ad connected the superpower to the

nad connected the superpower to the-family washing machine and had done the wash for the week.

From many of the letters it was ap-parent that the observers had expected to be literally knocked from their chalrs 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 the air are those of the middle west.

All the Live News of Radio.....

by James McDonald

Reader's View

Questions and Answers

Advance Programs for the Week.....

DX English Circuit Hears America: Other Kinks......

Looking Ahead

Orleans, in word and picture.

(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 propa-

ganda will see Herzostrand at full power.
These stations will then jam the ether
for thousands of miles.
France and Spain, for their own protec-

tion, 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 souththousands of crystal set owners in south-east 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.

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

bonus votes are allowed the announcer for whom you are voting. REDS BUILD BIG PLANT 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 audi-ence as the first na-tionally - known Ra-

tionally - known Radio football coach to appear before the microphone of a superpower broadcasting station.

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



Tom McNamara

These discussions, which are prepared These discussions, which are repeated 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'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. Out standing of the big eastern teams whic McNamara has scouted, include Nav Pittsburgh Lafavette Penn State a. 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 of 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

principles of football—the offense—an 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

"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 peek

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 develop-ment of health, character and the spirit of fair play."

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.

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

CONTENTS

Radio Digest, Illustrated, Volume XIV, Number 8, published Chicago, Illinols, August 29, 1925. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinols. 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, Illinols, under the Act of March 3, 1879.

Preventing Trouble in Radio Reception, Part I-Battery Care and Information,

Easy Methods of Making Receivers Selective, Part I—Single Circuit Regenerative Types, by John G. Ryan

Directory of Radiophone Broadcasting Stations, Part I

B. C. Course in Radio Fundamentals, Chapter XXIII—The Electron Tube as an Amplifier, by David Penn Moreton......

CHNC, Toronto Radio Research Society.....

Editorials, Indi-Gest and Condensed by Dielectric.....

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.

Newsstands Don't Always Have One Left

WHEN YOU WANT

YOU WANT IT!

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

SEND IN THE BLANK TODAY

(Six.	find end Foreign Digest,	for (ne Ye	O. fo	r Five Subscrip	Dolla tion
	1-1-12			1. 1	7.5	200
Name						

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, lunch-eon 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 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. Radlo 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

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.

Radto 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 Dublier. 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." de-

"The Rugby transmitting station," de-clared Mr. Dubilier in an interview, "will clared 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

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 anytous for more stations. 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

roadcasting is the key not only to inter-ground 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, dedi-cated 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 be-tween 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 mi-crophones of either room. Both studios are equipped with numerous microphone leads and each have several microphones insuring perfect "pickup" of all the vari-ous instruments or voices of a group of

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 English-

sibilities than Mr. Hamilton, the English-man 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 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 hours a week schedule. fifteen-hour-a-week schedule.

BIRD OUT "TWEETS" WHISTLER-WINS!

RISTOL, 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," continued Miss Tibbetts. Tweet-tweet and a lot of more tweets," the bird returned in a chal-lenging spirit, and Miss Tibbetts con-tinued 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

ROWING popularity for Radio ROWING 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 manger at a second snorts," 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-Roehuck 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 oper-ating on 500 watts, opens with 1,000 watts lay night Sentember 5 WENR All-

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.

Shenandoah, Ia., station owned by the May Seed & Nursery company. watt set using 252 meters.

Shut-Ins Have Program to Banish Weary Afternoons

CHICAGO.—One of the features of Ra-Saturday night, September 5. WENR, AllAmerican 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, with the work of the wear afternoon Chicago's Uptown Radio, station broadcasts a special program for shut-ins from Mortgage company, and the Russo and Florito orchestras plant. From 2 to 4 p. m. each afternoon Chicago's Uptown Radio, station broadcasts a special program for station broadcasts a special program for station broadcasts. 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.

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 Sena-tore 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

"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

WIZ 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 in the above two classes than from any

other.

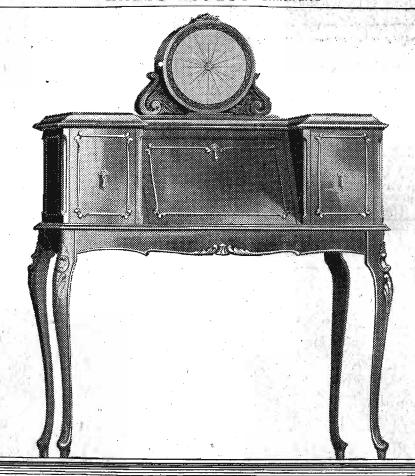
It requires little or no imagination to be able to understand how great a place the Radio receiver has taken in their lives. Up to very recently a very important factor has been omitted from the Radio broadcasts—that of reading good novels, works of history and the classics to those of the Radio audience who are to those of the Radio audience who are not able to read themselves. To take care of this matter, Station WJZ has incare of this matter, Station WIZ 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 WIZ, 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

ful 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, 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. to Europe.

The Birmingham station of the British



TYPE 400

Five Tubes. Special superselective 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
\$400 mahogany art satin \$400 finish. Price

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

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

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 MAS-TER 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 MAS-TER 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

Ten Models \$50 to \$460 Guaranteed

Unconditionally

Canadian Prices Slightly Higher

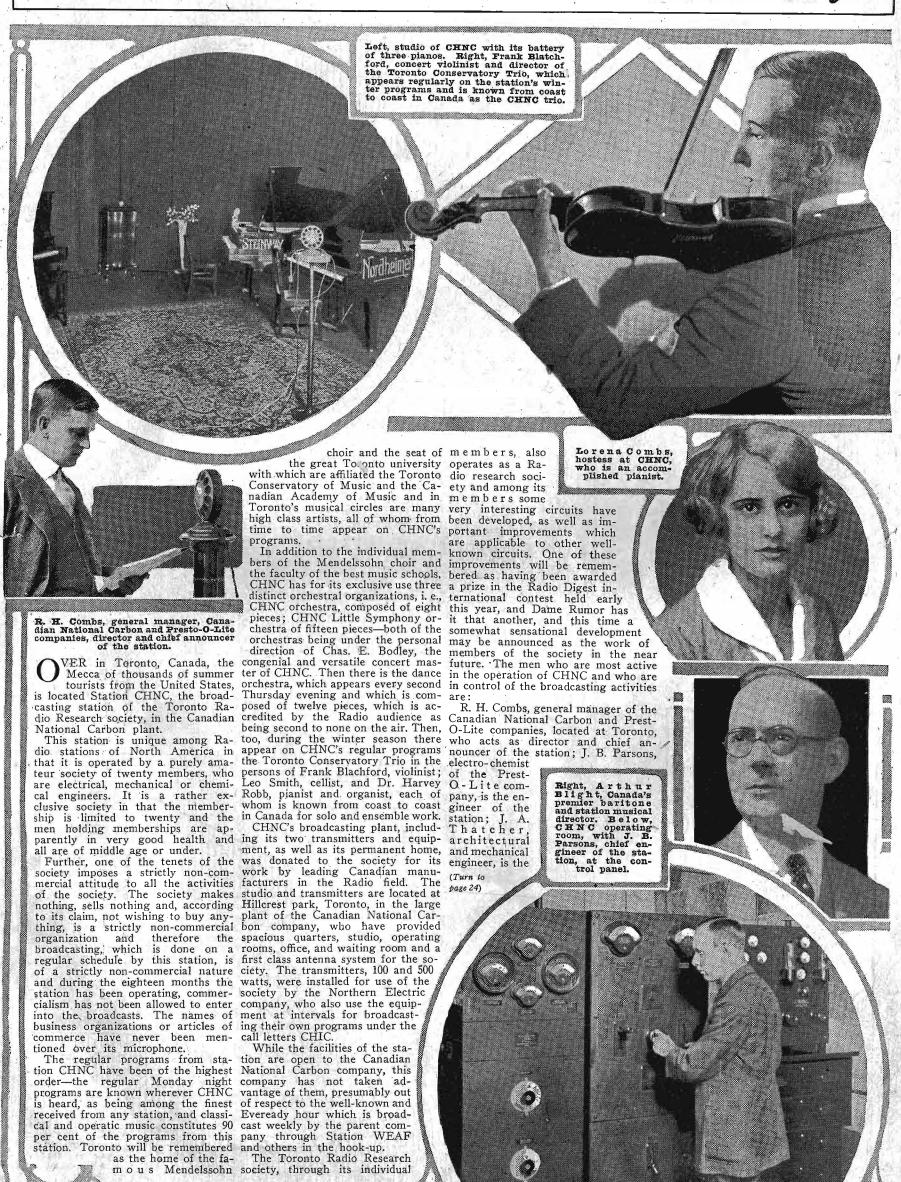
NEW YORK

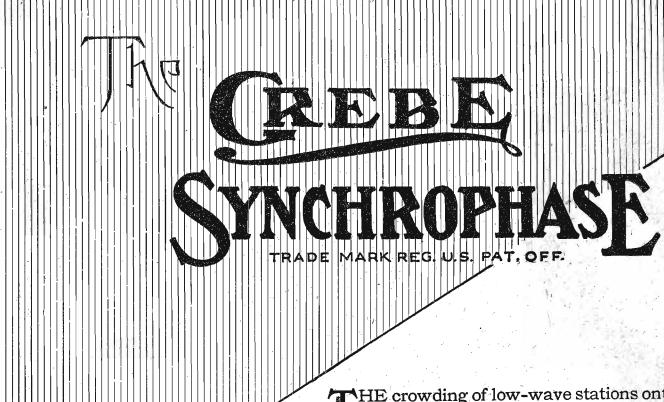
Canadian Ractory: Kitchener, Ontarlo

PITTSBURGH

MONTREAL

CHNC, Toronto Radio Research Society





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

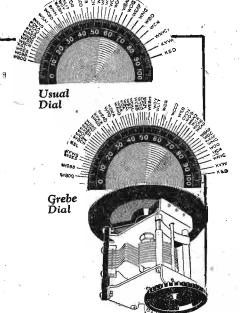
A. H. Grebe & Co., Inc.

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

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

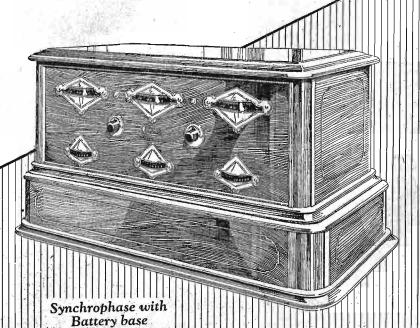
Western Branch: 443 So. San Pedro Street, Los Angeles, Cal.

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



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.





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.





TRADE MARK

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

F THE great cities we have seen so
far—New York, Parls, 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 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 Comment picture houses are crowded. The loud

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 Germany is that of Count Arco. I 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." 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 of-fered 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"

auto trip."

He and Secretary Bredow believe that Badie 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 stastates 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." ber 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

FIRST BROADCASTER IS GERMAN'S CLAIM



Herr Gerlach, above, of the Konigswusternausen (Germany) station claims hon-ors 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 re-mote pick-up.

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 time, since they have a mutual wave

length.

The next step will be to bind all the principal cities together by means of tele-

General Electric Company Builds Big NEWS BRIEFS FROM Laboratory for Transmission Study THE DROADCASTE

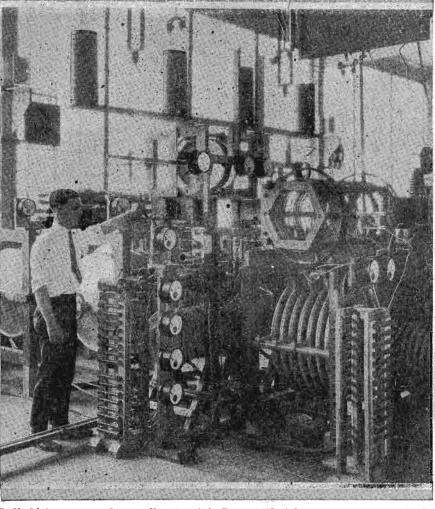
Experts Plan to Make Systematic Study of Broadcasting Phenomenon to Find Best Remedy to Cure Existing Defects; Many Antennas and Low and High Power Are Used

RADIO development laboratory for research on wave lengths from 5 steel towers, each 300 feet high, arranged in the form of a triangle. This arrangements 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 phenome-non. Because of meager data there is one group of scientists advocating super-power as the remedy for existing broad-casting defects; another, low-power, short-wave transmission to accomplish

equipment, nigh-voitage 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.

plate supply on the various transmitters. The modulating equipment may be con-



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.

cal, horizontal and angular.

On the plot near Schenectady are one brick building, 60 x 100 feet, and four smaller frame buildings in which are

phone 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. Four-teen 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

oncert given during the weel The only 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 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 broadcast-

ers of music.
Early in 1920 they made a small transmitter from spare parts and broadcast
(Continued on page 24).

the same results; another medium-power, nected with any of the smaller buildings long-wave transmission. As many different types of antenna systems are recomended, including the reflector, vertical horizontal and anywar transmission lines. Speech and music to be be offered to be smaller buildings by means of a system of overhead transmission lines. Speech and music to be offered to be studied for the studie of WCV control and anywar transmission. 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.

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. machines are specially constructed for a minimum ripple.

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 am-

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 eleva-tion of Radio energy. These buildings will contain transmitters capable of sup-plying from 5 to 120 meters with powers from 5 watts to 50 kilowatts.

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

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.

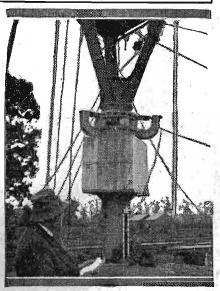
Charles H. Gabriel, Jr., formerly musical director of WGN, the Chicago Tribune station, and studio manager of WCEE and WTAS, Elgin, Ill., and Chicago, has been appointed director and chief announcer of KLX, the Oakland Tribune station Oakland Calif. station, Oakland, Calif.

The complete opera of "Lucia de Lam-mermor" 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 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.

Couldn't be done!

Here it is

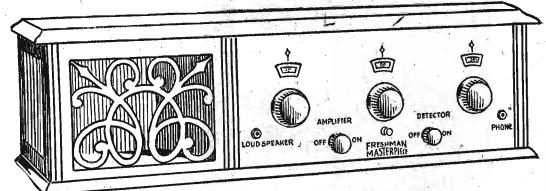
New and Improved FRESHMAN MASTERPIECE

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

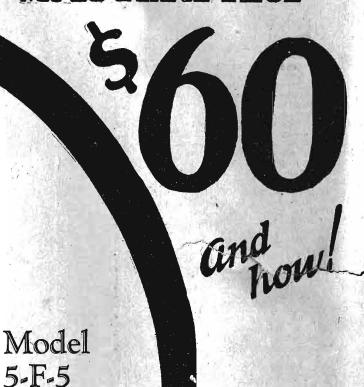
Chas. Freshman Co. Inc.

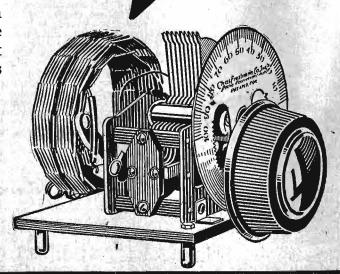
Radio Receivers and Parts

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

expedition started to the far North and announced that they would send the voices 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 Eskind 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 1 Filliott Jenkins, consulting enengineers 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 Mc-Donald 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

"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. in. 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 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 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 relative in the results of the succession of 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

OKIO.—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 end and throw it in." stories per square mile than most any No sooner said than done. The dials 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 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

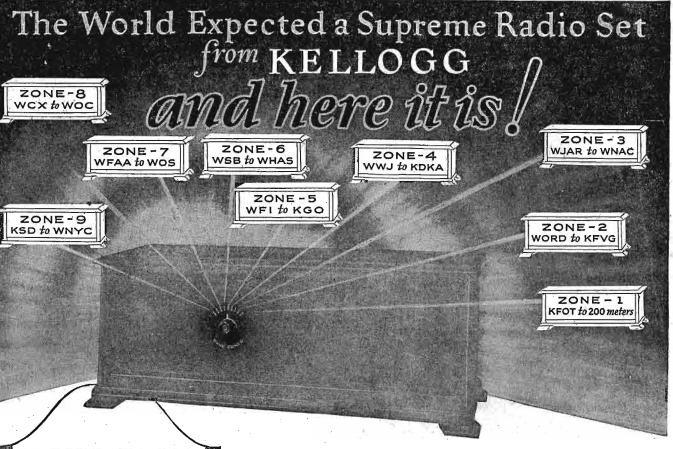
"Let's run Calderwood's new fishing Pittsburgh by automobile.

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 num-ber 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



WAVE-MASTER Standard Model \$125.00 WAVE-MASTER Brown Walnut Console vith inbuilt horn

Radio Dealers and Jobbers

\$275.00

The WAVE-MASTER franchise, backed by Kellogg resources and our powerful advertising campaign, is most valuable. Open territory is being closed rapidly. Wire us, or get into Chicago, quick, and

A Separate Circuit for Each 40 Meter Wavelength Band!

Kellogg - for 28 years makers of precision telephone instruments and equipment - producers of quality parts since radio began -Kellogg has perfected a radio receiver worthy to bear the Kellogg name.

In the illustration we visualize this wonderful engineering achievement.

In the new WAVE-MASTER there are nine separate circuitsone for each 40 meter wavelength band. Each circuit gives that maximum efficiency heretofore found only in one short section of the dials of ordinary radio frequency sets. Each circuit brings within the range of the tuning dial a different group of stations.

How wonderfully simple tuning becomes! Merely set the pointer to the wave zone in which you are interested and bring in the desired station with the single Selector dial.

This remarkable tuning dial actu-

ally has a tuning range of 540 degrees—equal to 1½ times around a complete circle - over three times the station finding range of any other set.

All other radio frequency sets have variable capacity which must be tuned, usually with three different dials, to balance with their inductance coils.

The WAVE-MASTER'S inductance is not fixed but variable and is easily and quickly tuned, with the one Station Selector dial, to balance the fixed capacities.

Write for full description and complete technical explanation of the Wave Master circuit. Please mention your radio dealer's name.

Kellogg Switchboard & Supply Company 1069 W. Adams St., Dept. H, Chicago, Ill.

COILLA DARE ENTERTAINS AT WAMD

Saturday, August 29

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

Atlantic or Eastern Daylight Saving

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. 9. (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 Peon hotel; 9, studio concert.

WEAF, New York, N. Y. (491.3), 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; 8:43-10:15, 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, Hungarlan tenor; John Sendor's Hungarian orchestra: Haroid Milellin, violinist.

WGR, Buffale, N. Y. (319), 2:39-4:30 p. m., WGR's

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 Michilin, 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, Atlatit City, N. I. (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 wouen; 3 p. m., song of the surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's beddime 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; 1-12, Ernic Golden and hts Hotel McAlpin orchestra: 11-12, Ernic Golden and hts Hotel McAlpin orchestra: 11-12, Ernic Golden and cert, Mail, Central park; 10:15-10:30, instrumental novelty.

recital; 7.35-7.355, song recital; 8.15-10:15, band concert, Mall, Central park; 10:15-10:30, instrumental norselty, WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., Herman Rice and his Bluehills orchestra; 7:15-7:30, sportstalk, Bill Wathey; 7:30-8:30, Contral 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, Chaffonte 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., Westingbouse band.

KYW, Chicago, III. (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!

Manuel Barba!

WBBM, Chicage, III. (226), 5:30-6 p. m., kiddles' joydigger club; 8-2 a. m., Samovar orchestra; Nate Caldwell; Dave and Charlle; Harry Brailsford; Roy Trauger: College trio; Jerry Cromack, jazzmania artists.

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

ger; College trio; Jerry Cromack, Bazhania atassa, WCEE, Elgin, III. (275), 10:30-12 midnight, Purple Grackle orchestra.

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

WEAR, Cleveland, Ohio (389-4), 7-8 p. m., novelty dinner concert.

WEBH, Chicago, III. (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 Rudle Bale.

WGBU, Fuiford-by-the-Sea, Fla. (278), 6:30-7 p. m. beddime stories, Little Green man; Andy Mansfield from the Rainbow Gardens; 10-12, tab entertainers; 12-14 a. m., dance music, Fuiford-by-the-Sea.

WGES, Oak Park, III. (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, Cheago, III. (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, III. (399.8), 7 p. m., Grayling's string

chestra.

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

Marle Wright, soprano; 12, Babee and Barr harmony songs; 12:30 a. m., Al Carney's midnight organ recital.

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

WIR. Detroit, Mieh. (517), 7 p. m., Jean Goldkette's ensemble, Book-Cadillae hotel; 8, the Detroit Symphony or the Contestra, Belle Isle; 10, dance music, Book-Cadillae, Wirk Gincinnati, Ohio (422.3), 10 p. m., Marlon McKay's Bond Hill House orchestra: 10:30, popular song features, Bert Lindsay, Kern Aylward; 11, Marion McKay's Bond Hill House orchestra.

WIS, 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 Slmons; Nubs Allan, contralto; Tony Corcoran, Irish bartione; 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 Fratt; 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, bartione; Hazel O'Nell, soprano; 8:30-10:30 Trianon orchestra; Cecil and Eshner Ward, guitarists; Woodlawn theater concert orchestra; Fisher and Wayne; concertina Agne, marinba soloist; Geraldine Doyle, soprano.

WQ1, Chicago, Ill. (447.5), 7.8 p. m., dinner concert.

Drano.

WQJ, Chicago, III. (447.5), 7-8 p. m., dinner concert,
Ralph Williams and the Rainbo Gardens orchestra;
Cora Rogers Woolverton, pianist; Everett G. Mitchell,
bartione; 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 screnaders.

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 1:15, Bicycle playing card sextet; 9, maker, 3:15, Bicycle playing card sextet; Margaret Brinker,

pianist.
WTAM. Cleveland, Ohio (389.4), 6-7 p. m., Hotel Statter concert orchestra; 8-9, Frank R. Wilson's Euclid Beach Park orchestra; 9-12, Ev Jones and the Coo Coo club; Jos Ferte, tenor.
WTAS, Elgin, 111. (302.8), 8-10:30 p. m., Purple Grackle orchestra; Herbie Mintz, Maurine Marsellies, Phil

Central Standard Time Stations KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., dinner pro KFNF, Shenandoah, lowa (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 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 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

KFVE, University City, Mo. (240), 6:30 p. m., amusement review, Romaine Fielding; 10, Mae Miller, classical numbers; Tom, Dick, Harry and Jack.
KOll., Council Bluffs, 19wa (278), 7-9 p. m., Mr. and Mrs. Harry B. Hahng Alice Jacobs, planist; Helen Sprague Cogley, planist; Marie and Olivetta Salisbury, violinists; Reva Snyder, vocalist; Janet Gilinisky, aecompanist; Elks male quartet; 11-12, Hotsy-Totsy hour KSD. St. Leuis, 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.

p. m., classical selections, New Albuston, orchestra.

(WKH, Shreveport, La. (273), 3:30 p. m., piano musle;

4, baseball; 9-12, dance musle, 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

Dick Long's Nankin cafe orchestra: 8 musicale; 10, Dick Long's Nankin cafe orchestra: 8 musicale; 10, Dick Long's Nankin cafe orchestra: 8 musicale; 10, Dick Long's Nankin cafe orchestra: No Art Nansas City, Me. (365.6), 6-7 p. m., plano 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; Carle Coleman's orchestra; Kansas City orchestra; Earl Coleman's orchestra:

chestra.

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;
3:30-3:30, Jack A. Davis, planist; 11-12, Adolphus

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist.
WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., Pansy entertainers.

Mountain Standard Time Stations

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

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

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

Thursday night at midnight WLW 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.

Sunday, August 30

Sunday, silent night for: CHNC, CKAC, KFAB, KFKX, KFMQ, KFOA, KFO, KYW, PWX, WBAV, WCAE, WCAE, WCBE, WDAF, WEBJ, WGR, WHAD, WHAS, WHAZ, WIR, WLIT, WMC, WGO, WGR, WRC, WREO, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving

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
jubile.

WOC, Davenport, lowa (483.6), 9-10 p. m., Vinnle
Thompson, planist; Marie Delano, contralto; Dorothy
Dettiof, 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. CFCA, Teronto, 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 Radig ehurch services; 6:30, dinner concert, William Pennhotel; 7:20, Capitoh theater gang; 9:15, Goldman band WCTS, Woreester, Mass. (268), 7:20-9:15 p. m., Capitol gang, Major Bowes, director; 9:15-10:15, Goldman band concert. 10, dance program.

Pacific Standard Time Stations

KFWB, Hellywood, 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 giri; 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 gultarists; Stewart Brady, boy soprano; Frank Clark, planist; A. Berniec Tutt, contralto; Antone Tomsle, concertina soloist.

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.

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

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

concert.

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

WHAR, Atlantic City, 1. (25), 2:30 p. p. Sasside hotel trio; 2:45 sermon, Rev. Hinson V. Howlett; 7:50, Chelsea Baptist church; 9. Seaside hotel trio; 11:15, Strand theater organ rectal.



Name Program.

KNX, Hellywood, Calif. (336.9), 5:30-5:15 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, storles of insect life, Harry W. McSpadden; 7:30-8, Wurltzer 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 23s clother of the Comment 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; 9:10-9:30, Hermie King and his orchestra; 9:30-12, Radio night.

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, Allantic City; 7:15, services, Holy Trinity church; 10, features broadcast simultaneously with WPG, WBBS and WMAF. WJAR, Previdence, 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. (528), 8-45-8:50 p. m., baseball results: 9-11, Brooklyn Mark Strand theater program.

Eastern Standard or Central Daylight

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. Joziah Sibiey, 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 Welgert; 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, Cntral Methodist Episcopal church; 3:30 p. m., band
concert, Belle Isle; 6, dinner concert, Book-Cadillac
hotel; 3, the Detroit Symphony orchestra.

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

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

Francisci Sunday afternoon musicale; 7-8, Park theater or crosstra.

Francisci Sunday afternoon musicale; 7-8, Park theater or crosstra.

Francisci Sunday afternoon musicale; 7-8, Park theater or crosstra.

Francisci Sunday afternoon musicale; 7-8, Park theater or cross or

Geise, Joe Allabough, Ted Florito, Dan Russo, Mark Fisher, Paul Small, Gall Bandell.

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

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

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, oditorial 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. Everott, baritone; Trianon orchestra; Fisher and Wayne; 7-8:30, Trianon engenty of the Contest of the Con

Central Standard Time Stations KFAB, Lincoln, Nebr. (340.7), 4-5 p. m., dinner pro-

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

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

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

WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble: 7, popular program; 9, "The Vallant," one-act play. Arthur H. Faust and company; 10, Collia 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, euphon-lum soloist; Paul Stewart, cornet; R. F. Rudi, bartone; Dorothy Schadd, pianist.

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

WDAF, Kansas City, Mb. (385.6), 4-5 p. m., program, Newman, Royal, Pantages theaters; 5-5:30, Sunday school lesson, Dr. Walfer 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. (398.8), 10 a. m., church service, Tenple Adath Israel.

WHO, Des Moines, Ia. (526), 7:30-8:30 p. m., Bankers Life tric. 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, Nobr. (526), 9 a. m., chapel service.

Rev. R. Brown; 9 p. m., chapel service.

WOC, Davenport, lowa (483.6), 1-2 p. m., Painer Little symphony; Paul J. Vipperman, tenor; 8-8:30, First Baptist church, Rev. J. M. Jones; 9:30-11:30, Palmer Little symphony; Paul J. Vipperman, tenor; 8-8:30, First Baptist church, Rev. J. M. Jones; 9:30-11:30, Palmer Little symphony; Paul J. Vipperman, tenor; 8-8:30, First Baptist church, Rev. J. M. Jones; 9:30-11:3

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

Pacific Standard 1 ime Stations
(FWB, 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;
3, 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 crohestra, Jack Cronshaw, leader;
6:30-7, Art Hickman's Biltmore hotel concert orches(Continued on page 13)

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

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, Wood-lawn Park; 7. First Methodist Episcopal church; Mrs. Montromery Lynch, organist.

KNX, Hollywood, Calif. (336.9), 7-8 p. m., First Prespection of Hollywood, Rev. Stewart P. MacLennan, pastor; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, program, Beverly Hills Norseries presenting the Russian stringed church services.

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, WBAW, WBBM, WCAU, WCTS, WEBH, WEBJ, WFI, WGK, WGES, WHAS, WHAZ, WIP, WLS, WTIC, WMAQ, WBB, WOC, WOAI, WQJ, WRC, WRED,

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 plano, Green and Perry; 1:051:30, dulcimer and plano; 7:30-7:45, sports talk,
Thornton Fisher; 7:45-9, John A. Salvatore, planist;
8-8:15, Mildred Nash Carrington, soprano; 8:15-8:30,
Horace J. Taylor, reader; 8:30-0, Synchrophase trio;
9-9:15, Mildred Nash Carrington; 9:15-9:30, John A.
Salvatore; 9:30-10, Synchrophase trio; 10-10:15, Horace



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 frolios at WDAF.

J. Taylor; 10:15-10:55, Bensonians dance orchestra; 11:05-11:30 Bensonians orchestra.

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

WEAE, New York, N. Y. (491.5), 4-4:10 p. m., Elizabeth Heslop, contraito; 4:10-4:25, Rose Gonehar, planist; 4:25-4:35, Elizabeth Heslop; 4:35-4:35, Rose Gonehar, planist; 4:43-5, 'Old New York.' Henry Collins Browa; 6-7, dinner musle, Waldorf-Astorla; 7-7:15, Robert S. Chree, baritone; 7:15-8:30, program, Mark Strand theater; Joseph Plunkett, director; 8:30-8:436, health talk; 8:45-9, Pasadena Warblers; 9-3:20, Herman Popper's Vienness trio; 8:20-9:40, Pasadena Vienness and Popper's Vienness trio; 8:20-9:40, Pasadena Marshort, 10:30-11:30, Hotel Bosset Marine, Rose of Popper S. Vienness trio; 8:20-9:40, Pasadena Marshort, 10:30-11:30, Hotel Bosset Marine, Rose of Popper S. Vienness trio; 8:30-9:40, Rose delicable deli

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 or-

chestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's
afternoon-program; 6:30-7:30, Century orchestra, featoting Charles G. Seelach, violinist; 9-0:30, program,
Mrs. Carl Dickerman; 3:30-10, comedy program, featuring E. J. Clare; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statter dance optestra, Harold

Gleser, 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 orchestrá; 11-11:30, organ recital, Loxington 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,

JAR, Providence, R. I. (305.9), 7:45 p. m., Berry |

WIAR, 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 orhestra; 2, Arcadia cafe concert orhestra; 4:30, Marcella North, Pianist; 7:30 p. m., Dream Daddy's bedtime storles; 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 Economies," Mrs. Louis Reed Welzmiller; 6:45-7, plano recital; 7-7:30, Original Charleston Five; 8:15-10:15, band concert, Mall, Central Park; 10:15-10:30, talk, Dr. Sydney N. Ussher.
W00, 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 corcert orchestra; 8, Mark Strand theater program; 8:45, Pasadena Warblers; 9:40, Herman Popper's Viennese tric; 10:30, talk; Rorman Popper's Viennese tric; 10:30, Bossert Marine Roof orchestra; 11, A. Candelori's Roof Garden dance orchestra; 11, A. Candelori's Roof Gar

Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KDKA, Pittsburgh, Pa. (399.1), 8:45 p. m., concert. WBBM, Chicago, Ill. (226), 5:30-6 p. m., kiddies' joydigger 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, tecony: Harold Crumrine, flutist; Ruth Appleby, accompanist; 9. Frances Zirkin, planist; 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-Cadillae hotel; 8, the Detroit Symphony orchestra.

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

WGY, Schenectady, N. (379.5), 1:30 p. m., Asia club orchestra; 5:30, Hotel Ten Byck orchestra; 6:35, Catricala trio; Mrs. Norma V. Gatricale, soprano. WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble, Book-Cadillae hotel; 10, Blue room dance orchestra.

WKRG, 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

Legion of Ohio; 12, Marlon 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 plano player; 11, Famous Lyric male quartet; violin solos with organ accompaniments, William and Rosemary Stoess.

WOK, Homewood, III. (217.3), 6-8 p. m., ballad hour; Ada Allen, soprano; Jimmle Watson, barltone; 8-1, Thora Martens, contraito; Paul Small, tenor; Werner and Spike, accordionists; Marle Wright, soprano; Jimmle Caims, tenor; Lew Buller, tenor; Buck Weaver, banjoist; Gail Bandell, jazz singer; Langdon Brothers, Hawallan guitarists; Herman Sinakio, violinist; LeRoy North, planist; George Hall banjoist.

WORD, Batavia, III. (275), 8:30 p. m., Fred Thelander, barltone.

WSAI, Cincinnati, Ohio (326), 10 p. m., Herbert Spanglet, violinist; Helen Nugent, contralto; Ferd Raine, tenor; 11, Carl Schuett, planist; Lecra Lorimer, constrato.

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

tenor; 11, Carl Schuett, pianlst; Leora Lorimer, conetralto.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Golden
Pheasant dance orchestra; 8-9, Instrumental hour;
Willard Symphony, Walter Logan, director; 9-10, coneert program; 11-12, dance music, Frank Wilson's
Euclid Beach Park orchestra;
WTAS, Elgin, Ill. (392.8), Purple Grackle orchestra;
Herbie Mintz, Tommy Dunlap, Tubby Garon, Maurine
Marseilles, Art Stiller, Berger Wedberg.
WTIC, Hartford, Conn. (348.6), 6 p. m., Emil Helmberger's Hotel Bond tric; J. Reginald Kelsey, bartfone.
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 Slogat Janist; Colonians dance orchestra. KFNF, Shenandosh, lowa (266), 7:30 p. m., Henry Field Seed company. KFVE University City. Mo. (240), 10 p. m., Orchestra. Romaine; Olin Gibson.

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

KWKH, Shreveport, ta. (273), 3:30 p. m., program. KWKH, Shreveport, ta. (273), 3:30 p. m., plane music 4, baseball; 8-9, musical program, Scigel Brothers, axophone.

WCBD, Zion, III. (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, contraito; Dorothy Bull, soprano; Mrs. Evan-celine 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, Me. (365.6), 6-7 p. m., piano tuning-in number on the Duo-Art; Cecile Burton, reader; Teil-Me-a-Story lady; Plantation players; So, 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, lowa (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.

Vaugnan Hadio orchestra; saxaphone quartet.

WOAW, Omaha, Nebr. (526), 6 p. m., Phyllis Grlswold, 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. Piepmeler.

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 tric; J. Stanley Fulbright, tenor; 8-9, program, Start Motor Car company, Million Dollar orchestra; Frank Stever, baritone; Vie 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 Charlle Wellman.

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.

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 Kaett Radio orchestra, Paul Finsten, leader: 7-7:35 Mitutal Motors mirth contest; 7:30-8, program, Codumbia Outfitting company; 8-9, program, Codumbia Outfitting company; 8-9, program, Codumbia Outfitting Company; 8-9, program, Codumbia Outfitting Coduction Silvertown Cord dance orchestra, Lilyan May Challenger, contralto; 11-12, Ray West's Ambassador hotel dance orchestra.

KTAB, Oakland, Callf. (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, Philadolphia, Pa. (278), 7:30 p. m., Snellen-burg Choral society, direction Henry Gordon Thunder; 8, Ambrose McInitire, bartione, Elizabeth Olive Gear, uccompanist; 9, talk, "Game of Tennis," Paul Glbbons; 3:30, 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, bartlone; 4:30-5, women's program; 6-7, dlnner music, Waldorf-Astoria; 7-7:30, WEAF Light opera quartet; 8:05-8:30, Metropolitan intrumental trio; 8:30-9, Gold Dust Twins; 9-10, "Eveready Hour;" 10-11, grand opera, "Ernanl," 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 Strat-ford concert trio; 3, Varsity Seven dance orchestra; 6:45, Bellevue Stratford Roci 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 reoltal, Lexington theater; 2:15-3:15, overture and vaudeville, Loew's State theater; 3:15-4:30, Lexington theater erchestra; 4:30-4:48, Uncle Robert's chat or children and grown folk; 7:30-8, Will Oakland's Chatheau Shanley; 8-8:30, Colonial Aces; 9:30-10, Pallsades Amusement Park orchestra; 11-11:30, Silver Silpper revue.

WIP, Philadelphia, Pa. (508.2), 7. a. m., setting-up exercises; 3. song of the surf; 3:30, Comfort's Philadelphia orchestra; 6:05. Benjamin Franklin concert orchestra; 7. Uncle Why's beddime storles; 8. Comfort's Philharmonic orchestra; 8:45, song of the surf; 8:50, Veselh'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 re-quest numbers which he sings two or three times a week.

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

WIAR, 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., dally almanac; Stanley theater organ recital; Arcadia cate concert orchestra; 2. Arcadia cate concert orchestra; 2. Arcadia cate concert orchestra; 2. Artadia, 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 Graphle Ukulele school; 10-11, Chiropraetic hour of music; 11-12, Ernle Golden and his Hotel McAlpin orchestra.

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

W00, Philadelphia, Pa. (508.2), 11 a. m., organ rectal; 12:02 p. m., Golden's Crystal Tea Room orchestra; 4:45, organ rectal; 7:30, A. Candelorl'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. u., concert; 10:15, concert, Willows.

KYW, Chicage, III. (536), 7-7:30 p. ni., Congress hotel; 8-8:30, musicale; 8:30-8:45, American Farm Bureau federation; 8:45-9:30, music; 10-11:30, evening at

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

WEZ, Springfield, Mass. (333,1), 6 p. m., Leo Relsman's Hotel Lenox enseuble; 8, Madame Eugenie Tessier, blind prima donna soprano; Bernadette Bourbonnals, accompanist; 8:30, Mrs. Carl Diener, cellist; Carl Diener, violinist; 9, Hotel Brunswick orchestra.

WCEE, Eigin, III. (275), 10:30-12 midnight, Purple Grackle, artists.

WÖX, Defroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, musicai program; 10, tho Red

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

WEBH, Chicago, III. (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, bartlone; Loos Brothers; 11:30-1 a. m., Oriole orchestra; Sandy Meek, tenor; Harry. Sosnik, accompanist; Jack Penewell, twin gultarist; songs, Banks Kennedy, Paul Small.

WGN, Chicage, III. (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 atternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director; 8:11, jointly through WEAF, including Gold Dust Twins, Eveready hour and the grand opera, "Ernant."

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,

Carlo Carlo

Seasure notel trio; 11:15, Strand theater organ recital.

WIBO, Chicago, III. (226), 2-4 p. m., program for Shut-Ins, Dan Russo, Ted Ffortto, Harry Geise, Joe Allabaugh, Sandy Meek, Harry Sosnik, Jack Sprat; 6-8, Jack Sprat concert trio; Mildred Perlin, reader; Sheppard Levine, tenor; Yolanda Schaumberger, contraito; Chester Newman, bartione; 12-3 a. m., Victor Young, Helen and Bita Young; Dan Russo, Ted Fiorlto, Harry Gelse, Joe Allabough, Kay Romayne, Mark Fisher, Paul Small, Gall Bandell, Zeiger Sisters, Lucas Sisters. Seaside hotel trio: 11:15. Strand theater organ recital

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

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

HIII House orenestra.

WLW, Cincinnati, Jhio (422.3), 4 p. m., student recital, pupils of Leo Stoffregen and William Kyle; 6:39, instrumental trlo; Gene Johnson, organist; 7, WLW story lady, Mrs. Bertha W. Edmonds; 8, WLW Feature orrebestra, 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 plano accompaniments, Gladys Hettrick Kruse; the Formica concert orchestra, William Stoess, director.

WMAQ, Chicago, III. (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 Chap-man's orchestra; 9:40, weekly talk on swimning.

WMBB, Chicage, III. (250), 7-8:30 p. m., Trianon en-semble: John S. Everett, baritone: Bernard Senescu, violinist; Marie Caruso, soprano; 8:30-10:30, Trianon orchestra; Woodlawn theater orchestra; Florence Ten-ney; Charles Agne, marimba soloist.

MOK, Homewood, III. (217.3), 6-7 p. m., Genevieve Barry Burnham, soprano; LeRoy North, planist; 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, planist.

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

WQJ. Chicago, III. (427.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Maude Shapton Couse, soprano; Leroy Trauger, barttone; Sophine Lobel, concert piantst; 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; Maek 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 mu-slc.

WTAS, Elgin, III. (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 or-chestra. 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 Gillesple, pianist.

KFNF, Shenandoah, Iowa (266), 7:80 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., plano music; 4, baseball; 9-12, Hotel Yource orchestra. WAMD, Minneapolis, Minn. (243.8), 6 p. m., Radisson ensemble; soloists: 9, Vernon Wick's quartet; 9, dance orchestra, popular singers.

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

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., plano 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 Ha-wafian 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, lowa (526), 7:30-8:30 p. m., musical

WOA1, San Antonio, Tex. (394.5), 8:30-9:30 p. m: musical program, Mlss Borden; 9:30-10:30, Jimmy's

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

WOC, Davenport, lowa (483.6), 6:30-7 p. m., Gold Dust Twins, WEAF; 7-8, Eveready hour, WEAF; Anna Petersen, planist; Marian Laffey, violinist; May Cham-bers, 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 seores; 6:45-8:15, Rhodes Department store program; special song recital, Win. J. Taggart; 8:30-10, Times studio program; 10-11, Eddle Harkness and his orchestra.

KFWB, Hollywood, Calif. (252), 8-7 p. m., children's hour, Big Brother of KFWB; 7:38-9, program, Western's super-service garage; 9-10, program, H. Crockett, Elite trio; Louise Sullivan, soprano; Hudson-Essex quartet; 10-11, Warner Bros. froile, direction Charlie Wellman.

Charne 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.

orchestra.

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

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., Wurnitzer 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 Gocomut Grove dance orchestra.

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

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 planist; 1:05-

Edwin Kemp is the handis 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 plano; 8-8:15. Raymond Maher; tyric baritone; 8:15-8:30, Stellario Cambris, mandolnist; 8:30-8:45, Mary Killoran, soprano; 8:45-9, Micha Tulin, planist, 9-9:15, Gerlich and Cornist; 9:45-230, Raymond Maher; 9:30-9:45, Stellario Cambria; 9:45-10, Mary Killoran, 10-10:15, Micha Tulin, 10-16-10:55, dance orchestra; 10:55-11:30, dance orchestra; 10:55-11:30, dance orchestra.

WCAE, Pittsburgh, Pa. (461.3), 3 D. m., program, Loew's Aldine theater; 0:30, dinner concert, Il, Loew's Aldine theater.

Aldine theater.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., musical program; 4:15-4:30, Joe Zimmerman, planist; 4:30-4:45, musical program; 4:15-5, talk, Anthony Fiala; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, United Synagoge of America; 7:30-8, Dorothy Hoyle, Violinist; Giuscopp DI Benndetto, tenor; 8-9, concept, United States Naw band; 9-10, "Old Timers' Hour"; 10-11, Inpana Troubadours; 11-12, Hotel Bossert Marine Roof orchestra.

WEBJ, New York, N. Y. (272.8), 8-8:30 p. m., Club Virginia orchestra, 8:45-9, Crescont quartet; 9:15-9:30, Millon Yokewan, tenor; 9:45-10, Chick Schilling and his Happiness Ramblers.

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

Bous Husburg, plantst. 3..., Nam. vestor and mis day.

WFI, Philadelpnia, Pa. (394.5), T.p. m., Bellevue Stratford concert trio; 3, Loretta Kerk, plantst; 6:45, Bellevue Stratford Roof Garden orchestra.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 5:30-7:30, two plano recital, the Gospel Melodists: 9-9:45, violin, plano and vocal program featuring Arthur G. Bolt; 9:46-10, 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, Palliades Anusement Park orchestra; 11-11:30, Silver Slipper revue.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up ex-

WIP. Philadelphia, Pa. (508.2), 7 a. m., setting-up excrelses; 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. WIAR, Providence, R. I. (305.9), 7:30 p. m., program from New York.

from New York.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., dally almanae; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert, orchestra; 7:30, Dream Daddy's bedline stories; 8, talk, Dr. Earl-Kalguei; 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.

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, plano recital; 7:10-7:30, songs; 7:45-8, song recital; 8:15-10:13, hand concert from the Mail, Central Park; 10:15-10:30, song recital.

WOO, Philadelphia, Pa. (598.2), 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.

Roof Garden orchestra.

VOR, Newark, N., (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 Richardsen and girls.

(Continued on page 15)

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

Atlantic or Eastern Daylight Sav-

Atlantic or Eastern Daylight Saving Time Stations

Saturday, August 29: 4:30, WJZ; 6:30, WCTS, WJZ; 6:40, WPG; 7:15, WOR; 7:25, WNYC; 8, WJZ, 4:30, WJZ, WJZ, WAS, S. 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, 6:30, 6, WJZ; 6:30, WEEI; 7:15, WOR; 7:25, WNYC; 8, WJZ, Thursday, September 3: 4, 4:30, 5, 6:30, 6, WJZ; 6:30, WEEI; 7:15, WOR; 7:25, WNYC; 8, WJZ, Priday, September 4: 4, 4:30, 5, 5:30, 6, WJZ; 7:15, WEEI, WOR; 7:25, WNYC; 8, WJZ.

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, WJ; 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, KYW, MAQ; 4:30, KYW; 5, KDKA, 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,

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, WMAQ; 4:30, KYW; 5, KDKA, KYW, WBZ; 7:30, WEBH, WLW; 9:50, 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; 4:30, KYW; 5, KDKA, KYW; 9:50, WBZ; 6:50, WTIC; 7; WBZ; 9:55, KDKA.

Fursday, September 3: 2, WRC; 2:45, WMAQ; 3, KDKA, KYW; 5, KDKA, KYW; 6:30, WBZ; 6:50, WTIC; 7:30, WBBH, WLW; 9:50, WBZ; 9:55, KDKA.

Friday, September 4: 2:30, KDKA; 2:45, WMAQ; 3, KDKA, KYW; 3:30, KDKA, KYW; 3, KDKA, KYW; 3:30, KDKA, KYW; 3, KDKA, KYW; 3:30, KDKA, KYW; 5, KDKA, KYW; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, WLS; 6:30, WBZ; 6:50, WTIC; 7:30, 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.

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, WOCO; 9, WCCO; 9:15, KTHS.

Monday, August 31: 3:30, WDAF, WHAS; 4, WCCO, WDAF; 4:30, WDAF, 4:30, WDAF, 5:05, WOS; 6, WCCO, WDAF, WOCO, WDAF, WOCO, WDAF, WOAH; 9, WCCO, WDAF; 4:30, WSMB; 7, WHAD, WOAH; 9, WCCO, Tuesday, September 1: 3, WOAH; 3:30, WDAF, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6:30, WSMB; 7, WHAD, WOAH; 8:45, WHAS; 9, KTHS, WCCO, Wednesday, September 2: 3, WOAH; 3:30, WDAF, WHAS; 4, WCCO; 4:30, WDAF, WFAA; 5, WDAF; 6:05, WOS; 6, WCCO, WDAF, WOAF; 6:30, WSMB; 7, WHAD, WOAH; 9:15, KTHS; 9, WCCO, WDAF, WOCO; 6:30, WSMB; 7, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6:05, WOAF; 4:30, WFAA; 5, WDAF; 6:30, WSMB; 7, WOAH; 9, WCCO, WDAF, WOCC, E:20, WDAF; 6, WCCO, WDAF, WOCC; 6:20, WOAW; 6:30, WSMB; 7, WOAH; 9, WCCO; 9:15, KTHS; September 4: 3, WDAF; 6, WCCO, WDAF, WOCC; 6:20, WOAW; 6:30, WSMB; 7, WOAH; 9, WCCO; 9:15, KTHS; September 4: 3, WDAF; 6, WCCO, WDAF, WOCC; 6:20, WOAW; 6:30, WSMB; 7, WOAH; 9, WCCO; 9:15, KTHS; September 4: 3, WDAF; Friday, September 4: 3, WDAF; Frid

WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 7, WOAI; 9, WCCO; 9:15, KTHS.

Friday, September 4: 3, WDAF, WOAI; 3:30, WHAA; 4, WCCO, WDAF; 4:30, WFAA; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 8:46, 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

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, KEO; 6:45, KGO; 7:30, KGW; 8, KFWB, KHJ.

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

KYW, Chicago, III. (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.

organist.

WBBM, Chiesgo, III. (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. u., Alamo orchestra; Nate Caldwell; Harold Anderson; Charlie and
Dave; Harold Weil.

Bave; Harold Well.

WBZ, Springfield, Mass. (333.1), 6 p. m., Hotel Kimball

trio; 8, Donald Pirnie, baritone; Dorothy Binchard

Mulroney, acompanist; 8:30, oriental muste, Harry

Hasekian, violinist; Edward Bashlan, Ood soloist;

Garvis Bakerjian, kanoon soloist; 9, concert, Maud

Murray, Clara Lane.

WCEE, Eigin, III. (275), 10:30-12 midnight, Purple Grackle orchestra.

WGY, Schenectady, N. Y. (379.5), 5:30 p. m., program

Central Standard Time Stations KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., Buick Little symphony; 7:30-9:30, alph Hall, banjoist; Walkiki 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 Dalry Cow and the Pasture," W. H. Woodley; "Goneral Livestock and Pastures," M. W. Muldrow; "Pasture Grasses," D. J. Burleson.

(FNF, Shenandoah, Iowa (266), 7:30 p. m., Henry Field

11-12, dance music, Frank Wilson's Euclid Beach Park orchestra.

WTAS, Elgin, III. (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.

Control Standard Time Stations

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, Everlyridge Hawalians, Louise Howatt, planologues; 9-10, problems singer; Ernest Morrison, tenor; Don McNamee and Geo. Green, accordion and banjo duets; 9-10, program, Independent Furniture Manufacturing company; 10-11, Warner Bros. froilc.

KGO, Oakland, Calif. (361), 6-7 p. m., dinner concert KGW, Portland, Orc. (491.5), 7:30 p. m., baseball scores; 10-11, concert, Sherman, Clay and company.

KHJ, Los Angeles, Calif. (495.2). 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Flizpatrick, director; 6:30-7:30. Baby Muriel MacCormac and Mickoy McBan, screen juvenilest Dick Winslow, juvenile reporter; Thelma Carter, planist; Unele John; 8, Dr. Mars Bunngardt, scientifie lecturer; 8:30-10:30, program, H. Jevne company, arranged by J. Howard Johnson; 10:30-12, Art Hick-

ner music, Waldorf-Astoria; 7-7:30, services, Grester New York Federation of Churches; 7:30-8, Cushman's serenaders; 8-8:30, popular concert; 8:30-9, talk, M's George Elliott Cooley; 9-10, Atwater Kent Radio artists; 10-11, Silvertown cord orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

Lopez and his Hotel Pennsylrania orchestra.

WELI, Boston, Mass. (475.9), 6:30 p. m., Big Brother elub; 7:30, Earle Alpine, baritone; Alberta Derry, planist; 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, planist; 6:45, Bellevue Stratford Roof Garden orchestra; 8, popular concert; 9, Adwater Kent Radlo 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, Arwater 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 recttal, Lexington theater; 3:15-4:30, Lexington theater orchestra; 8-8:30, Will Oakland's Chatheau Shanler; 9-9:38, Jimmy Clark's entertainers; 9:30-10, Palisades Amusement Park orchestra; 10:15-10:30, Loew's vaude-ville headliners.

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

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

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., daily almanae; Stanley theater organ recital; Arcadia cafe concert orobestra; 2, Arcadia cafe concert orobestra; 2:30, Arthur Comby, haritone; 4:30, Marcella North, planist.

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; 8:15-16:15, 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.



for children; 5:45, Alhany 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, sopranc; James Luchansky, Austrian tenor; 10-12, Anne Williams, Harry Geise, Carl Linner, Joe Allabugh, Harry and Joe.

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

orchestra.

WKRC, Cincinnati, Ohlo (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 piane.

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

MMBR, Chicage, III. (250), 7-8:30 p. m., operatic semi-classical program, Trianon ensemble; Lindsay McPhail, planist; Bernard Sonescu, violinist; Desmond Sullivan, cellist; Rebecca Agulnick, planist; Phyllis Harries, soprano; Charles Agne, trumpet soloist; 8:30-10:30, Trianon orchestra; Woodlawn theater orchestra; Fisher and Wayne; Florence Tenney; Harold Stokes, accor-dionist; Lindsay McPhail, planist; Geraldine Doyle, soprano.

soprano.

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

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

choral singers; Binle address, B. E. Hollister.

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

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

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

GOT ROLL Orchestra.

WHAD, Milwaukes, 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. (399.3), 7:30-9 p. m., concert, auspices Building Material Trade bureau.

WHO, Des Moines, Iowa (526), 6:30-7:30 p. m., Bankers Life trlo; 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.

VOC, Davenport, la. (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, Cole. (322.4), 8:36 p. m., Herbert White and his Silver State orchestra; 8, scientific football, Tom McNamara; 8:10, convention program, American Association. of Joint Steek 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.

man's Biltmore hotel dance orchestra, Earl Burtnett, |

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), 5:80-6:15 p. m., Wurthilter 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 hotconcert orchestra, Josef Rosenfeld, leader; 8-10, program, Hercules Gasoline company, the program with a

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.

Thursday, September 3

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

Atlantic or Eastern Daylight Saving Lime Stations

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

Cord orchestra.

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

WOTS, Wortester, Mass. (268), 10-11 p. m., Silvertown Cord orchestra. WEAF, New York, N. Y. (491.5), 4-4:15 p. m., mustcal program; 4:45-5, talk, Henry B. Humphrey; 6-7, chn-

Eastern Standard or Central Daylight Saving Time Stations

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

YW. Chicago. III. (536), 7-7:30 p. m., Congress hotel; 7:35-7:58, 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, contraits Sandy Mecks, tenor, 8:13, talk, John C. Cutting; 10-11:30, KYW's Aertal Minsrels.

WBBM, Chicago, III. (226), 8-9 p. m., Samovar orchestra; College tric; 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, beritone; 6:32, Leo Reisman's Hotel Lennox ensemble; 7:30, U. S. Marine band; 9, William D. Strong, planist.

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

T ABULATED 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, WNYC; 10, WNYC.

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.

WEEI, WE

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

light 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,
WBOM, WJJD.

Monday, August 31: 6, WBBM; 8,

WGBS, WIAS, 12, WBBM, W33D, 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, WGEE, WEBH, WGES, WHT, WJJD, WQJ; 12, WIBO, WLS; 12,30, WEBH, WJJD; 1, WBBM, WIBO, WQJ; 2, WIBO.

W1BO.

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, WRRM

Thursday, September 3: 8, WBBM, WTAS; 8:15, WREO; 8:30, WMBB; 9,

Thursday, September 3

(Continued from page 15)

Chamneey Lee and his orchestra; 10-11, instrumental sold hour beautiful and his orchestra; 10-11, instrumental sold hour beautiful and his orchestra; 230-10-30. Ortole orchestra; Uptown theater; 9:30-10-30. Ortole orchestra; Katherine Probes, soprano; Beulah Ladon, violiniat; 11:30-1, Ortole orchestra; stories, Wayne Myers; Paul Small, Loos Brothers, Wesn, Chicago, Ill. (370-2), 6:30-7:30 n. m., Drake concert ensemble, Blackstone string quintet; 8:30-9:30, music program, 10:30-11:30, 12:30, Rice String quartet; Helen Richell, Soprano Mrs. James B. Conant, contrainto Cran Ladon, Sorrano Mrs. James B. Conant, contrainto, Chicago, Ill. (226), 2-4 p. m., program for Mylz, 10:30, Stephen E. Boisclair, organist.

WIBO, Chicago, Ill. (228), 2-4 p. m., program for Shut-ins; 6-8, Jack Sprat concert trio; Robert Metzler, Perstan planist; Elsie D. Hoffman, soprano; Joe Allabough, tenor; 12-3, Harry Geise, Paul Small, Lucas Sisters, Gall Bandell, Dan Russo, Zelgler Sisters, Jack Pennewell, Joe Allabough, Ted Florito, Victor Wille, Detertit Mich (5/2), 7, p. m. Lean Goldkette's

Young.

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

ensemble, Book-Cadillac hotel; 10, Blue room dance orchestra.

WLW, Cincinnati, Ohlo (422.3), 4 p. m., plano 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, Melody hoys; Larsch Ferguson, baritone soloist; 10:26, WLW concert orchestra: 11:45, organ, 12, midright: Bow Wows'—'The Sky Terriers' featuring Chief Barker (Announcer. Kay Nyne, organist and planist, and other 'Hot Dogs.'

WMAG, Chicago, III. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Jack Chapman's orchestra: 8, Jack Chapman's orchestra: 8, 3:45, musical program; 9:30, Jack Chapman's orchestra: 8, 3:45, musical program; 9:30, Jack Chapman's orchestra: Bernard M. Seneccu, violinist; Wayne King, saxabonist; Marie Caruso, soprano; 8:30-10:30, Woodlawn Maeler Orchestra: Trianon encemble; Lindsay MaPhail, planist; 'The Street Faker,' Clyde Hager.

Cleveland, Ohie (389.4), 7-8 p. m., Marjorie and her Melody Maids; 8-9, musicale; 9-10 cey Lee and his orchestra; 10-11, instrumenta

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; 2, 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.

Moday, 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, WSR

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, KFBU,

Mountain Standard Time Stations Wednesday, September 2: 10,

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; 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, KNX; 11, 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.

WOK, Homewood, III. (217.3), 6-7 p. m., Helen Smith, soprano; Wm. Balhatchet, tenor; Beulab 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 gultarists; LeRoy North, pianist; George Hall, banjoist.

ist.

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

WOJ. Chicago, III. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Tula Miller, soprano; Margaret Walbank, contraito; Clement Laskowski, tenor; 10-1 a. m., Ralph Williams and his Ralubo Skylarks; Jerry Sulivan; Rose Vanderbosch; Bob Birdsong and Ben Burke; Ralph Kelm, 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 con-cert; 8, Atwater Kent Radio artists; 9, Silvertown Cord orchestra.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner mu WTAS. Elgin, III. (302.8), 8-12 midnight, Purple Grackle boys; Herbie Mintz, Vloiet Eaton, Roland Hinckle, Flo Henrie, Lilian Bernard, Phil Wilcox, Brock Sisters.

WTIC, Harfford, Conn. (348.6), 6 p. m., Emil Hetm-berger's Hotel Bond trio; Mrs. Mildred Abbey Johnson,

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

Central Standard Time Stations

KFNF, Shenandoah, Iowa (266), 7:80 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., plano 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.

program.

WCBD, Zion, III. (344.8), 8 p. m., cornet quartet.
clarinet duet, Studebaker, Klawonn; Esther Strachan,
render; Mrs. Sparrow contraito; 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; Silver-town 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 Croole 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., Yaughan Radio orchestra; saxaphone quartet; male quartet; saxaphone quartet.

WOAI, San Antonio, Tex. (384.5), 8:30-9:30 p. m., Menger hotel trio; 9:30-10:30, Jimmy's Joys dance

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, bartione.

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 Plano company, Hollywood Rythmo Kings in arrangements of Gennett records; Ina Mitchell Butler, soprano; Jack Wilson and his ukulele; 9-10, program, Don P. Smith, Inc., Dlana-Moon dance orchestra, Frank Pierce and Vic Beall, comedy songs, Rogers' Hawaitan tric; 10-11, Warner Brothers frolie, direction Charlie Wellman.

KHJ, Los Angeles, Calif. (381), 4-5:30, p. m., concert orchestra, Hotel St. Francis, S. "The Lottery Man," KGO players; Arion trio; 10-12, Ben Black's orchestra. (GW, 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, leady: 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 lux program, arranged and prosented by J. Howard Johnson; 10-10:30, Piggly Wiggly Girls stringed trio; 10:30-12, Art Hickman's Biltmore hotel dance orchestra. Earn Burtcutt, leader.

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

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

KTAB, Oakland, Calif. (356.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atvater Kent Radio orchestra, Paul Finstein, leader; 7-8, program, John A. Evans corporation, Haclenda Park orchestra; 8-10, program, Beverlyridge company; 10-11, Ray Wests Coccanut 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, KLOS, 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 Roma-nelli and his King Edward hotel concert orchestra; 9:30, Edna Reld, soprano: Reginald Stewart, planist; 11:30, Luigi Romanelli and his King Edward hotel dance protestra

MAHG, Richmond Hill, N. Y. (315.6), 12:30-12:55 p. m., musical program; 1:15-1:30, musical program; 7:30-12:55 p. m., rusical program; 1:15-1:30, musical program; 7:30-12:55 p. m., rusical program; 8:15-8:50, musical program; 7:30-12:50, rusical program; 7:30-12:50, rusical program; 7:30-12:50, rusical program; 7:30-12:50, rusical program; 7:30-12:30, rusical program; 7:30-12:30, rusical program; 8:15-8:30, rusical program; 8:15-8:30, rusical program; 9:15-9:30, rusical program; 10-10:15, Radio Question Box; 10:15-10:55, rusical program; 10-10:15, Radio Question Box; 10:15-10:55, rusical program; 10:50-11:30, rusical program; 11:05-11:30, rusical program; 11

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 muste, Sanders' Inn.

WCAU, Philadelphia, Pa. (278), 8 p. m., John A. Shields, vielknist; Elizabeth Olive Gear, accompanist:

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

9, musical review; 9:30, Rennie Carmack, songs; 10:30, Jack Myers' Musical Architects.

Jack Myers' Musical Architects.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Anne Ritz, sporano; 4:15-4:30, Aaron Hirsch, violinist; 4:36-4:45, Anne Ritz; 4:45-5, "Chinese Women," Arcella Crohn Bubel; 6-7, dinner music, Wadorf-Astoria; 7-7:30, musical program; 7:30-7:45, "The Return of Sir Holpoblin," Blanche Elizabeth Wade; 7:45-8, Modena Sewille, planist; 8-8:30, "Rapplness 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. Levlathan orchestra; 11-12, Hotel Bossert Marline Roof orchestra.

chestra; 11-12, Hotel Bossert Marine Roof orenestra;
WEBJ, New York, N. Y. (272.6), 7-7:15 p. m., Radcliffe dance orchestra; 7:30-7:45, National CzechoSlovaklan band; 8-8:15, Rudolph Joskowitz; vielinist;
8:30-9, Arthur Pryor's concert hand.
WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother
club; 7:30, program, Whitings Milk company; 8, program, Neapolltan Ice Cream company; 8:50, Jean Cant,
violinist and singer; Litilian Cant, pianist; 9, Ed
Andrews and his Nautical Garden orchestra.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Strat-ford concert trio; 3, Caroline Hoffman, planist; 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 reclai.

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 ex-

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. 1. (305.9), 8 p. m., musical program; 9, Malne Creamery hour; 11, Providence Biltmore

gram; 9, Maine Creamery hour; 11, Providence Biltimore dance orchestra.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., dally almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2. Arcadia cafe concert orchestra; 3. Arcadia cafe concert orchestra; 3. Arcadia cafe concert orchestra; Chas. Frey's Million Dollar Pier dance orchestra; Rufus and Rastus, songs; Carl Zochrns, song writers, Rufus and Rastus, songs; Carl Zochrns, song writers, 3. Arcadia cafe concert orchestra; 7. Arcadia cafe concert orchestra; 8. recital; 7. 30 - 7. 35, police alarms; 7. 45-8, plano recital; 8. 16-10-15, concert from the Mail, Central Park; 10-12-10-30, violin recital.

WOO, Philadelphia, Pa. (508.2), 11 a. m., organ recital; 7. 30 - 7. 30, song recital; 7. 30, arcadia cafe concert orchestra; 8. recital; 9. WOO orchestra; 10, organ recital, Newell Bobisson; 10. 30, A. Candelori's dance orchestra.

orcnestra.

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), S:45 p. m., concert KYW, Chicago. III. (526), 7-7:89 p. m., Congress betel

DANCING

Central Standard Ti

Wild, Wold; 12, Kgo
Wednesday, Septem
2: 8, Kgw, Whad, W
Wkrc, Wmbb, W
8:30, Kyw, Weau, W
Wiz, Wkre, Wmad, V
Wgr, Whad, Wmbf, V
Wgr, Whad, Wmbf, V
Wgr, Whad, Wmbf, V
Wgr, Whad, Wmbf, W
Wgr, Wolf, 9:30, Kfi, W
Webh, Wges, Wgn, W
Webh, Wges, Wgn, W
Webh, Wges, Wgn, W
Webh, Wges, Wsn, W
What, 10, Kfve, K
Kgw, Kyw, Wcoc, K
Kgw, Kyw, Wcoc, W
Wmbf, Wlama, 10, W
Will, 11:30, W
11:45, Wdef, 12, K
Kpo, Wqi
Thursday, Septembe
8, Wolf, Will, W
Wmbb, Wc, Wast, W
Wmbf, West, West, W
Wmbf, Winga, Wd, M

Wtas; 9:25, Kths; 9
Wgn, Woai, Wemb;
Wmbf; 10:30, Webh;
Kfwb, Wfaa, W
Wmak, Woc; 12, 1
Kgw, Khi, Knx, 1

Wmak, Woc; 12, 1 Kgw, Khi; Knx, I Wdi, Friday, September 4 Kyw, Wcae, Wear, W Wmbb, Wcas; 8:30, B Wcau, Webb, Whn, N Wmad, Woo; 9, K Wcae, Wey, Weaf, Y Wmbf, Weaw, Wdi; 9 Wmbf, Weaw, Wdi; 9 Wahg; 9:30, Weee, W Wjid, Wtas; 10, K Whar, Wmbf; 10 Weee, Welth, Wjid; Kfwb, Wno; Jie43, W 12, Khi, Wdi.

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CH, AT KOA; BOW-WOWS BARK AT WLW



DANCING Central Standard Time Saturday, Augist 29:

8, Kgw, Wgy, Wmbb.

18:30, Webh. Wgr, Wgs.

Wsmb; 9, Weat, Wro.

Wsmb; 9, Weat, Wro.

Wtas; 9:30, Vec Wgs,

Wgn, Wjd, Wr. Wro.

Wtas; 9:30, Vec Wgs,

Wgn, Wjd, Wr. Wo.

Wtas; 9:30, Vec Wgs,

Wgn, Wjd, Wr. Wo.

Wild, Wkr. Wo.

11:30, Wgb, Wgs,

Wra. Wild, Wkr. Wo.

11:31, Wro.

Menday, Au 31: 8,

Wkr. Wmbb.

Weat, Wsmb; Wy.

Worf, 9, Wgl, Wgr,

Wmbf, Wsmb; 9, Wgr,

Wmbf, Wsmb; 9, Wgr,

Wmbf, Wsmb; Wy.

Worf, Whh, Wmbf, Wosw,

Wan; 10:30, Wee,

Wjd; 11 Kpo,

Wra. Wild, Wkr.

11:30, Wjd; 11:48, Wdf,

Tuesday, September 1:

8c wan, Webh.

Was; 9:30, Wee,

Wydar, Who, Whan,

Who, Wid; 11:30, Wid;

Was; 9:30, Wee,

Wsmb; Wid; 11:48, Wdf,

Tuesday, September 1:

8c wan, Webh.

Was; Wsmb; Wda,

Won, Wjd; 11:48, Wdf,

Tuesday, September 2:

8c Kgw, Wlad, Wha,

What, Who, Wgs,

Wmar, Who, Wsw,

Wan, Wild, 11:30, Wjd; 12: Kgo.

West, Whad, Wha,

Who, Wij; 12: Kgo.

West, Whad, Who,

Wr. Whad, Who,

Wr. Whad, Who,

Wr. Who, Wds,

Sigo, Kyw, Weal,

Wr. Who, Wds,

Wr. Who, Who,

Wr. Who, Who,

Wr. Who, Wds,

Wr. Who, Who,

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Wr. Who, Who,

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Who,

Wr. Who, Who,

Wr. Who,

Who,

Wr. Who,

Wr. Who,

Wtas; 9:25, Kths; 9:30, Wgn, Woal, Wsmb; 10, Wmbf; 10:30, Webb; 11, Kfwb, Wfaa, Who, Wmak, Woe; 12, Kgo, Kgw, Khi, Knx, Kpb,

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

phone.

WBBM, Chicago, III. (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 tio; 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, III. (275), 10:30-12 midnight, Purple Grackle orchestra.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillae 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.

WEAR, Cleveland, Onto (388,49, 1-5 p. m., cattactor, 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, Schenetady, N. Y. (379.5), 1 p. m., "Citizenship for Women," Florence C. Tabor; 5:30, International Sunday school lesson; 6, program. Albuny Strand theater orchestra; Floyd H. Walter, organist; 6:40, "Belleve Me, Zantippe," Frederick Ballard, WGY players; 9:30, Keystone trio.

WIBO, Chleage, Ill. (226), 2-4 p. m., program for Shut-Ins. Dan Russo, Ted Florito, Harry Geise, Joe Allabough, Zeigler Sisters; 6-8, Jack Sprat concert trio; 10-2; Phyllis Feingold, Dorothy Davie Dillow, Dan Russo, Ted Florito, 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., Gen Johnson, organist.

WMAQ, Chicago, III. (447.5), 6 p. m., organ recital, Chicago theater; 6:30, Jack Chapman's orchestra; 8. Jack Chapman's orchestra; 8. 3:30, to be announced; 9:30, Jack Chapman's orchestra.

WMBB, Chicago, III. (250), 7-8:30 p. m., Trianon en-semble; Hazel O'Neill, soprano; Lindsay McPhail, planisi; 8:30-10:30, Trianon orchestra; Pisher and Wayne; Woodlawn theater orchestra; Morey Alswang, banjolst; Florence Tenney; Joek Murnane, baritone; Clyde Hager.

WOK, Homewood, III. (217.3), 6-7 p. m., Herman Bing, tenor; Edilih Hart, soprano; Kennieth Dunn, pianist; Gus C. Edwards' orchestra; EeRoy North, pianist; 10-1a. m., Harry Davis, tenor; Herger Wedberg, tenor; Al George, banjoist; Leltoy North, pianist; Gus C. Edwards' orchestra; Rose Kutta, soprano.

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

wQJ. Chicago, III. (447.5), 7-8 p. m. Raiph Williams and his Rainbo Garden orchestra; Elsie D. Hoffman, soprano: Vivien Purcell, reader; Madame Clough Ramar, planist; 10-1 a. m., Raiph 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, III. (302.8), 8-10:30 p. m., Purple Grackle Orchestra; Herble Mintz, Marie Wright, Tommy Dunlap, Brock Sisters, Art Stiffer.

WTIC, Hartford, Conn. (348.6), 6 p. m., Travelers Jongleurs; 7:10, Irene Bourk, soprano; 7:55, Madame Busonie Tessier, blind prima donna 2 166, Jalks 8:30.

KFAB, Lincoln, Nobr. (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 Rutty Anita Matheny, May Aliene Sinclair, Zellmond Matheny; charles Sinclair, clarinetist; Zellmond Matheny, celist; Harmonica girls.

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

Petroleum company's rennery 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.

concert orenestra.

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

Philler Goodwin, organist.

WDAF, Kansas City, Mo. (365.8), 3:30-4:30 p. m., Star's string ttol: 6-7, address, Kansas City Children's bureau; Tell-Me-a-Story Iady; 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, without the control of th

what industry 8.30-30, Emmett Peck, riolinist.

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, lowa (526), 7:30-9 p. m., Stewart Watson, bartlone; Williamson Brothers; Leonard Kirk-wood, planist; 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, bartlone; Mrs. S. J. Burich, organist.

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

company; 10-11, studio musicare.

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

Mountain Standard Time Stations

Harkness and his orchestra.

KFWB. Hollywood, Calif. (252), 8-9 p. m., program, Monte Mar Vista Subdividers; Monte Mar Vista orchestra. Vlote Preston, blues singer, Dorothy Dodd, balads; 9-10, Oriole syncopators, Emma Kimmel, soprano, Decker's Hawalian trio, Valry Sisters, vocal duets; 10-11, Warner Bros. frolie, direction Charles Wellman (GO. Oakland, Calif. (361), 3-4 p. m., Norman Woodside's Metropolitan orchestra; Frank Ginney, 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 caleteria 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, beditime 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.

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 hormusic; 7:30-8, program, Eastern Outflitting 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 ex-clusive artists.

KTCL, Seattle, Wash. (305.9), 7-8 p. m., Simonds Sav & Steel company; 9-10, Western Auto Supply com panys 16:45-12, Bort Gray's Rutlar hotel orchestre.

Index to Classical Concerts

T ABULATED 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.

Atlantic or Eastern Daylight Saving Time Stations

ing 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, 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, WGR; 8:50, WIP; 9, WCAE, WCAE; 7, WJZ; 7:20, WCAE, WCTS, WEAF, WEEJ, WJAR; 8, WGBS; 8:15, WLIT; 8:45, WJY; 9, WBBR, WHAR, WJZ; 9:15, WCAE, WCTS, WEAF, WEEJ, WIP, WHAR, WJZ; 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, WEEL, WHAR, WLIT, WOO; 8:15, WNYC; 8:30, CHNC, WMAK; 8:45, WCAF, WOO; 9:15, WAHG; 9:40, WOO; 10, CHNC, WGR; 6:30, WCAE, WGR; WOO; 11, WHN.

Tuesday, September 1: 6, WGR; 6:05, WIP; 6:30, WCAE; 7, WEAF; WIP; 6:30, WCAE; 7, WIP; 6:30, WCAE; 7, WGR; 6:05, WIP; 6:30, WCAE; 7, WGR; 6:05, WIP; 6:30, WCAE; 7, WEAF; WIP; 6:30, WIP; 6:30, WCAE; 7, WEAF; WIP; 6:30, WIP; 6:30, WCAE; 7, WEAF; WIP; 6:30, WIP; 6:30, W

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, WJY; 8, 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, WFI, WMCA; 11, WHAR.

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.

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, WEBI, WGR, WHAR, WJAR, WOO; 8:15, WAHG, WNYC; 8:25, WJZ; 8:30, WCAE, WEBJ, WEAF, WMCA, WOO; 9:15, WEAF, WJAR, WMCA, WOO; 9:15, WEAF; 10, WEAF, WOO; 10:15, WNYC; 10:45, WEAF, WI, WHAR; 11, WHAR.

Eastern Standard or Central Day light 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, 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

9. WSAI; 8:30, PWX, WGN; 8:45, KDKA; 9, WMAQ; 9:1b, WSAI.

Sunday, August 30: 6, WCX, WGES; 6:30, WHT; 6:45, WORD; 7, WEAR, WEBH, WGY, WMBB; 7:45, WGY; 8, WEB, 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, 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, WJ; 6:30, WGN, WLW; 6:45, WGY, WJJD; 7, KYW, WEAR, WHT, WIBO, WHT, WMBB, WQJ, WWJ; 7:10, WSAI, WTG; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WEBH, WRC, WTIC; 7:45, KYW, WSAI; 8:10, WTIC, WREO; 8:30, WBZ, WCX, WGN, WMAQ; 8:45, KDKA; 10, KYW, WBAR, WORD, WSAI; 10, KYW, WEAR, WGES, WIBO, WMAQ, WTAM, WCX, WGES, WGM, WCX, WGES, WIBO, WMAQ, WTAM, WCX, WCX, WGES, WGM, WC

Wednesday, September 2: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:16, WJJD; 6:30, WGN; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:16, 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, WJR, WLW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ, WSAI, WGY, Talo, WBZ, WCX, WEAR, WSAI; 8:15, WREO; 8:30, WCX, WGY, WSAI, WEAR, WSAI; 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, 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.

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 M	feters Call		
217.3 WOK 275.3 WJAS	313 CNRA 361.2 WHN	405.2 WOR 4	68.5 WCAP		
226 WBBM 278 KOIL			68.5 WRC		
226 WIBO 278 WCAU	315.6 WAHG 365.6 WHB		75.9 WBAP		
0.10	315.6 WGBS 370 CYB	TIULE CEAC 7	75.9 WEEI		
242 2 224 1 25 2 1 2 1 2 2 2	010 777070 050 0 77777777	1410.4 WCCO A	75.9 WFAA		
	319 WSMB 370.2 WGN	421 KIAF A	80 CYL		
are Transplators William	322.4 KOA 374.8 KTHS	422.3 WLW 4	83.6 WÔC		
ACE TENENT ACE.O WORLY	325.9 WSAI 379.5 WGY		83.6 WSUI		
DEC TOTAL ADDITION	200 TITIED O 200 F TITIE A PT		91.5 KGW		
961 TOTAL 20010 WILLISO	330 CYX 384.4 CKY		91.5 WEAF		
	333.1 WBZ 384.4 KJR		99.7 WMC		
265.5 WMAK 293.9 WBAV			08.2 KLX		
266 KFNF 293.9 WEAO	0.40 =		08.2 WIP		
T DON'T	040 5 37777 10 000.1 17 132120		08.2 WOO		
	240 7 3773501		16.9 CJCA		
272.6 WBBR 299.8 KFMQ			16.9 WCX		
272.6 WEBJ 299.8 KSL	344.6 WCBD 394.5 WLIT	110.0			
272.6 WFBH 299.8 WPG	1 944.0 WLD 2045 WOAT				
2/3 WEW 2028 WITT	340.0 K.F.A.E. 200 0 TITLE		26 WHO		
275 KFAU 200 C WTAG	DECEMBER OF THE PARTY OF THE PA	10 110 220 0	26 WNYC		
ATO WOAL SON A TENICY	352.7 WWJ 399.8 WHT		26 WOAW		
275 WHAD 305.9 KTCL	1000.0 CFCA1		35.4 KYW		
275 WHAR 305.9 WJAR	356.9 CHNC 405.2 KHJ		45.1 KFUO		
275 WORD 309.1 KDKA	361.2 KGO 405.2 WJY	467 KFI 5	45.1 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. 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 lome" tables are only representative of Home' each station's evening sign-on and sign-off hours, and on Sunday, the late after-noon 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 Hone" tables, arranged in order of the wave lengths used (or supposed to be used) by the stations.

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.

The material and form of the tables are

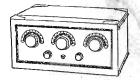
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Thorola Loud Speakers with new burnished Bakelite horn and gold throat-band are even better in appearance and per-

Thorola 4......\$25 Complete set (3) \$12 Thorola Jr. \$15 Per coil.



very proportions of Thorols Cabinets suggest new internal de

In smart Thorocco Cabinet the 5-tube Thorola Islodyne i. \$85 In stunning Burled Walnut Cabinet with Circassian top the 5-tube Thorola Islodyne is \$115

ANNOUNCEMENT

This is of interest to opera-goers, to lecture and symphony patrons as well as to the dancing set, and to those scientifically interested.

Artistic radio has come with Thorola Islodyne, embodying the Isolated Power principle made possible only by Thorola Low-Loss Doughnut Coils. They conquer "pick-up" of unwanted stations, waste of power, uncontrollable "oscillation," freak wiring, uncertain operation. Radio experimenters know what all this means. Radio listeners no longer need to know!

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REICHMANN COMPANY, CHICAGO



An Evening at Home with the Listener In

(FOR EASTERN TIME Or Cities Using Central Naving Time) (Tabular form and listings copy-righted. Reproduction is forbidden.) (FOR CENTRAL TIME) Call Friday Wednesday Tuesday Monday AT9 435 6:00 - 7:00 Silent Silent AT9 Silent 5:00- 6:00 6:00- 7:00 Silent 8:15-9:15 12:00-2:00 Silent Silent Silent 11:00- 1:00 Silent Silent Silent Silent Silent Silent Silent CHNC Silent Silent 6:30-7:30 8:30-10:30 Silent 7:00- 9:00 9:30-10:30 9:30-11:80 9:30-10:00 8:00-10:00 11:00- 1:00 10:00-12:00 8:30-9:30 11:00-1:00 6:30-10:00 7:30-9:15 Sllent 7:30-12:30 11:30-12:45 8:30- 7:30 8:30- 9:45 6:30- 7:30 Silent Silent 410.7 384.4 Silent 6:30-10:00 Silent Silent 5:30 - 9:00 6:30 - 8:15 Silent 7:00- 9:45 R:00-10:45 9:30-10:45 9:30-11:45 Silent 9:00-10:00 8:30-10:45 SHent Silent 7:30-8:30 Silent 6:30- 7:30 Silent Silent Silent Silent 6:30-11:30 10:30-11:45 Silent Silent Silent CNRO CYB 10:15-11:15 Silent Silent Silent 9:15- 10:13 Silent Mexico City, Mex 370 8:00- 9:30 480 Silent 9:00-10:30 Silent 9:00-10:30 Sllent Silent 8:00- 9:30 CYL Sllent Silent Sllent 8:45- 9:30 7:00- 9:30 9:15-10:45 Silent Sillent 10:15-11:30 10:15-11:45 Silent 7:45-8:55 6:00-9:30 9:30-11:00 Sllent Sllent Silent 7:45-10:3 7:00- 8:00 5:00- 6:00 8:00-11:30 8:45- 9:55 7:00-10:30 7:45- 8:55 6:00- 9:30 Pittsburgh, Pa.... 6:00 - 7:00 4:00 - 5:00 7:45- 8:55 7:00-10:30 6:00 - 9:30 6:00- 8:30 340.7 348.6 Silent Silent 9:00-11:30 9:45- 2:00 Silent 9:00-11:00 Silent Pullman Wash Silent Silent 10:00-12:00 9:00-11:00 9:00-11:30 Sllent 8:45- 1:00 Silent Silent 8:00-10:30 KFDM Silent 9:45- 3: Silent 9:45- 2:00 Silent 9:45-2:00 9:45- 2:00 8:45- 1:00 6:00- 1:00 7:00 - 2:00 8:45-1:00 8:45-1:00 8:45- 1:00 467 8:45- 2:00 Silent 8:30-10:30 9:00- 2:30 Silent 10:00-11:00 Silent 7:30-10:15 Sllent Sllent KFMQ 299.8 Silent 8:30- 9:30 Silent Fayetteville, Ark... Shenandoah, Ia..... 9:00-10:00 7:30-8:30 Sllent KFMQ Silent | 10:00-11:00 8:30-10:30 9:00-1:00 | 9:00-2:00 9:00-1:00 | Silent 11:00-1:00 | Silent 11:00-1:00 | Silent 9:30-2:00 | 10:45-2:00 11:00-1:00 | 11:00-1:00 11:00-1:00 | 12:00-2:00 KFMQ Silent Silent 6:30- 9:15 8:30-10:30 9:00- 1:00 10:15-11:15 8:30-10:30 9:00- 2:30 7:30- 9:30 Silent Silent Silent 7:30-9:30 8:00-12:00 9:15-10:15 7:30- 9:30 KFNF 8:00- 1:30 KFOA 7:30- 9:30 8:00- 1:30 266 454.3 Silent 8:15- 9:15 9:00- 2:30 Silent 11:00- 1:00 11:00- 1:00 10:00- 2:00 Silent 9:00- 1:30 8:30- 2:00 Silent 9:15-10:15 Silent Sllent Silent 11:00- 1:00 11:00- 1:00 10:00- 2:00 11:00- 1:00 Silent Sllent 10:00-12:00 University City, Mo... Silent Silent 9:00- 1:00 10:00- 3:00 10:00- 2:00 7:30- 1:00 Silent 10:00- 2:00 Silent KFWA KFWB Silent 10:00-12:00 10:00-12:00 10:00- 2:00 11:00- 4:00 11:00- 3:00 11:00- 1:00 11:00- 4:00 6:30-12:00 11:00- 1:00 5:30-11:00 10:00-12:00 10:00-12:00 10:00-12:00 Silent 8:00-12:30 9:00- 3:00 10:45-12:00 9:00-10:00 12:00- 2:00 8:00- 1:00 7:30- 1:00 8:00-9:00 11:00- 1:00 8:30- 2:00 8:30- 2:00 9:00-2:00 0:00-4:30 8:30- 2:00 KHJ 7:30- 1:00 9:00-3:30 7:30- 1:00 7:30-1:00 405.2 421 384.4 9:00-10:00 KIA1 10:30-1:00 KJR Silent 3:00-4:0 8:00-9:00 Silent 8:00- 9:00 Silent Silent Sihtipek, Minn Silent 4:00-5:00 9:00-10:00 Silent 9:00-10:00 9:00-12:00 10:00-11:00 10:00- 2:00 9:00-10:00 9:00-1:00 Sllent Seattle, Wash. 9:00-1:00 Silent Silent 8:00-1:00 8:30-2:00 7:30-10:00 7:30-12:00 10:15-12:30 Silent Silent 11:00-12:00 Silent 11:00-12:00 9:00-10:00 KJS Silent 10:00-11:00 Los Angeles, Calif... 7:30-11:00 9:00-10:00 7:50-11:00 Silent 8:00- 2:00 6:00-11:00 9:30- 1:00 9:00-10:00 Silent 11:00- 1:00 8:00- 9:00 Silent KLDS 9:00-10:00 Silent 9:80- 8:00 8:30- 9:30 8:30- 1:00 9:30- 2:00 8:39-11:00 Sllent Silent Silent 8:00-12:30 KLX 8:30- 2:00 KNX Dakland, Calif 9:30 - 3:00 KNX 8:30- 2:00 7:30- 8:30 10:00- 1:00 8:30- 1:00 9:30-10:30 7:30-12:00 7:30-12:00 8:30-1:00 7:30-10:00 7:30-10:00 7:30-12:00 KOIL 7:30-12:00 9:00-1:00 Silent 7:00-3:00 10:00-12:00 9:00-11:00 Silent KFRC KSD WSD 9:00-2:00 Silent KTCL KTHS KTW 8:30-12:00 7:30-10:00 8:30-12:00 8:30-1:00 7:30-10:00 8:30-1:0 7:30-10:0 Silent 8:00-9:00 10:00-11:00 Silent 10:00- 1:00 Silent 10:00-12:00 7:00-8:00 9:00-12:00 Silent 299.8 10:00- 1:00 9:00-12:00 9:00-12:00 10:00-12:0 305.9 10:00-12:00 Silent 9:50-12:10 9:00- 1:00 9:00-1:00 Slient 374.8 10:00-12:00 10:00-12:00 10:00-12:00 10:00-12:09 9:00-11:00 Hot Springs, Ark... 9:00-11:00 9:00-11:00 9:00-11:00 9:00-11:00 9:30-10:30 Sllent 9:30-10:30 Silent 9:30-10:30 Silent Seattle, Wash..... Silent 9:00-11:30 Silent Silent Silent 7:00 - 1:30 KY.W NAA 4:00- 8:00 Sllent 7:45- 8:00 7:00- 11:30 7:00- 1:30 7:00- 11:80 535.4 6:00-10:30 6:00-12:80 3:00- 4:00 Silent 6:00-10:30 6:45- 7:00 Silent 6:45- 7:00 Silent 6:00-12:00 Silent 7:30-12:00 6:00-10:30 6:455 - 7:00 Silent Silent 5:00-13:00 6:45- 7:00 Silent 6:00-9:30 WAHD 7:30-10:45 7:30-10:45 WAMD 7:30-10:45 WAMD Silent Silent Radio, Va..... Havana, Cuba.... Richmond, N. Y. 7:45- 8:00 Silent 7:00- 1:00 Silent 8:30- 2:00 10:00-11:00 8:00-10:00 8:30-11:00 Silent Silent 8:30-11:0 7:30-10:00 7:00-10:30 12:00- 2:00 Silent 6:30-11:0 Silent WAHG 11:00- 1:00 10:00-11:00 315.6 11:00-12:00 8:00-9:00 Silent Silent 3:00-11:00 12:00- 1:00 11:00-12:00 11:00-12:00 11:00-12:30 11:00-12:30 11:00-12:00 Minneapolis, Mint.... 243.8 8:30-11:45 8:30- 9:30 8:30-11:45 8:30-11:45 Silent Silent WBAR 7:00-8:00 WBAV WBAR WBAV Silent Sllent Silent 8:00-9:00 Silent Silent 8:00-12:00 7:00- 8:00 9:00- 1:00 Silent Silent 7:30- 8:30 Silent Silent Silent 6:00- 9:55 7:00- 9:00 7:00-11:00 Silent 8:00- 1:00 5:00- 8:55 Silent 6:00- 9:00 Silent 4:30- 9:80 7:00- 9:30 8:00-12:00 8:00-10:0 8:00-12:00 8:00-10:00 WBBM 7:00-9:00 WBBM Silent WBBR 7:00-11:00 6:00- 7:00 8:00-12:00 8:00- 1:00 6:00- 7:30 7:00-11:0 7:00- 9:00 Chicago, III. 226 Silent Silent WBB# 8:00-12:00 WBCN 5:00- 8:55 WBZ Staten Island, ... Chicago, Ill............ Springfield, Mass, 9:00- 1:00 6:00- 9:55 Silent Silent 5:00- 8:55 6:00- 8:00 6:30-10:00 6:00- 9:30 5:00-12:00 7:00-9:45 5:00 - 8:55 6:00 - 8:00 6:30 - 10:00 WCAC WCAE WCAP WCAU WCBD Springfield, Mass, Plainfield, Conn. Pittsburgh, Pa.... Washington, D. C. Philadelphia, Pa... Zion, Ili..... 6:00- 8:00 WEAC 6:00- 9:00 WCAE Silent Sllent 4:30-5:30 3:00-8:15 7:00-10:00 7:00-10:00 5:30-10:30 Slient WCAC Silent Silent 6:00-9:00 5:30- 6:30 4:00- 9:15 WCAE 0:30= 7:30 6:00- 9:00 4:30- 9:30 Silent WCAD WCAU WCBD Silent 5:30-10:30 8:00-10:30 Silent 5:30-10:30 Silent 7:00-10:30 Silent 6:00- 9:30 4:30- 9:30 Silent Sllent 4:30-9:30 Silent Silent 2:30-10:00 Silent 8:00- 10:30 Silent Silent 7:00-9:30 1:30-9:00 Sllent Silent Silent Minn.-St. P., Minn... Worcester, Mass...... 7:00-12:00 5:20-11:15 6:00-11:00 WCCO Silent WCTS 7:00-12:00 7:00-10:00 7:00- 1:30 6:00-10:00 6:00-11:00 6:05-11:00 4:10-10:15 6:00- 9:00 6:00-12:30 Silent 6:00- 9:00 7:00- 2:00 Silent 5:00-11:00 WCC0 Silent 6:00- 7:00 7:00- 8:00 6:20-10:15 Silent Sllent 6:00-11:00 Silent WCTS 5:00- 8:00 WCX 6:00- 1:00 WDAF Silent 6:00- 9:00 7:00- 2:00 3:30- 9:00 5:00- 6:30 6:00- 9:30 7:00- 8:00 2:30- 8:00 5:00- 8:00 6:00- 1:00 Silent 4:00-10:00 5:00- 8:00 6:00- 1:00 5:00-10:00 5:00- 8:30 6:00- 7:00 7:00- 8:00 7:30- 8:30 5:00-11:00 4:00-5:30 Silent 5:00-11:00 Silent Silent 5:00-11:00 Silent 4:00- 9:30 Silent 6:00- 7:00 Providence, R. I. Silent 6:20- 9:15 Silent 2:30- 7:00 7:00- 9:00 Silent Silent 5:00-11:00 4:00-10:00 4:00-10:00 5:20- 8:15 Silent 7:00-8:00 8:00-9:0 Silent 7:00- 8:00 6:00-10:00 6:30-11:30 Silent Silent 1:30-6:00 6:00-8:00 Sllent 6:00- 9:00 6:30-11:80 7:00-11:00 Silent 6:00-7:00 7:00- 8:00 6:00- 7:00 7:00-11:00 Cleveland, Ohio. 7:80-12:80 7:30-12:30 7:30-12:30 6:00- 8:00 Silent 6:30-11:30 6:30-11:80 Silent WEBJ Silent Silent Silent 6:00-7:00 5:00- 7:00 Silent 9:30-1:00 10:30-1:00 Silent 5:00-11:00 6:00- 7:00 WEB1
6:00- 9:00 WEB1
6:30- 9:30 WFAA
9:30-12:00 WFBH
Silent WGBS
6:30-10:00 WGBS
9:30- 1:00 WGES
5:00-11:00 WGR
6:15- 9:30 WGY 6:30-10:00 7:30- 1:00 10:30- 1:00 7:00- 9:00 Sllent 10:30- 1:00 Sllent 7:30-10:00 7:00-10:00 7:30-10:00 WEE Boston, Mass..... Dallas, Téx..... New York, N. Y 475.9 6:00- 9:00 WEEL Silent 5:20- 6:20 6:00-9:00 6:00- 9:00 7:30-10:30 6:30-12:00 9:30-12:00 Silent 4:00- 7:00 6:30- 9:15 10:30- 1:00 9:30-12:00 9:30-12:00 9:30-12:00 Silent Silent 5:30-10:00 9:30-1:00 5:30-10:80 6:00-11:00 Silent 7:00-9:00 5:00-11:00 5:30- 6:00 5:30- 8:15 1:30- 8:30 5:30-10:00 Silent :00-10:00 Silent 6:00-8:00 4:00-10:00 6:00- 9:00 Philadelphia, Pa. Silent Silent 6:30-11:0 Silent 4:00-11:00 Silent 10:30- 2:00 6:30-11:30 Silent 10:30-2:00 6:80-11:80 7:00-10:00 4:00-10 Silent 6:30-11:00 5:30-10:00 Sllent Silent 6:00-11:00 5:30- 7:30 4:00-10:00 Sllent 9:30-1:00 5:80-10:30 6:00-9:00 6:10-10:00 6:30-11:00 Silent Silent 10:30 - 2:00 6:30-11:30 10:30- 2:00 6:3**0-11:80** Oak Park, Ill 9:30-1:00 5:30-10:80 9:30- 1:00 1:30- 9:00 1:00- 2:00 6:30-11:30 2:30-10:00 5:30-10:30 Chicago, 111.. 7:00-12:00 -Slient WGR 9:00-12:00 6:30-11:00 6:45-11:30 7:15-10:30 WGR WGY 5:45-10:30 Schenectady, N. Y. 7:00-11:00 6:30-8:00 Silent 8:15-10:15 8:00-9:00 6:30-11:00 8:30-1:00 7:00-1:00 8:00-11:00 5:30-10:00 7:00- 8:00 7:00-11:00 WHAD 4:15- 5:15 7:00- 8:00 6:30-12:00 7:00- 1:30 7:00-10:30 6:00- 9:30 WHAD 6:00-10:00 5:30- 7:00 Milwaukee, Wis...... Atlantic City, N. J... 4:15- 5:15 8:00-11:00 5:00- 6:00 8:11eqt 9:00- 2:00 6:30-11:00 8:30- 9:30 12:00-10:30 6:00 - 7:00 5:30-11:00 6:00-12:80 6:00-10:00 WHAD 6:00- 7:00 3:15- 4:15 5:30-8:30 5:30-11:00 5:30- 8:30 7:30- 9:00 5:30-11:00 7:30- 9:30 Silent Silent 5:30-10:00 7:30- 8:30 6:00-12:00 8:30-10:00 8:30-10:00 8:30-10:00 8:30-10:00 Louisville, Ky..... 7:30-9:00 7:30- 9:00 WHAS 8:30-10:00 Silent 8:00- 9:00 6:30-10:00 7:30- 1:00 6:00- 3:00 Silent 7:15--9:15 Silent Silent 6:30-9:00 4:00- 5:00 Silent Silent 8:00- 9:00 Silent Silent WHA: 7:00- 8:00 WHB Trey, N. Y...... Kansas City, Mo. Silent 8:00- 1:00 6:30-11:00 7:00-8:00 Silent . 5:30-8:00 New York, N. Y...
Des Moines, Ia....
Deerfield, III.....
Chicago, III....
Philadelphia, Pa...
Providence, R. I... 6:30-11:00 WHN 8:30-11:00 8:30-1:00 7:00-1:00 6:00-2:00 Silent 7:00-11:00 5:30-10:00 7:30- 8:30 11:00- 9:30 Silent 7:00-1:00 6:00-8:00 7:00-11:05 5:30-10:00 Silent 7:30-12:00 6:00-12:00 6:00-12:00 5:00-2:00 6:00-11:00 5:00-11:00 7:00-12:00 Silent 6:30-7:30 Silent Sllent Silent 6:00-11:00 6:20- 9:15 6:45- 7:45 Silent 5:20-8:15 Sllent 6:30- 9:00 5:45- 6:45 5:30-8:30 5:30-6:30 6:00-9:00 6:00-11:00 6:45- 1:00 7:00-11:00 6:00-11:00 6:00-11:00 6:00-11:00 5:00-10:00 5:45-12:00 WJAS WJJD WJR 275.3 5:00-10:00 5:45-12:00 6:00-10:00 5:00-10:00 Pittsburgh, Pa 5:00-10:00 5:00-10:00 ° Sllent 7:45- 9:00 5:00-10:00 6:45-1:00 7:00-11:00 5:45-12:00 5:45-12:00 Silent Meoscheart, III. Detroit, Mich.... New York, N. Y. New York, N. Y. San Juan, P. R... 517 Silent 7:00- 8:00 6:00-10:00 6:00- 7:00-6:00-10:00 6:00-10:00 Silent 6:15- 7:15 6:00- 9:00 6:00- 8:00 Silent Silent 7:15- 8:15 7:30-10:15 Silent Silent 7:30- 9:30 6:30 - 8:00 6:30 - 9:30 6:45- 7:45 6:15- 8:45 8:30-10:30 Silent 5:00- 9:30 Silent 6:15- 7:15 6:00-10:30 7:10-10:30 7:15-8:15 Silent 7:00-8:00 8:00-12:00 Silent 6:30-10:00 Silent 8:15-10:30 7:30- 9:30 6:00- 8:00 7:00- 8:15 7:00- 9:30 Silent 5:30- 9:00 6:00-10:30 6:00-10:00 6:10- 9:30 Silent Silent 9:00-11:30 8:00- 9:00 Silent 6:00-12:00 6:00- 9:00 Silent Silent 7:00- 9:00 8:00- 9:15 Silent Silent Silent Silent 6:00-7:00 WKAR Silent Stlent WKBC Silent 6:00-7:00 7:00-11:00 Silent Sllent Silent Silent Silent 8:00- 9:00 Silent 6:00- 7:55 6:00-11:15 Lansing, Mich. 11:30-1:00 9:00-11:00 Silent Cincinnati, O. 9:00-10:00 9:00-10:00 Silent 9:00-10:00 Silent WLBL 5:30- 9:00 WLIT Silent Silent 5:30-9:00 Silent 6:30-10:00 Slient Philadelphia, Pa. Silent 7:00-11:30 6:00-10:30 WLS Silent WLW 7:00-11:00 Silent 7:15-9:30 7:00-12:15 Silent WLW Silent Harrison, O 5:00-7:00 5:30- 7:30 Silent 8:00- 9:45 7:00-10:30 11:00-12:00 8:30-10:15 Silent WMAK 7:00-11:00 7:00-9:15 6:00-9:30 5:30-11:00 Silent 7:00-9:15 6:00-9:30 Silent 7:00- 8:45 6:00- 9:30 Sllent WMAK Lockport, N. Y 7:30 - 9.15 8.00-10:15 8:00-10:15 7:00-10:30 6:30-12:00 Silent Silent 7:00- 9:15 WMAQ 6:00- 9:30 WMBB 7:00- 9:00 Silent 7:00-10:30 WMBB 7:00-10:30 6:30-12:00 SHent 5:30-11:00 7:00-9:00 6:30-9:30 9:30-10:30 WMBB WMBF Chicago, III... 6:00-9:30 5:30-11:00 7:30-12:00 4:30-10:00 6:00- 8:00 5:30- 8:20 6:30-12:00 Miami Beach, Fla 5 30-11:00 5:30-11:00 5:30-11:00 5:30-11:00 5:30-11:00 8:30-10:30 8:30 - 1:00 WMCA 5:30-11:00 S1lent 5:00- 5:30 1:00- 7:30 7:00- 9:00 8:00-10:30 9:00-10:00 9:00-10:00 Memphis, Tenn........... New York, N. Y.... 5:30-11:00 7:00-9:00 6:30-9:20 7:30-9:30 4:30-10:00 7:30-9:30 7:30-12:00 Sllent 4:30-10:00 6:00- 8:00 5:20- 8:20 8:30-10:20 9:00-10:00 5:30-11:00 5:30-11:00 4:30-10:00 4:30-10:00 WMCA Boston, Mass..... New York, N. Y.... 6:00-8:00 5:30-8:30 6:00- 8:00 5:20- 7:30 6:00-9:20 Silent 10:00-11:00 7:00-11:00 9:00-10:00 San Antonio, Texas...... Lawrenceburg, Tenn.... 9:30-10:30 Silent 9:30-10:30 8:30-9:30 9:30-10:30 Silent WOAI 9:00-10:00 WOAN 10:00-11:00 10:00-11:00 10:00-11:00 10:00-11:00 9:00-10:00 Silent 7:00-12:00 Silent 6:00-10:00 Omaha, Nebr 10:00-11:00 10:00- 1:00 9:00-12:3 7:30-10:00 8:00- 1:00 Davenport, Ia.... 9:00-10:00. 7:00-12:00 8:00- 9:00 WOC 9:00-12:00 8:00-11:30 Silent 10:00-1:00 10:00-1:00 10:00-1:00 6:30-7:30 6:30-11:00 6:30-7:30 5:15-6:30 5:15-9:00 5:15-6:30 8:30-10:00 8:30-10:00 10:00- 1:00 6:30-10:30 5:15- 6:30 7:00- 1:00 6:30- 7:30 WOK 7:00-1:00 217.3 10:00- 1:00 WOK WOR WORD WOS WPG WRD WRBC WREO WREO 9:00-12:00 WOK 9:00-12:00 9:00-12:00 9:00-12:00 9:00-12:00 6:00-12:00 6:00-12:00 5:00-12:00 5:30-6:30 5:30-10:00 5:45-7:00 5:45-7:00 5:00-9:00 6:00-9:00 6:00-9:00 6:00-9:00 5:10-9:00 Silent 5:15- 9:00 8:30-10:30 WOK 6:30-11:00 5:15- 9:00 5:30-6:30 4:15-5:30 5:30- 9:30 4:15- 5:30 Silent :45- 8:0 4:15-10:00 9:10-10:30 4:15-10:00 7:30- 9:30 7:30-9:00 7:30-9:00 7:80-9:00 7:30- 9:30 8:30-10:30 Slient 6:00-11:00 7:00- 3:00 Silent 7:00-11:30 10:00-12:00 Silent 6:00-11:15 7:00- 2:00 Silent 7:00-11:00 WORD 8:00-10:00 Silent 6:00-9:00 Silent 5:00-10:15 8:00-10:00 **W08** 5:00- 9:00 **WPG** 6:00-10:30 Silent 8:30- 9:30 Silent Silent Silent: 5:00-10:00 7:00-10:00 Silent 7:00- 2:00 Silent Silent 6:00-10:00 2:15-10:00 Silent 6:00-1:00 7:00- 2:00 7:00- 2:00 6:00- 9:00 6:00- 1:00 SHent 6:00-11:00 7:15- 8:45 8:00-10:30 7:00-10:00 8:30- 9:30 6:00- 1:00 Silent 6:00- 1:00 WQJ WRBC WRC WRC Silent 7:30-8:30 Silent 6:00-2:00 Silent 7:00-12:00 Sllent Silent WRBC Silent 6.00-10.00 Washington, D. C Silent 6:00-10:30 8:15- 9:45 Lansing, Mich..... Tarrytown, N. 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Radio Digesi

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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 betterhe 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 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

-can more wave lengths be found, shall But stillstations 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 used 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?

FIORD KEWPIE. 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

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 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 seissors 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.

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 recan 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 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. 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 hus-band 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 broad-casting 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 Radia-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 attempts. 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 enter-tained 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, recting 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. 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 ar-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

T IS surprising how much trouble a experienced Radio man knows can cause perfectly good Radio receiver can cause in the hands of those unskilled its operation. When our Radio engineers sign the sets, everything that can postibly cause bewilderment on the part of each over the end that purchasers of complete sets and home builders alike may get better and home builders alike may get better results.

The otherwise Radio man knows can cause will be found to have numbers up and down its side from about 1100 to 1350 very charming lady who enjoyed her so down its side from about 1100 to 1350. The pointed end of the device (usually rubber tube tipped) is inserted through one of the filler cap. In early for the live of the living distinct the part of the living distinct the part of the living distinct the results.

The otherwise Radio man knows can cause will be found to have numbers up and down its side from about 1100 to 1350 but was not familiar with it in the device (usually rubber tube tipped) is inserted through one of the filler cap. In early for the living distinct that the property of the living distinct the results.

The otherwise Radio man knows can cause will be found to have numbers up and down its side from about 1100 to 1350 but was not familiar with it in the device (usually rubber tube tipped) is inserted through one of the filler cap. In early for the living distinct the property of the property of the living distinct the property of th 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 electric light socket (through chargers)

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 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 the socket that tube cannot function in one socket, the tube cannot function in others. Pulling up the corresponding socket springs in each socket remedies

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

receiver, tries it, displays it and finally and withdrawn from it to light the tubes sells it to a new listener, confidant that he has a new booster and Radio enthusiast. 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 has been fully replaced. This is done with a device known as a "hydrometer," an essential to every Radio set owner whose

level of the liquid, is then released, which will draw up liquid into the hydrometer. 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 minimures and maximums 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.

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 another suggestion that would otherwise

but was not familiar with it in the least, called the trouble shooter," let him nearly fear the set apart looking for the difficult of the explained that she looked in the attery, saw that the "water" was made in their wanted nice clean water in the batty, and had, therefore, poured out the light 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)

Be Prepared to Tune in European Stations During the Trans-Atlantic Test Period This Coming Season

USE A

VICTOREEN Super Heterodyne

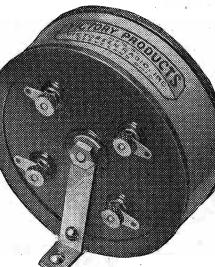
Containing "Tuned" R. F. Transformers of Air Core Construction

Parts Required to Build a Victoreen Super Heterodyne

- 1 Victoreen Kit
- 2 .0005 Variable Condensers
- 8 Vacuum Tube Sockets
- .00025 Grid Condensers with Mounting
- 2 MEG Grid Leaks
- 1 400 OHM Potentiometer
- 2 30 OHM Rheostats
- 2 6 OHM Rheostats
- 2 Double Circuit Jacks
- 1 Single Circuit Filament Jack
- 1 Filament Switch
- 2 Audio Transformers
- 1 1 MFD. Bypass Condenser
- 1 4½ Volt "C" Battery
- 1 7x24-in. Panel
- 1 8x23 Base Board

Binding Post, Screws and Bus Bar

Kit of 5 Coils



Victoreen No. 170 B. F. Transformer-Neat and Compact

The Victoreen Kit — "Type OM"-Consists of

- 3 "Victoreen" No. 170 R. F. Transformers
- 1 "Victoreen" No. 175 Input Transformer
- 1 "Victoreen" No. 150 Coupling Unit

Should use of Aerial be preferred to Loop, the "Victoreen" No. 160 Antenna Coupler is required, at \$3.50.

EITHER

UV199 or 201A Type of Tubes may be used-A truly Victoreen Feature.

"B" Battery consumption is remarkably low-8-10 Milliamps, with Potentiometer at negative side—less than some 3 tube sets.

No Oscillations, Howls or Squeals-No Matching of Tubes

Victoreen Air Core Transformers are not merely "matched," but are actually tuned to a guaranteed precision of 1/3 of 1% — another Victoreen feature

Range—Clarity—Volume—Selectivity—Ease of Operation

Ask Your Dealer for a Free Folder and Hook-Up of the Victoreen Sei or Write Directly To Us

THE GEORGE W. WALKER CO.

6534 Carnegie Avenue, Cleveland, Ohio

Branch Sales Offices Are Located at

300-B Sugar Bldg. 383 Brannán St..... 508 So. Dearborn Denver, Colo.
San Francisco, Calif.
Chicago, III.

45 Ruggery Bidg...... 443 So. San Pedre St..... Box 321 332 St. Catherine St. W... Columbus, Ohio
Los Angoles, Calif.
Boise, Idaho
Montreal, Que., Canada

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

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. 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

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

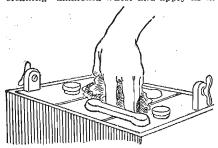


Figure 2

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 collecting for use, that they be distinguished from one another. If color is used by the naker, the positive post is always painted red and the negative is black or unprinted. Some makers prefer to stamp the case close to the terminals with + (positive) and — (negative) marks. Others ab reviate 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 auto-

matically. 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)

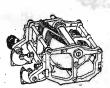
BREMER-TULLY'S greatest asset is a reputation for never having released to the public any product that was not more than ordinarily successful.

Their greatest hope is that they may continue to be of increasing value to their customers.

TECHNICAL ABILITY without question, — MANU-FACTURING SKILL that is unsurpassed,—and HONESTY OF PURPOSE in advertising only what may reasonably be expected have created ABIDING PUBLIC CONFIDENCE.

"Once a B-T User,—Always a B-T Booster"

THE B-T "LIFETIME" CONDENSER is as far ahead today as it was when we first began printing on all cartons "IF YOU DON'T FIND IT BETTER SEND IT BACK."



THE TANDEM CONDENSER is a necessity for simultaneous tuning. Real results require a laboratory product,—the "Trimmers" are a vital necessity.

LD-13 .00025 Units \$9.00 LD-17 .00035 Units 9.50

In straight line wave lengths there is a new size L-17 .00035 \$4.75

Straight Line Frequency Condensers

Many claims are being made for a condenser that will separate all station "channels" evenly over the dial,—in other words, a S. L. F. Condenser.

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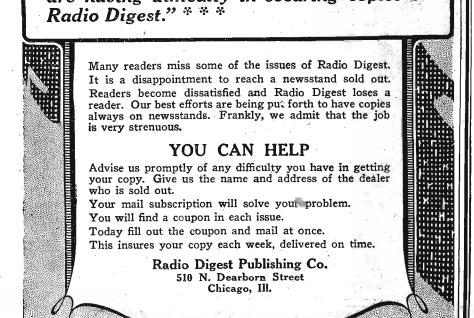


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Easy Methods of Making Receivers Selective

Part I—Single Circuit Regenerative Types

By John G. Ryan

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 cire heterodyne fills this to some extent but

ACK in the early days of the public's circuits must be had and, since they introduction to Radio, the fall of 1921 should preferably be the grid circuits, the and spring of 1922, any concoction 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, simpli-

cuit sets are shown schematically in fig-ure 1. Their range is remarkable and, in good locations, with properly installed 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 "birdles" 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

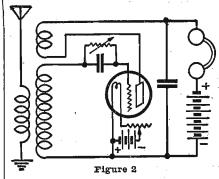
The two most widely used single cir-

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 oe 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. 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 solve all their worries. Nevertheless there is much of merit in low loss types of windings. Any of the baskets, paneakes, 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.



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)

cuit sets disturbed one's neighbors and, in addition, would not separate two powerful locals. Hence, they fell into disfavor rather limited and the price is beyond the in all localities except the far West and the South. The range and selectivity pos-sible 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 de-

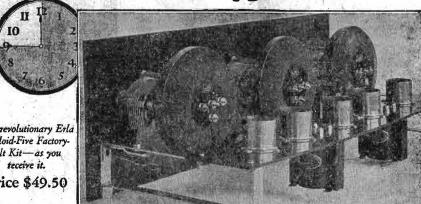
Range But No Selectivity

Untuned radio frequency transformers of the small, laminated-iron core type enjoyed popularity for some time but they permitted tuning only across the loop con-nected 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 receiver. It was plain that more tuned dividual to the exact type of set.

ing 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 conrints 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. selectivity, while there are, of course, other features to be changed that are in-

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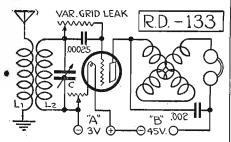
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Here is R. D. hook-up No. 133 which uses a unit the same as a Radio frequency transformer in the neutrodyne set. The coil L_1 consists of 10 turns of number 26 coil L₁ consists of 10 turns of number 26 dsc. wire on a 3-inch tube which is slipped inside of coil L₂. This latter coil consists of 58 turns of number 26 dsc. on a 2%-inch tube. C represents a 23-plate condenser attached to the coil L₂.

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

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. 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 ning? You probably will be able to WDAF through WGN and hear it out "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 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 base-board is not desirable, but if wood must be used, keep all wiring at least % 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

on 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 bear. liancy, plate potential and feed-back. The last named is controlled by the operator, but if either of the other two is weak, rebut 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 and hours or two. The plate 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

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, 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

"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 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 it-self no good and makes results incon-sistant. The usual suggestions such as "keep the leads short, solder all connec-tions, 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

PREVENTING TROUBLE

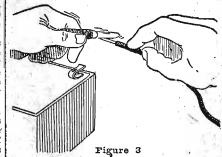
(Continued from page 22)

and intermittent and crackling noises re-sembling static will be heard. Dry B bat-tery units usually last from four to eight months, depending on the amount of their

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 tend-ency 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

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 shaking will bring to light the fact that unremoved insulation.



is preventing contact at the points where

the clip places 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.

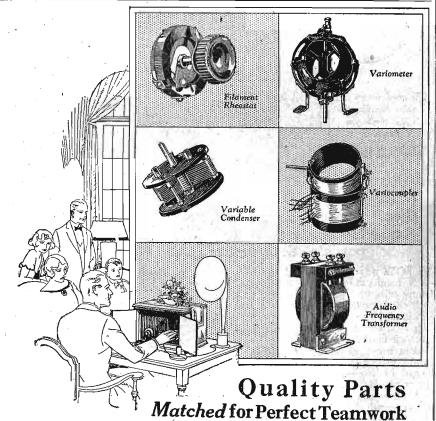
Revenue and Centralization

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 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)

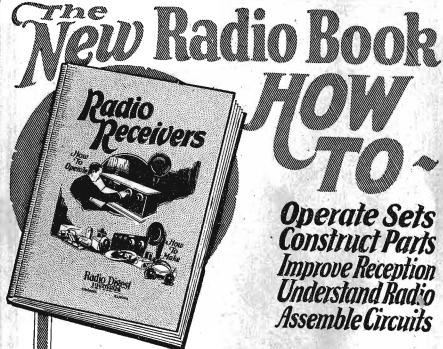


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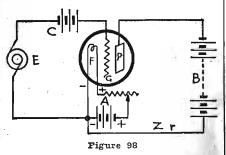
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Chapter XXIII—The Electron Tube as an Amplifier

By David Penn Moreton

HE function of a vacuum tube when which includes the internal resistance of tween the terminals of the resistance rused as an amplifier consists in retithe battery but not the internal resistance be a corresponding decrease in the elecused as an amplifier consists in reproducing on a larger scale in the plate circuit, the variations impressed up-on 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 gen-erator between the grid and filament of the tube, there will be a pulsating current produced in the plate circuit due to an



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, selation 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 represents E with wavelength as a learnest the elements. generator E, which provides the alternat-ing voltage to be amplified. The plate P

the battery but not the internal resistance of the tube.

Effect of External Factors

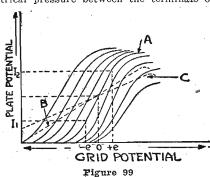
Let us first assume that the external plate circuit of the tube has no impedance that is, the inductance, capacity and resistance are all equal to zero. Under these conditions the potential of the plate E_P is always equal to the electrical pressure of the battery B, and an alternating grid potential 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 resistpear 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. tween 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 filaments. ment of the tube.

If the grid potential is varied so as to produce an increase in the plate current Ip, it is obvious that the electrical pres-In 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 practical pressure of the battery B remains pressure of the battery B rema is connected to the negative side of the filament through a battery B and an external circuit, having an impedance Z, the increase in the electrical pressure be-

trical 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 $I_{\rm P}$, there will be a decrease in the electrical pressure between the terminals of



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 potentlal is varied in value, the operation of the tube no longer follows the static char-acteristic curve of the tube, which is determined with a constant potential be-tween the plate and the filament, but follows a different curve called the dynamic characteristic. The shape of the dynamic charactemistic 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 the tube and also on the amount of rethe 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 Ep due to a given

(Continued on page 26)

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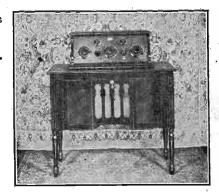
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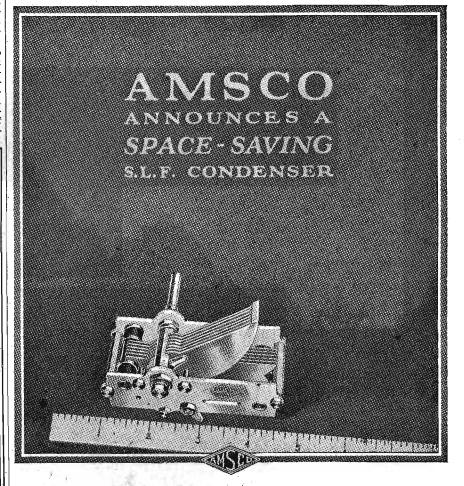
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Half a Heart is the new symbol for effi-cient S. L. F. vari-able condensers.

COURSE

...om page 25) wurrent brought about by case the dynamic characteristic would be parallel to the horizontal rid-voltage axis of figure 99, showing t 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 by reference to figure 100. In this naure 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 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 the change in current to prove the change in current. such as to oppose the change in current

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 eg 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 fila-

There is, of course, some current in the 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 terica, 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.

RESISTOR MANUAL The Handbook of Resistance Coupled Amplification. At Best Radio Dealers 25c. Direct by mail, postpaid 35c.

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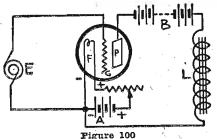
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Resistor Manual. 25c is enclosed.

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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 undesir

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.



If the inductance coil L, in figure 100, be shunted by a variable condenser, then the natural frequency of the circuit com-posed 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 imtube. 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. Solventing from Mooseheart with

The Reader's View

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.

Superpower vs. Smaller Stations

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 super-

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 experi-

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, mine 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 oberating 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"

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

out any interference whatsoever. I have received a total of 137 stations from all parts of the United States, 10-watt, 20-watt, 50-watt, 50-watt, 1,000-watt, and 5,000-watt.
I look forward to the superpower sta-

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., Wash-

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 govern I wish you would use your good offices

joyed 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 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 linterfere 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 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. which is provided in the superstation in the superstations when the superstations is a speech is broadcast for the 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, Jersey.

TRUE TONE QUA



VOLUME was formerly the goal of radio engineers. The blare of discordant trumpets succeeded the tinkling of the harp. The goal had been reached.

But true tone quality is the star we now are shooting at This explains the phenomenal growth of the demand for resistance coupled amplification. The end of the era of distortion is in sight.

Daven engineers have pioneered in resistance coupled amplification. Daven Resistors and Mountings, Ballasts, Amplifier Kits and Super-Amplifiers are standard every-

The Daven Super-Amplifier is the aristocrat of amplifiers. Absolutely no distortion. A revelation to music lovers. It is sold by dealers everywhere, complete, ready to connect with tuner and batteries, for \$15.00.

DAVEN HIGH-MU TUBES

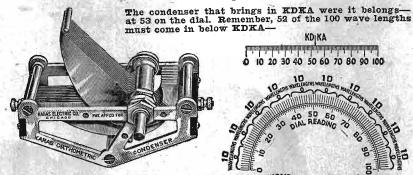
 $\mathbf{M}_{\mathrm{ORE}}$ volume of true tone quality is the latest achievement of gineers.
The new Daven Tube Type MU-20 increases the amplification of the Daven Super to equal or exceed that obtainable with transformers. 6 volt, 1/4 ampere—\$4.00 each.

pere—\$4.00 each.
The Daven Power Tube Type MU-6 for the last, or output stage—\$5.00 each. DAVEN PRODUCTS ARE SOLD ONLY BY GOOD DEALERS

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FOR DEALERS: Send your let-terhead or card, or this coupon and we will have our nearest dis-tributor communicate with you. THE BIG LITTLE THINGS OF RADIO

Tuning Marvelously Simplified with KARAS ORTHOMETRIC Condensers



KDIKA 0 10 20 30 40 50 60 70 80 90 100

KARAS ORTHOMETRIC CONDENSER Arrangement of Wavelengths on Dial Spreads Stations, Evenly Over the Dial-No Crowding Whatever

The Karas Orthometric Condenser positively separates all adjoining wave lengths by EQUAL distances on the dial, giving full benefit of the 10 Kilocycle frequency separation fixed by the Government.

Ordinary condensers jam 70 of the 100 Government allotted wave lengths into the first 30 points of the dial—even straight-line-wave length condensers crowd 57 of them below 30.

With Karas Orthometrics each point of the dial corresponds exactly to one of the 100 allotted wave lengths. The result is marvelous simplicity in

tuning—better, clearer reception.

The Karas Orthometric is a "job" that will delight the eye of the mechanical critic. Made entirely of brass—frame die stamped, not cast. Every joint soldered. Grounded frame and rotor. Adjustable cone bearings. Spring

If Your Dealer Is Not Yet Supplied

We are supplying dealers and jobbers as fast as our factory output permits. If your dealer is not yet supplied, order direct on the coupon. Send no money. Simply pay the postman on delivery. Order today!

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	5		and PRICES	
23	plate	.0005,	Mfd	57.0
17	plate	.00037,	Mfd	6.7
11	plate	.00025,	Mfd	6.5

KARAS ELECTRIC COMPANY 4049 N. Rockwell Street CHICAGO For More Than 30 Years Makers of PRECISION Electrical Apparatus

Please send me	rell Street, Chicago Karas Orthometric Conde Ill pay the postman \$ Yery. This order is subjected tuarantee.	nsers, size
Size wanted		
Name		

Dealer's name

If you send cash with order, we'll send Condensers postpaid.

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 iny set like it last

WORKSHOP KINKS EARN A DOLLAR-

HERE 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 ating 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

February and have no trouble getting coast-to-coast reception.

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. the first tube.

the first tube.

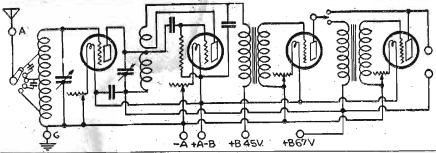
For DX work, the detector tube current should be varied for best results. To switch out the last tube (second audio) turn the switch to the right and cut off the rheostat on that tube. When you've the rhessat of that tube. When you've become accustomed to handling this circuit I think you will prefer it to anything you've tried. I know we do.—J. H. Stevenson, Oak Station, Pa.

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 suf-ficient to break up the wave stream of the desired station.

DIAGRAM OF OVERSEAS RECEIVER



Two Variometer Hook-Up

I am enclosing my favorite single tube set with which I have obtained ex-ceptional 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

32T+Q 00000 40 T

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

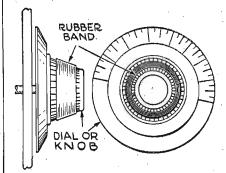
dcc. wire on the other 3-inch tube.

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 vari-ometer to the phones.—Edward Fulmer, Greer, Ohio.

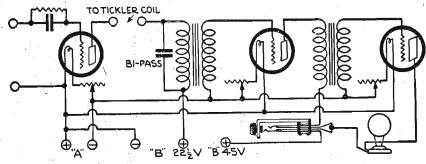
proven satisfactory, economical and convenient. Inserting phones in jack gives one stage for head phone work, removing plus the signal appears in loud speaker with two stages.—T. B. Taylor, Jackson-

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 adjust-ments of regeneration and wave length



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 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.



PRICE, COMPLETE

Unequaled Distance and Volume

Reflex Clarity!

That's the Shamrock-Harkness Two Tube Reflex which has created such a sensation among experimenters and amateurs by its amazing performance. It combines the best features of the most powerful circuits in use today.

The Shamrock Kit contains all parts necessary to make the mar-velous Shamrock-Harkness Two Tube Reflex. Avoid all imitations—insist on the genuine Shamrock parts, specially designed to give you maximum results. Build your own set and know your radio! Shamrock Kit contains all

Also ask to see the improved SHAMROCK-HARKNESS REE-TUBE COUNTERFLEX The wonder set \$3950

SHAMROCK MANUFACTURING CO. Dept. 38C, Market St. Newark, N. J.

HAMRO

The set for the masses as well as the classes

SHAMROCK MFG. CO., Dept. 38C, Market St., Newark, N. J.

Please send me a copy of "Shamrock Radio Bullder's Guide Book" containing diagrams and complete instructions for building 10 sets at prices ranging from \$15 to \$50. I enclose 10 cents (U. S. stamps or coln.) Name Address.

Get a Good Radio Cabinet

A LARGE part of the pleasure in owning a radio set lies in an attractive cabinet to house it. Get an MBG Cabinet today.

All models are made from beautifully grained Douglas fir, thoroughly seasoned, ready for you to finish in any desired manner. Simple instructions for 24 standard wood finishes will be supplied you with the cabinet.

Radio has become decorative. Here is an opportunity to supply harmony or contrast to your present furnishings. Note the low prices, and send us your order at once.

Radio Cabinet Department, Express Body Corporation 43 Lake St., Crystal Lake, Ill.



CONSOLE CABINET NO. 37 complete packed I each in carton Dep. Batt. Comp.

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Cabinet No. 29 Set Up Complete



Neat-Fit Cabinets Made in all sizes from 7"x9" to 8"x40". Price Inches Inches .\$2.40 7x24 2.50 7x26 All 7" deep.

Shipped, knocked down, one each in a carton. All holes bored; screws, hinges and lid support furnished. Easily set up by driving ten screws.



Expect Close Study by Engineers,

Rensselaer Polytechnic Institute Professor Tells of Experiments at WHAZ in Efforts to Down All Unnecessary Interference;

TROY, N. Y.—Radio noises cannot be automobile engineers soon found a method entirely eliminated except by sacrifies of reducing the noise below that point 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 overlapped. tion 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 com-munication 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 con-gestion of the air. Among other things he said:

To Limit Noise

"If we wish to limit the amount of "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 them is more for considerable difference. 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 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 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 intransformed it stance, most of us can remember in the early days of the automobile industry how noisy automobiles were. However, objectionable.

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

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 re-ceiving 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 result-ing noise level will be so relatively low that it will not be generally considered

RADIO'S GREATEST

4th Annual National

Radio Exposition

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September 12-19 inclusive

Over two miles of exhibits covering every phase and aspect of the radio industry

HAROLD BOLSTER, Director

J. C. JOHNSON, General Manager

Office, 522 Fifth Avenue, New York

"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 light all of the unnecessary friction bebroadcasting 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 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

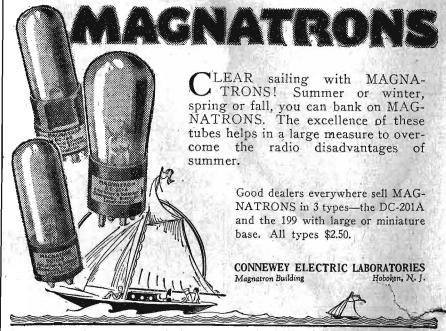
"Now, as a matter of fact, all these public utilities, including broadcasting, which use the same medium have to find a way of supplying the public with the quality of service the public has a right

a way of supplying the public with the duality of service the public has a right to demend without materially interfering with one another. None of these utilities well over 8,000 feet. quality of service the public has a right

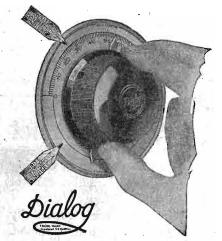
"When the public is educated to the point where it sees interference in its true light all of the unnecessary friction between those who experience interference and those who are unintentionally the cause will disappear. Under this condition the trouble, if it is a real one, can usually be located and corrected in a reasonably short time? 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 Fadaster Joch, in the Austrian Alps what is claimed to be the highest altitude receiving station in the world, though it may be topped



WALNART DIALOG



GENUINE BLACK BAKELITE KNOB In GOLD and MAHOGANY \$1.50

The only dial that fits every set without cutting or drilling!

DIALOG is a multiple-action dial on which the BIG knob moves many times FASTER than the pointer. The tiniest turn human fingers can make with the old-fashioned direct-action dial is enough to jump clear over a distant station, but DIALOG lets you turn SLOWER THAN YOUR OWN SENSE OF TOUCH, yet not so slowly that you are always WASTING TIME as you will with other slow-movement dials. The speed of the DIALOG is delicately and scientifically ADJUSTED by a newly patented process, to the exact requirements of modern Radio. It misses NOTHING yet it WASTES NO TIME . . . and you do not have to PAY for delicacy which you cannot USE effectively. DIALOG GETS THEM ALL—and costs only \$1.25!

ANYONE can attach DIALOG in less than one minute with no tools but a screwdriver and with only one screw to tighten. Can be mounted flush against the panel even with a single hole mounting condenser. Knob extends only 1½ inch from panel when installed. May be used without logging disc if desired. DIALOG has no gears, cogs, springs, levers or cams—absolutely nothing to wear and no back lash—entirely NEW and positive principle of construction protected by patents pending. It will last longer than the set . . . longer than the OWNER of the set . . . indeed, it is practically INDESTRUCTIBLE. The BIG KNOB is of genuine Bakelite. The metal logging disc is eraseable and removable. DIALOG insures delicate dialing and accurate logging for YOUR set!

WALNART EURSTRIC MFO. CO.

Green St. at Jackson Blvd.

CHICAGO, ILL.

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

In matching the intermediate frequency transformers of a super-het and using a wave meter, from which winding do you 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

ary coils if any of them are found to be too high. In matching an input or out-put 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 caracteristic testing the second of the caracteristic second of pacity 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. line variable condensers, .0005 mfd. with 3 to 1 audio transformers. The neutro-formers are wound as follows: primary of 6 turns, secondary of 65 turns of number

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.

has used in his receiver, such as the same

size wire, same number of turns in pri-mary and secondary? As I have only a three

tube reflexed set I thought perhaps there would be some difference in data on coils.

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.

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-hetero-

dyne described in the Radio Digest of June 27 and July 4, except that it will be in-stalled in a cabinet and panel mounted.

stage coupling.

Booth 91

Grand Central Palace

Collapsible Loop Aerials



and Low-Loss Condensers

Lincoln 4-point Tapped Loop, \$8.00
Built for any circuit where it is desired to vary
the inductance of the loop. Exceptionally fine
for Superheterodynes.

Lincoln Center-Tapped Loop, \$6.50
For any set employing radio frequency amplification. For certain Superheterodynes requiring
a center tap.

Condenser Specifications

New York Office 128 W. 42nd St. Ralph Bretzner, Manager

Manufactured by Lincoln Radio Corporation Chicago 224 N. Wells St.

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 3%-inch stator and a 2%-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-

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)





Be a RADIO Expert

Learn Quickly at Home

Get into the great new Big-Pay Industry—
Radio. If you're earning a penny less than'
\$50 a week, clip coupen new. SEND FOR
AMAZING FREE BOOK. Be a Radio Expert, and draw down big money for easilest
and most fascinating work in the world.
Positions everywhere. Every community needs



readmentity needs its Radio experts. Short hours. BIG PAY. Free book gives all the facts. GET IT NOW—CLIP COUPON. Master Radio Engineers will show you the way to qualify for the fine folis waiting in Radio. You can do it quickly and easily at home.

Thousands of Jobs Now Waiting
Get a fine position like Fetzer did quiet with N.
R. I. training behind him. Fetzer (Pieture above)
is a successful, hig. class man—Chief Operator of
WEMC, he "Radio Lighthouse." Fvery day N. R.
I. men are taking good places in the Radio field.
Thousands of openings await the trained man. Our
Free Employment Department helps you get a position. Many other big features. Free Book tells you all about them. No previous experience or eduention needed. Newmethod
makes it easy for you to
learn This course takes you
from beginning to end—



for learning included in course if you act at once. Many other special features for limited time only.

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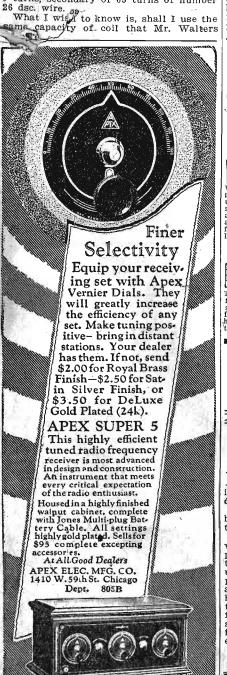
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would be some difference in data on coils. A.—We wish to advise that if your condensers are full .0005 mfd. the coils to be installed in your receiver should be exactly as described by Mr. Walters. The fact that the set is reflexed does not make any 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 What becomes of the bass notes in your set?

White the better transformers amplify quite evenly over the entire upper and middle registers of the musical scale, from about 60 cycles downward there is a pronounced loss of amplification, as indicated above. Poorer transformers begin to drop off in amplification even higher on the scale with the result that lowest notes disappear entirely.

notes ... is no variation in ampli-on over the entire range of mu-frequencies with Thordarson Auto-rs. No note is too low—no note is too to be fully amplified by the Autoformer. In addi-there are three other advantages.

CILLINGIA CONTRACTOR

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All Frequency Amplifier

FULL amplification of those bass notes hitherto largely "lost!" Greater clarity on all signals! Improved reception of distant programs! Better volume control!

Those are the four advantages achieved by this latest Thordarson development—

by this latest Thordarson development—
the Autoformer.

Autoformer amplification is for those
who seek the finest reproduction of programs
to be had. It may be
used with any set in
place of the regular
audio transformer r
hook-up. Full directions, with diagrams,
for building a Thordarson Autoformer Amplifier are supplied with
e ach instrument. Or



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THORDARSON ELECTRIC MANUFACTURING CO Transformer piccialists since 1897 WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKES Chicago, U.S.A.

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,

My set is nomentate using two tunes, 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 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

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. 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 ma-jority 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.

Parker Quick Hook Up Post FOR RADIO

(Patent Pending)
For Set Builders and Experimenters
No soldering lugs. Plug in your hook
up wire and leads. Insures
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Sample 25c
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24 Colle Lasts Indefinitely—Pays for Itself
Economy and performance unheard of before. Recharged
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Set your Radio Dials at 210 meters for the new 1000 STORAGE BATTERIES

STORAGE BATTERIES

SOME WEAF WEAF WISSEN SHOWN SKILL OF WINNESS OF STORAGE WINNESS OF STORAGE



The second most used circuit is the neutrodyne employed by such manufacturers as are licensed by the Hazeltine corporaas are licensed by the Hazeltine corpora-tion, while the third most popular cir-cuit is the reflex. The super-heterodyne would be employed by many more manu-facturers 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 through-out 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.

Men to build radio sets in spare time. Leon Lambert, Wichita, Kansas.

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Fits in standard socket in place of detector tube in Neutrodyne and R.F. sets. No change in wiring.

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yet, because of the way it's made,
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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?

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tivity, tune out local stations, sharpen signals, remove noises, lessen interference and prevent re-radiation Use it with any receiving set -- simply hook up to your aerial lead-in -- and enjoy perfect reception unmarred by static.



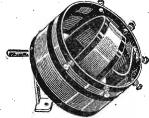
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Such a project is now being carried cut by the Madison, Wis., branch of the American Radio Relay league. Members of this chapter, eager to be at the fore-front of developments in Radio, are insti-tuting in Madison a Radio service for tourists, enabling travelers to send mes-sages free of charge to friends and rela-tives back home.

tives 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.

Where you see these signs in circuits - use

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At your dealer's Potter Manufacturing Co., North Chicago, ifi.



It's OUT—complete everlasting ready to r.a non-acid, non-sulphating 22½-volt rechargeable "B" storage battery, \$2.95. Includes chemical. Does not lose its charge standing idle. Special 2-22½ volts (45 volts) \$5.25, \$0 volts \$10.00; 112½ volts \$12.50; 135 volts \$14.75, \$17½ volts \$18.80. Nearly 3 years soid on a non-red tape, 30-day trial offer, with complete refund H not thoroughly satisfied. Further guaranteed 2 years. Knockdown kits at still greater savings. Complete ready to run 'B' battery charger \$2.75. Sample cell 35c. Order direct—send no money—simply pay expressman its cost on delivery, or write for my free literature, testimonials and guarantee. Same day shipments. My large 36-page radio goods catalogue 10c. B. D. Smith, 31 Washington Ave., Danbury, Conn.



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United States

A06, Canton, O. 425 meters. Hdqts. 135th Field Artillery O. N. G.
A79, 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 muslc, 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.

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. Westlinghouse Elec. & Mig. Co. Announcer, H. W. Arlin. Slogan, "The Ploneer Broadcasting Station of the World." Daily ex Sun. 9:45-10 am, 11:55, time. 12, market reports, weather; 2:30-5:30, baseball, musle; 7, baseball; 9:35, time. dally except Sun, Sat; 12:15 pm; 7:45 pm, talks. Daily ex Sat, Sun, 8:30 pm; 8:45, concert; 9:55, thme. Sat, 8:45 pm, concert; 9:55, thme. Sat, 8:45 pm, concert; 9:55, thme. 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. Dally ex Sun, 9:30-11:30 pm. Sun, 4:30-6. Central. KDPM, Cleveland, O. 250-1817 meters. 750 watts. Westlinghouse Elec. & Mig. Co. Announcer, H. W. Irving. Experimental station. DYL, Salt Lake City, Utah. 245.8 meters. 50 watts. Vewhouse Hotel, Announcer, Gene Pack. Slogan, Out on the Great Divide." Daily ex Sun, 3-4 pm, -8.8, news, musle, entertainment. Sun, 11-1 am. tain. 3akersfield, Calif. 209.7 meters. 100 watts. Frank

3, news, music, entertainment. Sun, 11-1 ann. ain.

Bakersfield, Calif. 209.7 meters, 100 watts, Frank
Daily ex Sun, 8-9 pm, reports, music. Pacific.
ncoln, Nebr. 340.7 meters, 500 watts. Nebraska
ito Co. Announcer, Gayle Grubb. Daily ex
7, 6-7 pm. Mon, Wed, Erj. 7:30-9:30 pm;
h; Sun, 4 pm, church services. Central.
ix, Artz. 273 meters. 100 watts. McArthur
reantile Co. Announcer, Arthur C. Anan, "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.

ington. Announcer, Ivar Melander. talks, music. Pacific. o. 278 meters. 500 watts. Western 261 meters. 100 watts. Univ. of M. Orsborn. Tues. Sat. 9 pm, se by faculty. Thurs. 7:30 pm FANSts. Mountain. 231 meters. 50 watts. Uni-

EX77.6 meters. 50 watts. UnlEX77.6 meters. 750 watts. Bolse H.

Taylor Stogan, "Intermountain Sat, Sun, 4-4:45 pm, markets, Str., 8-10 pm, concert. Mountain.

It 214.2 meters. 50 watts. Radio to Finere is Always a Friend from bei.

Mon, Thurs, 8-10 pm. Pacific. 5 meters. 50 watts. F. A. Butters. 50 watts. F. A. Butters. 50 watts. F. A. Butters. 50 watts. W. K.

Decohené, 8-9 pm, Bible lesson, sermon.

atts.

Atts.

249 meters. 50 watts. First
Announcer, Frank Tovey. Sun,
Prov. 40.
Pacalle.

Pros. Daily ex Sun, 7:15-8:15 pm. Pacific.
FCB, Phoenix, Ariz. 238 meters. 100 watts. Nielsen
Watts Watts. 234 meters. Nielsen. Slogan,
When It's Wintertime in Michigan, It's Summer
Time Down Here." Daily 7-7:30 pm, bedtime stories.
Mountain.

"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. Paelftc.

KFCY, Le Mars. 1a. 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 Yoss Kuchler.

KFDJ, Corvallis, Orc. 254 meters. 500 watts. Oregon Agricultural College.

KFDM, Beaumont, Tex. 316.6 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 Baptits church. Announcer, Hugh Claycomb. Tempoarrily off the alr.

KFDY, Brookings, S. D. 273 meters. 50 watts. S.

CFDX. Shreveport, La. 250 meters. 100 watts. First Baptist church. Announcer, Hugh Claycomb. Temporrily off the alt.

FDY. Brookings. S. D. 273 meters. 50 watts. S. D. State College. Announcer, G. A. Rietz. Daily ax Sun, 12:15 pm, livestock markets. Central. CFDZ. Minneapolis, Minn. 231 meters. 10 watts. Harry O. Iverson. C. 248 meters. 50 watts. Meler & Frank Co., Inc. Daily ex Sun, 12 m, weather, reports. The Company of the Company of

ule, 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. 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. bedtine story; 8 pm, musicale; 10:30, orchestra. Mountain.

KFHL, Oskaloosa, Jowa. 240 meters. 10 watts. Penn College.

College.

KFI, Los Angeles, Calif. 467 meters. 3000 watts. Earle C. Anthony, Inc. Announcer, Glen Rice. Stogan, "The Radio Central Super-Station." Daily ex Sat, Sun, 5:30-6:10 pm, 6:45-11. Sat, 5:30-6:10 pm, 6:45-13 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.

KF10, Spokane. Wash. 266 meters. 100 watts. Radio Club of North Central H. S. Fri, 8-9:30 pm. Pacific.

KF10, Yakima, Wash. 256.3 meters. 100 watts. First Methodist Church. Announcer. Dr. 1. M. Müller. 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. Sboembell. Mon, Wed, Fri, 6-7 pm. Alaskan. KFIZ, Fond du Lac, Wis. 273 meters. 100 watts. Daily Commonwealth and Wisconstin Radio Sales, Inc., Announcer, Albert Mayer. Daily ex Sun, 5 pm, music, news, markets, weather. Central. KFJB, Marshalltown, Iowa. 248 meters. 10 watts. Marshall Elec. Co. Announcer, E. N. Peak. Slogan: "Marshalltown, Iowa. 248 meters. 10 watts. Slogan: "Marshalltown, Iowa. 10 am, markets. Tues, Fri, 8:30 pm. Central. KFJC, Junction City, Kan. 218.8 meters. 10 watts. R. B. Fegan. KFJC, 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, basebali; 7, weather, news. Mon., Fri, 8:30-10:30 pm, band. Thurs, 9 pm, band concert. Sun, 11 am; 8 pm, church services. Central.

oand. Thurs, 9 pm, band concert. Sun, 11 am; 8 pm, church services. Central.

KFII, 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."

KFIR, Portland, Ore. 263 meters. 50 watts. Ashley C. Dixon & Son. Mon, 7:30-8:30 pm, Boy Scouts; 8-3:15, bustness talk. Tues, Wed, Thirs, 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.

KFIX. Cedar Falls, lowa. 258 meters. 50 watts. Iowa State Teachers' College. Educational programs. KFIY, Port Dodge, lowa. 246 meters. 50 watts. Tunwall. Dally 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.

KFOO, Salt Lake City, Utah. 236 meters. 250 watts. Latter Day Saints University. Announcer, Don C.

Latter Day Saints University. Announcer, Don C. McRae.

KFOR, David City, Nebr. 226 meters. 100 watts. David City Tire & Eiec. 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. KFOX. Omaha, Nebr. 248 meters. 100 watts. Board of of Education. Technical High. Announcer, Juno Johnson.

(FOY, St. Paul, Minn. 252 meters. 50 watts. Beacon Radio Service. Thurs, 11-12 m. Sun, 3:30-4:30 pm.

KFOY, St. Paul, Minn. 252 meters. 50 watts. Beacon Radio Service. Thurs, 11-12 m. Sun, 3:30-4:30 pm. Central.
KFPS. Los Angeles, Calif. 238 meters. 100 watts. KFPS. Dublin, Tex. 252 meters. 15 watts. C. C. Baxter, announcer. Tox. 242 meters. 10 watts. The New Furniture Co. Announcer. Dave Ablowich, Jr. Stogan: The New Furniture Co. the Home of Good Furniture, Located at Greenvile, Texas, Where You Find "The Blackest Land, the Whitest People." Daily ex Sun, 2 pm, nusic. Tues, Wed, Thurs, Frl. 3 pc. Sun, 11 am, services; 7:30 pm, irregularly. Co. Angeles Co. Forestry Dept. Irregular schedule.
KFPW. Carterville, Mo. 258 meters. 20 watts. St. John M.-B. Church, S. Slogan, "Keeping Pace with Christ Means Progress." Wed, Fri, 8-10 pm, popular program. Sun, 1-5 pm, chaple service. Central. KFPV, Spokane. Wash. 266 meters. 100 watts. Symons "Investment Co. Announcer, B. B. Craney. Daily ex Sun, 6:30-7:30 pm. Mon. Wed, Fri, 8:30-330 pm. Sat, 9:30-11 pm. Sun, 8:30-9 pm. Pacific. KFQA, St. Louis, Mo. 261 meters. 100 watts. The Principla. Sun, 11 am, church service. Central.

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 Senuinary (Lutheran). Announcer, Prof. Walter A. Maler. Mon, 8 pm. Wed, 9:15 pm. Sun, 8:15 pm. Central.

KFUP, Denver, Colo. 234 moters. 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 Calif. 234 meters. 50 watts. The Sherman School.

KFUV, Statiand, 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 Laboratorics. Announcer, W. R. Fisher.
Slogan, "Voice of the Cherry City." Mon, Wed, Frl, 8-9:30 pm. Pacific.
KFUV, Springfield, Mo. 252 meters. 10 watts. G. Pearson Ward.

KFUY, Butte, Mont. 254 meters. 5 watts. Irvine H.

son Ward.
KFUY. Butte, Mont. 254 meters. 5 watts. Irvine H. Bouchard.
KFUZ. Virginia, Minn. 248 meters. 10 watts. Burton illers and Albin Lofback. Y. M. C. A. Slogans.
"The Arrowhead Station." "Virginia, Minn., the Heart of the Arrowhead Country."
KFVG. Camden, Ark. 242 meters. 10 watts. Bensberg's Music Shop. Announcer, Carl Bensberg. Slogan, "Kum Folks, Visit Camden."
KFVG. San Pedro, Callf. 205.4 meters. 50 watts. McWhinnie Elec. Co.
KFVE, University City, Mo. 240 meters. 50 watts. McWhinnie Elec. Co.
KFVE, University City, Mo. 240 meters. 50 watts. Film Corp. of America. Slogan. "You will Always Know KFVE by the Tick of Her Clock." Daily ex Thurs, 7-8 pn; 10-12. Central.
KFVF, Hollywood, Câlif. 208.2 meters. 250 watts. Kierulff & 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 markets. Thurs, 8-12 midnight, dance music. Frl, 7:30-9 pm. Central.
KFVI, Houston, Texas. 248 meters. 10 watts. Head-quarters Triop 56th Cavalry Brigade.
KFVK, Sacramento, Calif. 248 meters. 500 watts. Sacramento Chamber of Commerce.
KFVI, Vencouver, Wash. 231 meters. 10 watts. Army Radio Station.
KFVN, Welcome, Minn. 227 meters. 10 watts. Army Radio Station.
KFVN, Welcome, Minn. 227 meters. 50 watts. Moonlight Bränch Broadeasting Station.
KFVS, Depver, Colo. 246 meters. 50 watts. Cape Girardeau Battery Station.
KFVN, San Diego, Calif. 248 meters. 50 watts. Cape Girardeau Battery Station.
KFVN, San Diego, Calif. 246 meters. 50 watts. Army Radio Shop.

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 Shop. Daily ex Sun, 9-12 midnight. 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. Mallander. Slogan, "Reeping Friends with All." Daily ex Sun, 4-5 nm, Zenith hour, stocks, markets, time. Mon, Wed, Fri, midnight, music. Mon, Wed, 10-11 pm. Sun, 9-12 midnight, music. Mon, Wed, 10-11 pm. Sun, 9-12 midnight, music.

KFWB, Hollywood, Calif. 252 meters. 500 watts. Warner Brothers.
KFWC, Upland, Calif. 211.1 meters. 50 watts. L. E.

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. KFWH, Chico, Calif. 254 meters. 100 watts. Were Here." Daily ex Sun, 6:15-6:45 pm. Wed. Frin, 8-10 pm. Sun, 9:30-10:30 am; 2-2:45 pm. Facific. 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.
KFWP, Portland, Ore. 212.6 meters. 5 watts. Wilbur

KFWV, Portland, Ore. 212.6 meters. 5 watts. Wilbur

KFWU, Pineville, La. 238 meters. 100 watts. Didistina, 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. Paclic.

KGO, Oaktland, Calif. 361.2 meters. 3000 watts. Gen. Elec. Co. Announcer, Howard I. Milhoiland. Daily ex Sun. 7:15-8:15 am, exercises; 8:30, daily strength. 11:30 am, iuncheon concert. Daily ex Sat. Sun. 1:30 pm; Sat, 12:30 pm, markets, weather, Mon, Wed, Fri, 3 pm, musie. Daily ex Sun, 4:5:30 pm, concert orchestra. Mon, Tues, Wed, Fri, 6-7 pm, musie; Mon, Tues, Thurs, Sat, 3 pm, ictures, music. Thurs, Sat, 10-12. Mon, 5:30-6 pm, Children's half hour; Mon. Tues, Wed, Tri, 7 pm, stocks, markets, weather, baseball. Thurs, 5:30-6:30 pm, 1:1-2 m, 8 pm, church services; 3:30-5 pm, Little Symphony orchestra. Paclic.

KGT, San Francisco, Calif. 234 meters. 50 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, 150-11-45 am, weather; 12:30-139 pm, music Sun, 11:30-11:45 am, weather; 12:30-139 pm, music NGW. Keep Growing Wiser." Daily ex Sun, 11:30-11:45 am, weather; 12:30-139 pm, music 7:30-7:45 weather; police, market, news, baseball. 7:30-7:45 weather; police, market, news, baseball. 7:30-7:45 pm, church services. Pacific. KGY, Lacey, Wash. 248 meters. 50 watts. St. Martins, 7:30-7:45 methers. 600 mm, Sin, 10:30-12 midnight, froile. Sat, 6:8 pm. Sun, 10:30-13 mn, 10:30-12 midnight, froile. Sat, 6:8 pm. Sun, 10:30-12 midnight, froile. Sat, 6:8 pm. Sun, 10:30-13 mn, 10:30-13 mn, 10:30-12 midnight, froile. Sat, 6:8 pm. Sun, 10:30-1

7-7:30 am, 12-1:30 pm, 2:30-3:30, 5:30-11. Mon, 3:30-9:30 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, 2:30, 3:30, 5:30, 11. Mon, 7-7:30 am, 12-1:30 pm, 2:30, 3:30, 5:30, 11. Mon, 7-7:30 am, 12-1:30 pm, 2:30, 3:30, 5:30, 11. Mon, 7-7:30 am, 12-1:30 pm, 2:30 pm, 6-7:30, 8-11. Pacifie.

KHQ, Seattle, Wash. 273 meters. 100 watts. Louis Wasmer. Temporarily off the air.

KIAF, Sihtipoe, 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 Luides. Daily ex Sun, 9-11:30 pm, "Royal Order Smoked Herring." Pacific. Julius Branton & Sons Co. Announcer, A. R. Mc-Cartney.

KJR, Seattle, Wash. 384.4 meters. 1000 watts. North-

Cartney.

KJR, Seattle, Wash. 384.4 meters. 1000 watts. NorthKJR, Seattle, Wash. 384.4 meters. 1000 watts. NorthWest Radio Service Co. Announcer, Vincent I. Kraft.
Slogan, 'Radio Headquarters.' Dally ex Sun, 1 pm,
stocks, markets; 11.5, 13.0-3, music; 6, theater news;
baseball. Mon, Wed, 7-8.30 pm.

CHALLENGE!

NE 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 sta-tions themselves, and NOT by com-parison 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 di-rectory 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 tion 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

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.

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. & Mg. Co. Slogans, "The Empress of the Air," "The Floneer Re-Broadeasting Station of the world." Daily ex Sat, Sun, 12:30-1 pm, markets. Mon, Frl, 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 Evençuleal Mission Church. Amouncer. T. T.

lesson. Central.

(FLV. Rectard III. 229 meters. 200 watts. Swedistry Evengeloal Mission Church. Announcer. A. T. Frykman Eri. 8.30 pm. Sun. 12.30 pm. service for shut-ing (Swedish): 9.30 ps. 12.30 pm. service for shut-ing (Swedish): 9.30 ps. 12.30 pm. service (English). Central. KFLX. Galveston. Texas. 240 meters. 10 watts. George R. Clough.

(FLZ. Anlia, Jowa. 273 meters. 100 watts. Atlantic *automobile Co. Opcrated by Walnut Grove Hog Renedy Co. Announcer. H. A. Marshall. Dally ex Sun. 11.50-12.15 pm. question box, markets. Tues, Thurs, 8.30-10 pm. music. Central.

edy Co. Announcer, H. A. Marshall. Dally ex Sun, 11:50-12:15 pm, question box, markets. Tues, Thurs, 8:30-10 pm, music. Central.

KFMQ, Frayetteville, Ark. 299.3 meters. 750 watts. U. 70 Arkansas. Tues, 9 pm. Wed, 7:30 pm. Central.

KFMR, Sloux City, 1a. 261 meters. 100 watts. Morningside College. Announcer, Jesse C. Ducommun. Dally 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. Announcer, Dr. George W. Young. Slogan: "Always Young." Mon, 6-8 pm; s:30-9-9:30, 9:30-10:30; Tues, 7-8 pm; 9-10; Wed, 6-7 pm, 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.

KFMM, Northfield, Minn. 336.9 meters. 50 watts. M. G. *Sateren (announcer). Sun, 3-4:30 pm.

KFMX, Northfield, Minn. 336.9 meters. 500 watts. Henry "Figld Seed Co. Announcer, Henry Field. Slogan. "Triendly Station in a Friendly Town." Dally ex Sun, 12:15-1:30 pm. 3-4. Dally 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; 8-0:15, church service. Central.

KFNV, Santa Rosa, Calif. 227 meters, 5 watts. L. A. Drake. Dally 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." Dally ex Sun, 4-7:30-7 imps builtedins, concert. Dally ex Sun, 4-5:15, Times builtedins, concert. Dally ex Sun, 4-5:15, Times builtedins, concert. Dally ex Sun, 4-5:15, Times builtedins, concert. Dally ex Sun, 4-6:45 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. Lesile M.

KFOL, Marengo, Ia. 234 meters, 10 watts, Leslie M. Schafbuch. Schafbuch.
KFON. Long Beach. Calif. 233 meters. 100 watts.
Echophone Radio Shop. Slogan. "Where Your Ship Comes In." Daily ex Sun. 530-11 pm. Thurs, 5:30-6:30 pm. Sun, 8-9 pm. Pacific.

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. Tatt, Callf. 231 meters. 100 watts. Kidd Bros. Radio Shop.

KFQH. Burlingame, Callf. 220 meters. 50 watts. Burlingame Chamber of Commerce. Tues, Thurs, 8-10 pm. Fri, 9-12 midnight. Pacific.

KFQP, Iova City, Iowa. 224 meters. 10 watts. George S. Carson, Jr.

KEQP, Iova City, Iowa. 224 meters. 10 watts. Texas National Quard. Announcer, Robert Cox.

KFQU, Holy City, Callf. 222 moters. 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.

Shoquaime Fass." 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
"Radlo company. Tues, Fri, 9-11 pm. Pacific.
KFRB, Beeville, Tex. 248 meters. 250 watts. Hall
Brothers. Temporarily off the air.
KFRG, San Francisco, Calif. 268 meters. 50 watts. City
of Parls Dry Goods Co.
KFRL, Grand Forks, N. Dak. 240 meters. 10 watts.
Men's Club, First Presbyterian Church.
KFRM, Bristow, Okla. 394.5 meters. 50 watts. James
P. Boland.
KFRW, Bristow, Okla. 394.5 meters. 500 watts. Lth*erical Radlo Co. "The Voice of Oklahoma."
KFRW, D'Umpia, Wash. 218.8 meters. 50 watts. United
Clurches of Olympia. Slogan, "Make the World a
Brotherhood, Thurs, 9-12 midnight, Sun, 11-12 m.,
8-9 pm. Facific.
KFRX, Pullman, Wash. 218. 217 meters. 10 watts. J

S-9 pm. Pacific.

KFRX, Pullman, Wash: 217 meters. 10 watts. J.

Gordon Klemgard. Annouacer, Gordon Klemgard.

Slogan: The Only Farmers Radio Station in the

World.

KFRY, State College, N. M. 266 meters. 50 watts. New Mexico College of Agriculturo and Mechanic Arts. New Mexico College of Agriculture and Mechanic Arts.

KFRZ, Hartington, Nobr. 222 meters. 15 watts. The

Electric Shop. Announcer, P. M. Thies. Daily ex

Sun, 11:55 an, 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, Frl. Sat, 3:30-4:30

pm. Tues, 6:30-7:30 pm. Wed, 2:30-4:30 pm; 6:30
7:30. Thurs, Frl. Sat, 7:30-11 pm. Sun, 10:30-130

pm, 2:30-4:30, 7-9:30. Mon silent. Pacific.

KFSY, Helens, Mont. 248 meters. 10 watts. The Van

*Blartcom company. Wed, 7:30 pm, music, talks.

Mountain

KFSY, Helens, 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, 5:30 pm, weather. Daily ex Sun, 10:40 am, 1:30 pm, 5:35 pm, markets. Mon. Wed, 8-9 pm. Central. KFUL, Galveston, Texas. 258 meters. 100 watts. Thomas Goggan & Brus. KFUM, Colorado Springs, Colo. 242 meters. 100 watts. W. D. Corley. Slogan, "Known for Unsurpassed

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