New Capacity Bridge Circuit—a Revo Various Uses of Filament Control Jack

# KdQ10

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SATURDAY,

# KDKA TO HUNT EXPLORERS

## **COOLIDGE IN BUDGET** TALK ON WEAF LINK

WILL BE HEARD MONDAY FROM SIX STATIONS

President and General Lord Have Message for Taxpayers—Marine
Band to Play

Sage for Taxpayers—Marine

Band to Play

NEW YORK.—Fans will have an opportunity to hear addresses of importance to every taxpayer by Calvin Coolidge, resident of the United States, and General Lord, director of the bureau of the budget. The addresses will be broadcast during the regular meeting of the budget bureau from 7:30 to 9:00 p. m. Easterntime, on Monday, June 22.

This event, broadcast direct from the Continental Memorial hall, Washington, D. C., will be feaured on the programs of WEAF, New York; WCAP, Washington, D. C.; WEEI, Boston; WOO, Philadelphia: WJAR, Providence, R. I.; and WSAI, Cincinnati. Incidental music will be furnished by the U. S. Marine band, Capt. William Santelmann, director. An opportunity was offered Radio listeners to hear the last session of this bureau, known as the Business Organization of the Government, when it also was broadcast by a chain of stations.

## WILL FOLLOW SEARCHERS IN **ARCTIC BY AIR**

Seek Nutting Expedition

Pittsburgh Station to Broadcast News from "Arctic" on Which Searching Party Sails

PITTSBURGH.—Radio, used to broadcast to police and fur trading posts of Baffinland, warning of the loss of the Nutting expedition between that shore and Greenland, in the fall of 1924, may also be used to convey to anxious friends (Continued on page 2)



Marconi Predicts Great Future for Beam Radio

rutture for Beam Radio
LONDON.—The recent achievement of
successful two-way working between
England and Australia in broad daylight
is a striking indication of the possibilities of short-wave transmission. Senatore Marcont is of the opinion, as a result
of exhaustive tests, that a combination
of short electric waves with what is
known as the "Beam system" is likely to
revolutionize the methods of commercial
long-distance communication.

A new broadcasting station being erected at Valencia, Spain, will have sufficient power to be heard in all parts of that country.

#### \$5,000 A MINUTE FEE OFFER FOR BRITISH AD

B. B. C. Refuses Business; Thinks Listeners Would Object

LONDON, Eng.—Five thousand dollars a minute has been offered the British Broadcasting company by a big London department store for Radio advertising, but the company turned down the offer, as it conflicted with its license rights, and it also was of the opinion that listeners never would accept an advertising program forced on them. South African listeners, incidentally, have objected very seriously to all broadcast advertising.

				Street, Chicago	
To be forwar	ded by Radio D		Department of of Congress.	Commerce for the	he attention
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## HAY ROMPS AHEAD: **COMPETITION POOR**

GENE ROUSE TAKES THIRD IN SPURT FOR GOLD CUP

World's Most Popular Announcer for 1925 Still Mystery—Contest More Than Half Finished

Than Half Finished

If somebody doesn't display a burst of pep, George Dewey Hay, "The Solemn Old Judge" of WLS, Chicago, is going to run away with the second annual Radio Digest Gold Cup Award, and have himself declared world's greatest announcer for 1925. Not that the event would be a calamity, but it looks as if no other station can produce stiff enough competition for the "Judge." He has completely outdistanced McNamee, WEAF, and the rest of the field this week.

The most sensational rise of the week was that of Gene Rouse, WOAW's "Hoavenly Voice," who jumped from sixth to third place and looks like a good bet to pass McNamee for second

In making his jump, Rouse put the Hired Hand, WBAP, H. W. Arlin, KDKA, and Henry Field, KFNF, down one position each.

W. G. "Bill" Hay, of KFKX, decided to go up one, traveling from eighth to seventh, while last week's holder of that place, Lambdin Kay, of WSB, "At-lan-taw, Gaw-gia," slipped into eighth.

Gaw-gia," slipped into eighth.

Barnett and Brokenshire Advance
Stanley W. Barnett of WOC, gained
two places, while Charles Erbstein,
WTAS, and Jerry Sullivan, WQJ, dropped
one and two positions respectively.
Another surprise this week is the reappearance in the leaders of Norman Brokenshire, WJZ, who comes up again from
oblivion and is now in twelfth place. In
the constantly changing and interchanging of positions, Fred Smith, WLW,
dropped from thirteenth to sixteenth
place, and incidentally forced Frank D.
Lane, KFRU, out of the published standing.

ing.

The thirteenth official ballot appears this week. Only nine more will appear. The race is more than half over, but watch out for the bonus votes which will run the totals high at the close. The bonus vote plan is explained below.

Standing of Sixteen Leaders

The standing of the sixteen leaders with the total number of votes accredited at the close of this week is as follows:

9 01	ose of this week is as follow	p.
1.	George D. Hay, WLS	10,369
2.	Graham McNamee, WEAF	8,738
-0.	Gene Rouse, WOAW	5,591
4.	The Hired Hand, WBAP	4.970
5.	H. W. Arlin, KDKA	4,496
- G.	Henry Field, KFNF	4,323
7.	W. G. "Bill" Hay, KFKX	3,882
8.	Lambdin Kay WSR	2 258
0.	N. Dean Cole, WHO	2,905
10.	S. W. Barnett, WOC	2,627
11.	Charles Erbstein, WTAS	2,324
12.	Norman Brokenshire, WJZ	2,186
13.	Jerry Sullivan, WQJ	2,174
14.	Debort Emery WEEL	1 990
15.	Leo Fitzpatrick, WDAF	1,981
16.	Fred Smith, WLW	1,889

#### How to Vote and Get Bonus

How to vote and eet Bonus
Don't miss a single ballot, for when
these are turned into Radio Digest in a
group of CONSECUTIVE numbers, extrabonus votes are allowed the announcer,
for whom you are voting.
The ballots, top of page two, numberedconsecutively, will appear 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 bal-

For each \$ 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, 50 votes bonus will be allowed.

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

Don't connect your receiver to the elec-tric light wire unless you use some ap-proved form of condenser adaptor.

All the Live News of Radio...

#### Give Unusual Memorial Day Program at Station WJAG

Program at Station WJAG.

NORFOLK, Nebr.—One of the most unique Radio programs on the air Memorial Day was that from The Norfolk Daily News station WJAG, known as "The Home of the Printer's Devil." Students of the Norfolk high school directed by Leo Schula, orchestra director and Miss Ina Mae Sanders, vocal music director and assisted by Miss Marjorie Beeler, the Radio station's soprano, sang civil war songs and played patriotic music.

The program was so arranged that

The program was so arranged that throughout the two hours time the mel-ody of "Tramp, Tramp, Tramp, the Boys are marching," was heard by listeners. WJAG broadcasts on 276 meters with 250

#### WILL HUNT EXPLORERS

(Continued from page 1)

members of the expedition tidings of

of members of the expedition tidings of its fate.

The Canadian government ship Arctic is leaving Quebec on June 27, for the Polar regions. It will visit for the first time since last summer the posts to which was addressed the message appealing to them to be on the lookout for the Nutting expedition's ship or wreakage indicating its fate. The Arctic will learn whether the posts were able to get any tidings of the expedition, and will transmit by wireless to KDKA, Westinghouse station at Pittsburgh, anything it may learn of the expedition.

Arctic Established Record

#### Arctic Established Record

Arctic Istabilished Record

The Arctic Istabilished Record

The Arctic Ista August established the
"farthest north" Radio record when it
received short wave messages from KDKA
without difficulty in the continuous daylight zone at Cape Sabine, north of
Peary's winter base at Etah, Greenland,
and within 11 degrees of the north Pole.
It is equipped with an especially constructed transmitting set designed to
transmit Radio signals from the polar
regions to KDKA in the 1925 short wave
tests arranged by the Canadian government and the Westinghouse stations.

All messages sent from the Pittsburgh
station during the 1924 tests were received by the ship, but the vessel's transmitting apparatus was not equal to the
task of putting all the Arctic's reply
messages through from the continuous
daylight zone in the extreme north. This
year the ship is carrying a more powerful
transmitter.

year the ship is carrying a more powerful transmitter.

Sail in 40-Foot Yacht

The Nutting expedition set sail from Scandinavia in a 40-foot American yacht to follow the course of the Norsemen of a thousand years ago in an endeavor to learn more about where on the American shores the prevailing winds had landed the vikins. The leader, William Nutting, and two others of the party, John Todahl and Arthur Hildebrand, were Americans, and the fourth, Mr. Fleischer, a Norwegian. The party was last heard of last September when it skirted the southern end of Greenland and headed west.

Practically all of the police and fur trading posts in the Baffin Bay region are equipped with receiving sets and during the long Arctic winter when the traders are marooned by the ice, they while away the tedium by listening in.

It was from KDKA that the message was broadcast last winter asking the posts to watch for some trace of the Nutting expedition.

#### Famous Figures to Speak to War Vets from WOAW

to War Vets from WOAW OMAHA, Nebr.—Addresses by national figures, entertainment programs by veterans musical and choral organizations, and selections by headline artists will be broadcast from Station WOAW, Woodmen of the World here, during the week of the fifth annual national convention of the Disabled American Veterans of the World War, on June 22 to 27. It is expected that the programs will reach many thousands of world war wounded and disabled veterans who cannot come to Omaha.

#### Records Artists' Voices

LOS ANGELES, Calif.—W. G. Leavens of Fresno, California, has succeeded in recording on dictaphone records the voices of his favorite stars at Station KFI. He liked their entertainment so much that he wanted them every night, and wrote to the station saying as much. It was impossible to have them oftener, the station management said.

## ONTENTS

Radio Digest, Illustrated, Volues XIII, Number 11, published Chicago, Illinois, June 26, 1925, Publishes Paddo Digest Publishing Company, 30 N. Desberon Street, chicago, Illinois, Subscription rates, yaarly Five Dollary, Sureign Postage One Dollar additional; single copies Ten Cents. Entered as second class matter at the post office at Chicago, Illinois, under the Act of March 3, 1879.

WWJ-Pioneer of Newspaper Broadcasters
Recent Advances in Radio Frequency Amplification, Part IV—The Capacity Bridge, by Milo Gurney
Advance Programs for the Week 8. to 1 An Evening at Home with the Listener In, a Chart in Eastern, Central and Pacific Time, showing when to listen in for your favorite stations
Editorials, Indi-Gest, and Condensed by Dielectric
Various Uses of Filament Control Jacks, by Harry C. Lodge
A. B. C. Course in Radio Fundamentals, Chapter XIII—Storage Batteries, by David Penn Moreton 1
A Three Tube Set Free from QRM
Questions and Answers
Directory of Radiophone Broadcasting Stations, Part I

## Looking Ahead

Milo Gurney Springs Some Surprises next week in his article on tuned radio frequency amplification. It seems that at least half the success of a tuned radio frequency set lies in the wiring. Some ideas along this line, new to Radio Digest readers, are presented, and there are more circuits.

WGY, the Parent General Electric Broadcasting Station, will be pictured and described in next week's issue. Schenectady is the source of entertainment for fains all over the United States and Canada, and is tuned in many times in England and the Continent. The development of the audio drama at WGY is notable. Watch for this feature

Who'll Lead in the Gold Cup Award Next Week? Will Graham McNamec come to the top again, or will Gene Rouse put on another sprint and pass the "Solemn Old Judge"? So far the 1925 Gold Cup Award for the world's most popular Radio announcer is any man's race. Follow the weekly standing.

An 8-Tube Super in a Week End Bag will provide vacationers with a set that gets everything, no matter where they are. The photos and diagrams that accompany this article next week make contruction surprisingly easy.

A Full Description of the Edison Battery, telling what is inside of the perforated tubes and why, forms the basis of the next A. B. C. article. Professor Moreton also tells our readers how to care for storage batteries of either type.

Newsstands Don't Always Have One Left WHEN YOU WANT

## **Kadio Digest**

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

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Please (Six, Radio	find en Foreign Digest,	closed ) for Illust	check One trated.	M. O. Year's	for Five Subscri	Della ption 1
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Addres	s					
City .				State .		

SEND IN THE BLANK TODAY

PLAY AT "ROLLING STONES" ON AIR

## STATION GLEANINGS AND NEWSY BRIEFS

WEAF INAUGURATES "HU-MOROUS HALF HOUR"

WOR Presents Newark Philharmonic Concert Band—WCCO Opens New Saint Paul Studios

WEAF has inaugurated a series of Saturday evening entertainments known as the "Humorous Half Hour." Each Saturday evening from 9:30 to 10 o'clock Eastern time the audience hears a program including such artists as William Pryor, banjoist-humorist, Harry Atkinson, known as the "Australian Orpheus" and the Three Star Trio. William Pryor plays several instruments, sings, and tells stories and for three seasons was one of the foremost artists with Eddie Leonard's company. He has been a success with every audience before which he has appeared. Harry Atkinson is a wizard at imitating musical instruments. He possesses the peculiar faculty of imitating the mandolin, musette, cornet, banjo, harry, violin (played both pizzicato and with the bow), bagpipes and penny trumpet.

#### PLAN EXPERIMENT IN COLOSSAL THINKING

GENEVA.—An interesting experiment to see what would happen if 50,000,000 persons thought or wish the same thing at exactly the same time will probably be attempted some, time in the near future. An American society has put this problem up to the new International Broadcasting Bureau at Geneva, and it is thought probable that the Bureau may put it through later on. The idea is that through all the chief broadcasting stations in the world every listener in would concentrate simultaneously upon a prearranged thought. It is not stated what the society expects to happen if everyone thinks hard enough all together.

## Ford and Glenn

"Lullaby Boys" of Station WLS Leave on Extended Coast-to-Coast Auto Trip

CHICAGO. — Ford Rush and Glenn Rowell, the "Lullaby Boys," whose songs and bedtime stories during "Lullaby Hour" and "Ford and Glenn Time" at WLS, the Sears-Roebuck station, Chicago, WLS, the Sears-Roebuck station, Chicago, have endeared them to the hearts of kiddles and their parents throughout the nation, started on a transcontinental tour of the United States, June 2. The WLS favorites will broadcast their most popular features over nineteen of the principal stations clear to the Pacific coast. The journey from station to station will

## ord and Glenn Start Long Tour LATEST RADIO STEP

IMPRESS RECORD ON WIRE BY NEWEST INVENTION

Use Magnetic Principle in the Making of "Canned" Music for Radio Use

Radio Use

LONDON.—Concerts, which now go out into the ether, are received, and forgotten, may now be "canned" or "bottled" and repeated at will at any time in any part of the world.

America may broadcast British concerts without an obligate of atmospherics. Britain may broadcast American music instead of its local jazz.

The process of translating the spoken word and music into a permanent mechanical record can be understood better by analogy with the film than with the phonograph. In place of the unwieldy lengths of celluloid there is employed a similarly long, hard steel wire, similarly run on to a spool.

In place of the camera which imprints on the film the everchanging picture, there is a powerful magnetic field through which the wire is drawn by a small motor.

there is a powerful magnetic field through which the wire is drawn by a small motor.

Words Magnetized Into Wire

The strength of this magnetic field (lessened or increased by the superimposition of currents varied by their passage through the ordinary Radio microphone) permanently magnetizes the steel wire in accordance with the changes in the microphone. The words of a speaker or the notes of a singer are literally frozen into solid steel as the wire runs from one spool on to another.

After the wire has received its magnetic impression, it can be reversed and run past a soft iron core that is magnetized and itself is creating a field. This time the wire will duplicate the fluctuations that were originally impressed on it. It thus gives back through a telephone receiver the sounds which were made days, months or perhaps years ago.

Also the soft iron core, with its changing field, can be placed in circuit with a Radio transmitter, to take the place of a "mike."

A "mike."



WOR is presenting each Monday evening at 7 o'clock Eastern time the Newark Philharmonic Concert band, broadcasting the organization direct from the band plaza of Branch Brook Park, Newark, N. J. The program of classical numbers continues from 7 to 8 p. m. The season, which recently opened, is the third openair season of the Newark Philharmonic Concert band, and will continue each Monday evening for ten weeks from WOR under the direction of Carl D. Bethel and Louis R. Anderson.

The new Saint Paul studios of the Gold Medal station, WCCO, Saint Paul-Minneapolis, just completed in Saint Paul's new fifteen million dollar Union Depot, were formally opened recently June 8th. An elaborate program heralded the event.

A full reading course is being given from Station WKRC, Cincinnati, every Wednesday night at 7 o'clock Central time. The reading course and book re-view are given under the auspices of the Cincinnati Public Library.

The second anniversary of broadcasting The second anniversary of broadcasting the Wanamaker Auditorium Radio Concerts is being celebrated by a series of special Tuesday programs broadcast through WJZ, New York, WRC, Washington, D. C., and WGY, Schenectady, from 7:10 to 8:10 p. m. Eastern time. Three have been given; June 2, 9 and 16. Two remain, June 23 and 30.

New York. She has been asked to sing at important stations in the various cities she will visit. Her vacation is reminis-cent of the postman who went out for a hike on his day off.

"Doe Howard's WKRC (Cincinnati) Broadcasters," who present a regular Monday midnight program known as the Kodel Midnight Frolic, and appearing again every Tuesday night with orchestra, male quartet, character singers and whistlers, go into vaudeville this summer billed as the WKRC Broadcasters. They are already booked in theaters throughout the country.

Give Weekly Road Talks

certs is being celebrated by a series of special Tuesday programs broadcast through WJZ, New York, WRC, Washington, D. C., and WGY, Schenectady, from 7:10 to 8:10 p. m. Eastern time. Three have been given; June 2, 9 and 16. Two remain, June 23 and 30.

Even Radio singers take vacations. Virginia Flohri, the "Radio Nightingale" of KFI, will make a tour of the United States which will take her as far east as summer season.

be made in their new sedans, in which Fans Hear Real Newspaper be made in their new sedans, in which they will carry complete camping outfits. In many of the places they will live out in the open with their families, who will accompany them. Their first program was broadcast from WOC, at Davenport, Iowa, June 2.

## Interview Through WAMD

In many of the places they will live out in the open with their families, who will accompany them. Their first program was broadcast from WOC, at Davenport, Iowa, June 2.

From the Middle West and Rocky Mountain states, the WLS tourists will jump to California, appearing at KFI June 29. The other stops in California will be KFWB, Hollywood, June 30; KGO, Oakland, July 4 and 5; KPO, San Francisco, July 6, and KFVK, Sacramento, July 7. Up the coast they will motor to Portland, Oregon, where on July 13 their features will be broadcast over Station KGW.

# Inherently elective



the result of painstaking care whose objective has ever been "quality first.



HE Grebe Synchrophase maintains its ability to select desired stations even when in unfavorable locations.

This power is due mainly to the Binocular Coils which are truly fieldless coils and are unaffected by impulses from undesired stations. The set is thus kept automatically balanced.

These coils form one of several exclusive features which enable this set to give such unusual performance. Others are Grebe S-L-F (straight line frequency) Condensers and Grebe Volume Control.

> Ask your dealer to demonstrate these and other features of the Synchrophase

A. H. Grebe & Co., Inc., Van Wyck Blvd., Richmond Hill, N. Y. Western Branch: 443 So. San Pedro Street, Los Angeles, Cal.



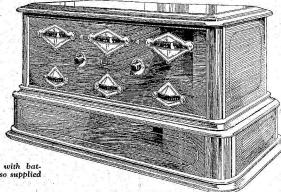




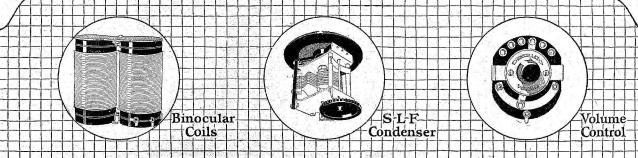
Reg. U. S. Pat. Off.

All Grebe apparatus is covered by patents granted and pending.

This Company owns and operates stations WAHG, WBOQ; also mobile and marine low wave rebroadcasting stations



Synchrophase with bat-tery base. Also supplied without base.



## WWJ-Pioneer of Newspaper Broadcasters



With the new station came new call letters. They were WWJ, the ones that are now so well known to a legion of listeners.

The arrival of the more powerful set stirred things up considerably. Just

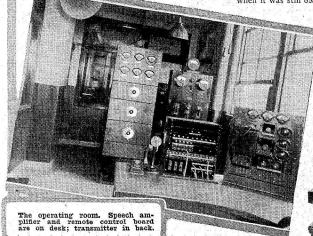
the only station outside of WSB at Atlanta, that is so equipped. This will make WWJ one of the most easily heard stations in the country. As to the personnel of the station, the chief announcer is E. L. Tyson, better known to the great Radio audience as "Ty" Tyson, was with WWJ when it was still 8MK.

This station has been among the most concientious in its effort to present the listening public with the very best in entertainment. Programs are con-stantly watched and every means known is taken to make them ever better.

(Turn to page 6)



Walter F. Hoffman, above, chief engineer, keeps WWJ tuned.



## PRESS MEN DISCUSS **NEWS IN DAILY TALK**

WHAD INAUGURATES NEW TOPICS OF DAY SERVICE

Milwaukee Journal Staff to Give Brief "Editorials" on News and Current Problems

Current Problems

MILWAUKEE.—Department editors and special writers on the staff of the Minaukee Journal now broadcast daily concise comment on the news and current topics in the form of Radio editorials. Day Time "service schedules"—a period of fifteen minutes at 11 a. m. and thirty minutes at 4 p. m. Central time, have been added to the regular schedule of "WHAD Marquette university—Milwaukee Journal station," at which times there are featured important news bulletins, and sports, finance, market and produce reports, with special reference to the Wisconsin farmer. At the same time persons on The Journal staff discuss, briefly and simply, such topics as the latest books, questions of investment, practical golf, boxing, nature study, gardening, Radio and problems of the housewife. The afternoon program includes neusical numbers most of which are given by Journal employes.

The Journal and Marquette university joined forces in January, putting on the air Wisconsin's first 500-wait, complete service station and are now broadcasting from four strategical points in the city. The transmitting station is located in the new science building of the university. The transmitter now has 750 watts available power and is arranged so that 1,000 watts can easily be radiated.

#### HERE IS THE RADIO POLICEMAN OF WGR

BUFFALO, N. Y.—Ladies and gentle-men! We introduce to you "The Radio Policeman," Frank R. Cla-beaux, of Buffalo's finest. Clabeaux is called The Radio Policeman because he

has become of more than passing interest to the WGR staff. Since WGR was established on was established on the roof of the Hotel Statler, Clabeaux has been assigned to duty at the hotel. His official specialty is traffic. His unoffispecialty is

rank R. Glabeaux

Frank R. Glabeaux

Graph of the station as well as any one on the staff. Moreover, he knows most of the entertainers and most of them know him. He is an unofficial bureau of information about the station as well as the hotel. Entertainers always know if they show up a little late. that Clabeaux can usually tell them of a place to park without, violating the traffic rules.

WGR land the operation of the station as well as the hotel. Entertainers always know if they show up a little late. that Clabeaux can usually tell them of a place to park without, violating the traffic rules.

WGR listeners need not be surprised if they hear Clabeaux pinch-hitting at the microphone in place of Becker or Fickett, just as a matter of initiating Clabeaux still further into the mysteries of broadcasting.

#### "Roxy" to Build New Theater of His Own

Vast Auditorium to Be Devoted to Features and Radio

NEW YORK.—S. L. Rothafel of the Capitol theater, known to fans throughout the country as "Roxy", is to have a theater of his own. It will be the largest in the world, and will be known as the Roxy theater.

This announcement was made recently by Herbert Lubin, president of the Associated Pictures corporation, who will build the theater for Mr. Rothafel.

The new theater will be located at Seventh Avenue and Fiftieth street, this city, and the project will cost about \$6,000,000. It will have a seating calacity of \$6,000 which considerably exceeds the present capacity of the Capitol, now the largest motion picture theater in the city.

Mr. Rothafel is now in charge of the presentations at the Capitol theater. His contract with them has still some time to run, but the new theater is expected to be completed late in the Fall of 1928.

#### New Stations and Recent Changes

KTCL Seattle, Wash, 305.9 meters, 1,000 watts, is listed among the new class B licenses. The American Radio Telephone company is listed as the owner. The company formerly owned and operated KFQX in Seattle.

WHAR, Seaside House, Atlantic City, is now listed among the B stations with 500 watts power and a wave of 275 meters.

Other new licenses in class A during the past week include KFVS, Cape Girardeau Battery Station, Cape Girardeau, Mo,. 224 meters, 50 watts; KFWH, F. W. Morse, Jr., Chico, Calif., 254 meters, 100 watts; KWKC, Wilson Duncan Studios, Kansas City, Mo., 236 meters; 100 watts; WBRC, Bell Radio Corp., Birmingham, Ala., 248 meters, 10 watts; WIBL (portable), McDonald Radio Co., Joliet, Ill., 215.7 meters, 250 watts; WJBI, H. M. Couch, Jollet, Ill., 214.2 meters, 100 watts.

(Continued from page 5)

(Continued from page 5)
One of the latest improvements was the linking of WWJ with WEAF in New York so that Detroit listeners might hear the best offerings from the East.
These things have advanced WWJ until today it stands out as one of the most up-to-date and complete stations in the Middle West.

KYW, Chicago, will soon boast of a transmitter on the Congress hotel capable of delivering 25,000 watts. When opened, however, a maximum of 1,000 watts will be used. The reserve will be used to overcome transmission difficulties caused by nature in the summer and other times.

WOAI, Southern Equipment Co., San Antonio, Texas, is now a superstation. The new maximum power has not been

Don't, under any circumstance, use the electric light wires in place of antenna, if the electric light wires are incased in

## WWJ—DETROIT NEWS WILL USE RADIO TO FIGHT FOREST FIRES

KOA TO SEND OUT REPORTS FOR RANGERS IN FIELD

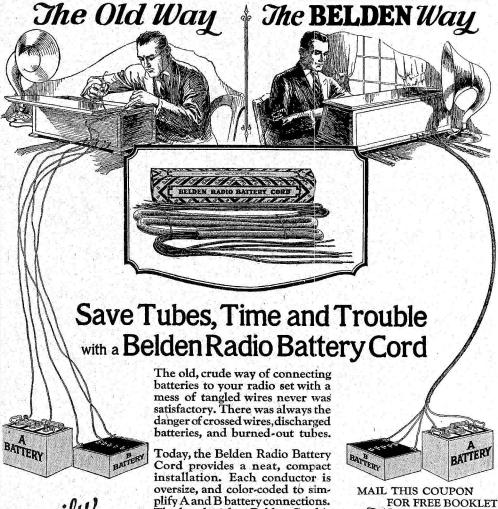
Broadcast Service as Hazard Grows in Rocky Mountain Wood Country

Wood Country

DENVER, COLO.—Radio has been mustered into service by Uncle Sam's fire-fighting forces.

In face of growing forest-fire hazards which are said to be the most alarming in the history of the Rocky Mountain states, KOA, the General Electric station at Denver, has joined the government's ranks in a desperate effort to check destruction of life and property during dry months.

Effective immediately, fire-warnings are to have the broadcast right-of-way at the Denver station following plans just completed with the United States forest service and the weather bureau.



# Specif

Ask your dealer about Belden Magnet Wire on small spools, if you wind your own radio coils. Also inquire about Belden loop wire, Litz wire, terminals, hook-up wire, solder, tape, and dozens of other radio items. The coupon will bringabookletaboutthem

The handy 6-foot Belden Cord is used in thousands of homes, because one cord replaces the unsightly array of loose wires that formerly detracted from the appearance of the set, and invariably caused trouble.

Buy Belden Cord, Today!

Manufacturers of Electrical Wire Products since 1902

Belden Manu	facturi	ng Con	pany	n i
2310A So. We	stern A	lve., Ch	icago	, Ill.
Please send me ye	our boo	klet—Hel	pful H	ints fo
Radio Fans.	right mark			

## Recent Advances in Tuned R.F. Amplification

## Part IV - The Capacity Bridge

By Milo Gurney

In BRINGING into Radio the advantages of the principle involved in the Wheatstone bridge for the control of sustained oscillations, or the neutralization or compensation of undesired plus regenerative effects through reaction from the plate to grid circuit which method is to play such an important part in many seems and inductances or their combination, has been practiced for a great number of years in the electrical industry.

The Wheatstone bridge plus for the measurement of unknown resistances, capacities and inductances or their combination, has been practiced for a great number of years in the electrical industry.

The Wheatstone bridge with connected drain pipes as the illustration indicates.

Seems important to point out that the employment of this well-known principle is not revolutionary within itself.

The Wheatstone bridge glan for the measurement of unknown resistances, capacities and inductances or their combination, has been practiced for a great number of years in the electrical industry.

Figure 25

Figure 25

Figure 25

Figure 25

Figure 25

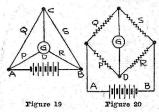
Figure 26

The Wheatstone bridges with connected drain pipes as the illustration indicates.

Saturning that AD, AE, DC and EC are interconnected as shown and cross-connected in the consequence of equal size, the four and the consequence of the contract of the contrac

vancement in the art of science of Radio receptors.

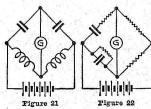
Another misunderstanding which has existed so long that it has now become a byword, is the crediting of Sir Charles Wheatstone with the invention of the balanced bridge theory carrying his name. Contrary to this impression an engineer by the name of Christie of the Royal Military Academy at Woolwich was the inventor, though Wheatstone was responsible for bringing it to the attention of the electrical fraternity and it is to his credit that Wheatstone also gave Christie full credit for the idea and invention.



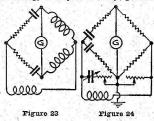
The Wheatstone bridge is usually defined as a network of six conductors and is usually represented as an arrangement of trilateral symmetry about the point D as shown in figure 19. With this arrangement, a battery is inserted in the branch AB while a galvometer is in series with CD. In practice, adjustments are made of one or more of the several branches until the current through the galvometer G is zero. The circuit is then said to be balanced and PR.

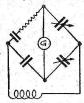
the arms PQ and RS representing the resistances of the conductors AB, AC, BD and CB. Hence when no current can flow through G, it is obvious that the currents in P and R have the same value, also the currents in Q and S have a like value. Therefore, according to Ohms law, P is equal to Q while R is equal to S or P is equal to QR divided by S.

I digress to ask the reader to whom a quick reading leaves this definition somewhat hazy, that he then go over the definition in conjunction with the diagram a sufficient number of times to clarify his understanding of it, for without such un-



derstanding, experimental work will prove but a maze of mysteries. An additional help is figure 20, which is identical with the schematic shown in figure 19, but which has also the resistances inserted. To further aid the experimenter, and not to confuse it with the text, figures 21, 22, 23, 24 and 25 indicate five forms of well-known bridge circuits for the determination of resistance, inductance and capacity, or two or the three in combination both with fixed and variable inductances. Another reason for giving these is that because all three fac-





The Jou warmentand what it brings to you

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the continent by telephone. They take selectivity for granted, and as a matter of course respect to out out one station and get another. The thing that they are never able to take for granted is Day-Fan's sound beauty, for in this radio sets differ as a fifteen follar violin differs from a fifteen thousand dollar stradivarius. Magnifeent as Day-Fan is in volume, exact as it is in its arrow-like flight to the music you seek, marvelous as it may be standing feature sumes it may be standing feature sumes it signs to the standing feature sumes they out to be any of tone. The more sensitive your ear may be, the more you will enjoy Day-Fan. The more you have said "I can never enjoy radio," the more surely you will enjoy Day-Fan. When some one told Ole Bull that he didn't like music, the master nodded and said "Good. I will play to you."

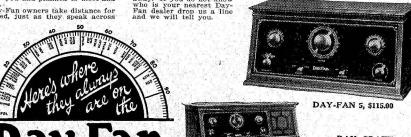
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THE DAYTON FAN & MOTOR COMPANY DAYTON, OHIO

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## WINGFOOT GOBLIN HEARD AT WEAR

#### Saturday, June 20

Saturday, silent bieht for: AT9, CHNC, CNRT, CKY, KFAE, KFDM, KFUO, KLDS, KLX, WBAP, WBZ, WCAU, WCBD, WCE, WWF, WEAO, WCBJ, WCE, WGR, WHA, WHAD, WHAZ, WHB, WHO, WJY, WKAO, WLIT, WMAK, WOAN, WOI, WOS, WSUI, WTIC, WWJ.

## Atlantic or Eastern Daylight Saving Time Stations

Time Stations

CKAC, Montreal, Can. (410), 7.20 p. m. Windsor hotel dinner concert encount: 5.20 p. m. Windsor hotel dinner concert encount: 5.20 p. m. Windsor hotel Cascades room dance orrhestra. 10.39, Windsor hotel Cascades room dance orrhestra violin duets, 6.10 p. m. windsor hotel Cascades room dance orrhestra violin duets, 6.10 p. m. windsor description of the concept of t



The lms Combes, pianist, is a Chi sa chi sa

8:15-8:45. Huyler's Foremost four; S:45-10:15, U. S. Marlne band, direction of Captain William Santelmann; 10:15-10:30. Fenwick Newell, tenor; 10:30-11, "Humorous Half Hour"; 11-12, Vincent Lopez and his Hotel Pennsylvanis ordiestra. William Comment of the Hotel Pennsylvanis ordiestra. On, Reg. Edica and his damee ordiestra; 6:45, Relievue Stratford roof garden ordestra; 6:45, Relievue Stratford roof garden ordestra.

WFI. Philadelphia. Fa. (394.5), 8 p. m., Rey Elrae, and his dance ordestra. Beld. Bellevue Stratforf orof garden orchestra. Beld. Bellevue Stratford for Garden orchestra. Werk. N. Y. (315.6), 3-3:10 p. m., interview with Blora Le Breton. English Mary Lieldroft, primitic 33:03-340, Solomon Plmsler; 3:04-350, Bmilly Mansfield, soprano; 3:30-4, Solomon Plmsler; 5:0-3:50, Lucle Gedece; 6:30-7, the Criterions; 7:20-3:30, Callfornia Rambiers. Sounded, bartione; 0:30-1; 30, Callfornia Rambiers. What Manual Criterions; 7:30-3:30, Callfornia Rambiers. What Manual Criterions; 7:3

WHN, New YOFK, R. 1. 10001, 10002 B. 1000 B. WOOT creditable, Pa. (508.2), 23.30 p. m., Comfort's philharmonic orchestra (7.05, Benjamin Franklin concert orchestra; 7. Unle Why's bedtime stories; 8, Comfort's philharmonic orchestra; 8:45. "Som of the Surf': 8:50, Vesulit's band; 10:05, Howard Lanin's Surf': 8:50, Vesulit's band; 10:05, Howard Lanin's

dance orchestra.

WJAR, Previdence, R. I. (305.9), 7:05 p. m., studio wild. Previewer, R. 1. (305.0), 7.905 p. m., studio Profession.

WIZ. New York, N. Y. (355.), 44-302, lb, m., baseball profession.

WIZ. New York, N. Y. (355.), 44-302, lb, m., baseball some music; 5:30-5:302, baseball somes; 7-8, Hotel St. Rentify dinner concert; 8-8-92, baseball somes; 8-92-8:39, Phoenier quartet; 8:30-9, William J. Mals, violinist; Kinedu's Wildorf Astoria dance orchestra.

WIT. Philadelphia, Pa. (394.5), 2:30 p. m., J. Russell Moore, tener; Mirlan Onden, violinist; Ester M. Colien, cert orchestra dance orchestra; 7-20, Aresulas acts correct orchestra dance orchestra; 7-20, Aresulas acts correct orchestra dance orchestra; 7-20, Aresulas acts correct orchestra; 12-12, are m. Brondway Bright Higher, orchestra, 12-13, are m. Brondway Bright Higher, orchestra, 12-13, are m. Brondway Bright Higher, orchestra, 12-13, are m. Brondway Bright Higher, orchestra, 12-14, are m. Brondway Bright High

from the Mail, Central Park, 1943-1949, powers, WOO, Philadelphia, Pa. (568.2), 445 p. m., organ recital, Mary E. Voot; 7:30, A. Candelort's orchestra. WOR, Newark, N. J. (693), 7:30-8 p. m., the Consumanders: II-12, Clrv's orchestra. 6:46 p. m., baseball; 6:46, organ recital, Arthur Sout Brook; 7, Kniekerhoeker hotel dinner dance music; 8, baseball; 8:30, speedal program, Verono Room, Chaffunt-Eadoba, Kniekerbecker hotel dance orchestra. Recitation: 13, Kniekerbecker hotel dance orchestra. Doublekt.

## Eastern Standard or Central Daylight

Eastern Standard or Central Daylight
Saving Time Stations

KDKA, Pittsburgh, Pa. 3030-1), 2:30-5 p. m., baseball;
KVW, Chiese, Ill. (336), 1:7:30 p. m., Congress hotel
dimer concert; 8-9, Mary June McGann, soprano;
Lucille Manter, plants; William Lester, plants; 9:3511:30, Congress chassic.
Physio, Congress chassic.
Physio, Congress chassic.
WBBM, Chicago, Ill. (226), 8-12 midnight, Harold Winston, Corine Jorden, Verd Gilbert, Cort Banks, Citlion
ordicista; Charlie Garland, William Moinatie, Dave
WBGN, Chieno, Ill. (226), 8-12 midnight, Harold Winsthermal Charlie Garland, William Moinatie, Dave
WBGN, Chieno, Ill. (266), 8-11:10 p. m., Johnny
Special, the Harmonica Acrobat; Marie Wright, soprano; Midway Dancing Gardens orbestra; Ed. Dennystrather of the Chiene, Marie William Moinatie, Charle
dance program, Joe Rudolph and the Boss' Own orschestris: Frank Morris, Folly Willia, John Post, Eddic
Carnauch.
WGARD Chiene, Wilch, (516,0), 4-15 p. m., mysical pro-

Cavanauch.

WGX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Rook-Cadillae hotel.

WEAR, Cicleviand, Ohie (38.4), 7:8 p. m., novelty dinner concert; 12:3 a. m., "Wingfoot Gobilin."

WEBH, Chieseo, III. (372.2), 7:30-8:30 p. m., Oriole orchestra; Sunday sefood lesson, Dr. Herbort W. Virgin; Leroy North, plants; 3:30-10:30, Oriole orchestra; Marie Kolly, reader; Kay Ronayne, singer; Langdon Brotners; 11:30-2 a. m., Orlole orchestra;

#### Headliners of the Week

THE "Wingfoot Goblin" is the mysterious title of the musical program Saturday at WEAR, Cleveland. The program promises to be as attractive as its name. On the same night Fritz Renk and Otto Beyer will direct the Webster hotel orchestra concert at WORD, Batavia. Two famous summer resorts will attract fans Sunday night. The Seaside hotel trio will conduct the program at WHAR, Atlantic City. This trio has long entertained the pleasure seekers of the coast and will now be known to those unable to get so far away from home. The New Arlington hotel ensemble plans an unusual classical program for KTHS this same evening. Ford and Glenn, known to any one who knows WLS are winding up a week's visit at KOA. Denver. Denver.
President Coolidge has come very

President Coolidge has come very close to the American public during his term of office. Due to the general use of Radio, his voice is almost a household sound. Only two weeks ago his speech given at the Norse Centennial was broadcast by WCCO. This Monday he will attend the Bureau of Budget meeting and will again give the public the benefit of his ideas. WEAF and the link of stations are broadcasting this event. In the afternoon WJZ and WGY are keeping fans, unable to attend the

Poughkeepsie regatta, acquainted with the chief events.

Armand LeBrun is an internationally famous marimba artist. He will display his usual skill at WLLW, Cincinnati, Tuesday. He not only plays this instrument well but has many novelties ready for the listener.

The Metropolitan Music Makers from Sedalte will entertain Wednesday at WOS. Every one is cordially invited to listen in. The Apollo club's benefit program "The Elijah" will be given from WLS. This is a choral club with an excellent musical reputation. Dr. M. E. Dlemer, director of the University Photographic laboratory at the University of Wisconsin will talk on "The Camera in Your Vacation." This talk will give hints on taking photographs in different parts of the country and will be well worth hearing.

WFAA's program for Thursday, lists a series of headliners. Carl D. Green and orchestra (a violin choir), Wednesday Morning Choral club, Jefferson theater entertainers, and Harry Hunt's Imperial orchestra will more than satisfy the fan setting from WHAD's Wisconsin theater weekly revue. No one will become overheated with intellectual effort while listening in.

Marie Kelly, reader; Gelse Brothers; Langdon Brothers; Paul Smell, Loss Brothers.
WGES, Oak Park, III. (250), 5-6-30 p. m., Frank Grief, tenor; Loretta Clissman, sonzano; Lucille Mathews, roinlinist; 6-30-7, Cornella Dungan; 12-30-1 a. m., A. Williams, Comparent Com

studio program; 16:30-11:30, Drake-Hotel Terrace Garden programs; 16:30-11:30, Drake-Hotel Terrace Garden programs dy, N. Y. (379.5), 8:30 p. m., dance music.

WHT. Deerfield, Ill. (399.9), 7-8:30 p. m., Frank A. Runstz, bartlone; Blesson Kaolin, violitate, Locker R. Runstz, bartlone; Garden, violitate, Locker R. Rustrieview Park ballroom ornelsate, al. Carney, organist; (399.8), 10:50-12:30 n. m., Blerg, ukulele; Gus Hing, bartlone; Herrick, Morrav, teoro, 12:30-1, A. WIBO, Chicano, Hi. (226), 6-8 p. m., Azatha Karlen, reader; Hannah Jacobs, pinnst; Erebu Huner, violinist; Carl Limoer, accompanist.

WKBC, Cincinnati, Ohio (422.3), 10 p. m., musical features; 11, special features.

WLS, Chicago, Ill. (344.6), 7:45 p. m., luilaby time, Annt Martha, Uncle George; 8-1 a. m., national barn dance program; Cornhuskers ordiceita; Tony Cornoran, Herrick, Martha, Chicago, Hi. (344.6), 7:45 p. m., antional barn dance program; Cornhuskers ordiceita; Tony Cornoran, Brothers; Walter Peterson; WLS, Harmony Hito; Nukley, Cincinnati, Ohio (422.3), 7 n. m., WLW dinor hour concert; organ selections, Johanna Grosse, WMAQ, Chicago, Ill. (437.5), 6 p. m., Tillen historiorus, "Gilminee of Brazili," Dr., O. C. Farrinton; 9, Chicago theater revue.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., semi-classical programs, J. Bodewalt Lampe, director; Restries Teller Foreita, Robecta Agulinik, Rila McFavn, Hazel O'Nell, Armin F. Hand and Woodlaws, theater orchestia, Parint Eard of Smith; Harold Stokes; Charles Agna and Trianon orthese and Smith; Harold Stokes; Charles Agna and Trianon organistics; Florence Tenny; Johanie Kenne; Robordy, Little Groban Annia Orcessatian, Phyllis Lordy, Lordy, Landa, McGlob, Charles Agna and Trianon organistics.

Organ Grinder.

WRBD, Batwaia, III. (273), 8 p. m., Webster hotel orcheetra, Fritz Renk and Otto Beyer.

WQI, Chiengo, III. (447.5), 7-8 p. m., Ralph Williams
and his Rainho Gardens orchestra; Everett George
alto; Otto A. Moore, battione; LaVernet Hanson, pianlati; 10-3 a. m., Ralph Williams and his Rainho Skylarks; Jerry Sullivan, som writer; Rose Vanderhosen,
pianist; Melodinus; Hickey and Johnson; Clarence

WRB, Washington, B. C. (469, 6-55 p. m., "What

7. Hotel Washington orchestra; S. Bible talk; 10. Hotel Mayflower orchestra; 10:20, Crandall's Saturday WSAI, Citachanti, Ohio (226), 7:40 p. m., children's stories, Mrs. Ethel Knapp Behrman; S. chimes; 3:15, Bicycle Playing Card secter; 9, U. S. Playing Card Setter; 9, U. S. Playing Card Playing Card Setter; 9, U. S. Playing Card Playing Card Setter; 9, U. S. Elsin, 11: G92, 12:20 z. m., Trad. Setter, 12:20 z. m., WTAS. Elsin, III. (392.5), S-19:30 p. m., VIII Olivia Prank Morets, Polly Willia, John Poat, Card orchestra, Prank Morets, Polly Willia, John Poat, Card orchestra, Prank Morets, Polly Willia, John Poat, Card orchestra, WTIC, Hartford, Conn. (348.5), 6:50 p. m., baseball; 7, team standing.

#### Central Standard Time Stations

KFAB, Lincoln, Nehr. (240), 11-12:30 p. m., midnight KFAB, Linceln, Nehr. (240), 11-12:30 p. m., midmight rounders.
KFMF, Shenandoah, lowa (266), 7:30 p. m., Socioh KFWF, Shenandoah, lowa (266), 7:30 p. m., Socioh KFWFT, E. S. Doolds, director, 6-7 p. m., Radio-cast review, Bonaine Pielding, Ordiestra Romaine.
KSD, St. Louis, Mo. (648-1), 7 p. m., music, Grand Central liteater; 8:30, dance music, City club.
KTMS, Mol Sariuga National Park, Ark, (374.8), 9:10
KTMS, Mol Sariuga National Park, Ark, (374.8), 9:10
Dick Long Sankin, eafe ordiestra, S. musicale; 9, baseball; 10, Original George Osborn's Nicollet hotel ordiestra.

WOULD STIME STATE AND ASSESSED ASSESSED

WSMB, New Orleans, La. (319), 6:30-7:30 p. m., dinner musical; 8:30-10:30, Saturday night frolic. Mountain Standard Time Stations

WRC, Washington, D. C. (469), 6:45 p. m., "What Does the Farmer Want in Legislation," E. B. Roid; and his Rainbow-Lane orchestra.



Rimo Kalohi's Moonlight Five is one of the most popular features at WSB, Atlanta. Kimo himself is seated on the left with Cecil White beside him. Standing left to right are C. L. Walker, ukulele soloist, Grace Dodson, dancer and steel guitarist, and George Greenow, guitarist.

Pacific Standard Time Stations

Pacific Standard Time Stations

KFI, Lee Angeles, Calif. (487), 5:30-6 p. m. Evanting."s

matines programs. 6:41:5. McDantley includy dollars;
6:45-7, radiotorial talk; 7:7:45. California Screnaders
dance orchestra, George Corpo, leader, Sigmund Sachs,
violin soloist; 7:45. bookshaft by Miss Nancy; 8:5.

bour of Hierature and music of the old goods; 10:11.
Packard Radio club, Way Watts and his ukolele, Ruth
and Lidah Garlaon, Dorothy Clereland, Jack Kurty
and Lidah Garlaon, Dorothy Clereland, Jack Kurty

KFWB, Hollywood, Calif. (222), 8:9 p. m., news, program, Monte Mar Vista subdividers; Monte Mar Vista
Schoper and State of the State of Stage
and screen presented by Don Monty.

KFWB, Hollywood, Calif. (222), 8:9 p. m., news, program, Monte Mar Vista subdividers; Monte Mar Vista
Schoper and State of Stage of Stage
Miller's International Hawalian trit; 10:11, Warner
Brothers syncopaters, Charles Besuchamp, tenor;
Miller's International Hawalian trit; 10:11, Warner
Brothers syncopaters, Charles Besuchamp, tenor;
Miller's International Hawalian trit; 10:11, Warner
Brothers syncopaters, Charles Besuchamp, tenor;
Miller's International Hawalian trit; 10:11, Warner
Brothers and Stage of Stage of Stage of Stage
Warner Brothers syncopaters, Charles Besuchamp, tenor;
Miller's International Hawalian trit; 10:11, Warner
Brothers and Stage of Stage

Annabel
Bucker, although only a
student at the
Columbia university, has
been heard a
number of
times and will
be heard again
bis week a
York Miss
Rucker gives
her own origin al musical
readings.



trivel talk, W. F. Adler; 6:30-7:30, dinner hour music; 7:30-8, Whither pipe organ studio; 8:3 RNX music; 7:30-8, Whither pipe organ studio; 8:3 RNX music; 7:30-8, Whither pipe organ studio; 8:3 RNX music; 10-11, and music; 10-1

#### Sunday, June 21

SUNDARY, silent might for: CKAC, CHNC, CKAC, CHNC, CKAC, CHRT KKAB, KFAE, KFAZ, KFAZ, SO, NYW, WAHG, WCAE, WCEE, WCX, WDAF, WDWF, WEAQ, WEBI, WEBW, WGB, WHA, WHAD, WHAS, WHAZ, WIP, WLIT, WMAK, WMAQ, WMC, WOI, WGR, WSAI, WSAB, WTAM,

## Atlantic or Eastern Daylight Saving Time Stations

cital. WEEI, Boston, Mass. (475.9), 7:20 p. m., Roxy and his Gang, Capitol theater; 9:20, organ recital, Skinner

his Gang, Capilol theater; 9:29, organ recital, Skinner organ studio, WFI, Philadelphia, Pa. (394.5), 4:29 n.m. studio-chapel services, 7:30, services, Arch Street Presbyres, Philadelphia, Pa. (394.5), 3:30-4:30 n.m., Piccadilly theater prostant; 9-10, grand opera. Recognition of the property of the property of the programs of the property of the p

side hotel trio, soloisis; 11, organ recital, Strand theater, WHN, New York, N. Y. (350), 3-4 p. m. Queens County Christian Endeavor program; 3-5;30, Roseland County Christian Endeavor program; 3-5;30, Roseland; 10-10-10;5, Gem Raser entertainers; 10:25-11:15, Janssen's Hofbrus ordeistra. WIP, Philadelphia, Pa. (508.2), 7:25-0-215 p. m., Serries, Huly trinity, clurch. I. (360.2), 7:25-0-215 p. m., Roxy and his Gang; 2:15-19:15, niano recital. WIY, New York, N. Y. (405), 8:15-9:15, p. m., Bernhard Levitov's Hotel Commodors orelestra. WIY, New York, N. Y. (405), 8:35-9.15, p. m., Bernhard Levitov's Hotel Commodors orelestra. WIR, New York, N. Y. (455), 8:30-4, p. m., Lillian Seckendarf Popper, planist, 4:30-5, Sarah Borni, solution of the commodors of the conductor. WKAQ, San Juan, P. B. (340,7), 8-10 p. m., municipal band.

when the same state, r. h. (840.7), s-14 p. m., numeripal wMCA. New York, N. Y. (341), 11-12:15 p. m., serrices, First Church of Christ; 3-4, Letz, ensemble; r-150, Fraite Golden and his Blotel McAlpin ornelestra. Charles of the same state of the

Eastern Standard or Central Daylight
Saving Time Stations

KDKA. Pittshurgh. Pa. (309.1), 9:30 a. m., Point
Breeze Presbyterlan church; 3 p. m., Dr. Charles (Continued on page 9)

## METROPOLITAN MUSIC MAKERS AT WOS

#### Sunday, June 21

(Continued from page 8)

(Continued from page 8)

Heinroth, organist; 8:45; Shadyside Presbyterian KYW-chi-fisses, and the services of the services of

gram.
WGES, Oak Park, III. (250), 5-7 p. m., John Stamford, tenor; Howard Neumiller, planist; Edwin Kemp, tenor; Bryce Talbot, bartom; 1030-12, A. Cavallo and his 11 Master Musicians; Raiph Olsen; Andre Searbett; Rudolph Hess; Coyne Electrical School ser-

enaders:
WGN, Chicago, III. (370.2), 3:30 p. m., faculty artists,
Chicago Musical college; 9-10, Drake concert ensemble, Ravenavood Methodist Episcopal church choir.
WGY, Schenestady, N. Y. (379.5), 9:36 a. m., services,
Flist Church of Chist Scientist, 9:30 p. m., service,

KLDS, Independence, Ma. (441), 11 a. m., Stone church; Robert Miller, organist; chorus choir; Verlyn Webb, violitaist; 5:30 p. m., vesper service; Emma Snead, violitaist; Lilabell Allen, sopramo; S. A. Burgess, contracto; George Anway, tenor; Brank Bussel, bass; Starten, S. A. Burgess, contracto; George Anway, tenor; Frank Bussel, bass; sopramo; sermon, Raiph W. Farrelt, S. A. Burgess, contracto; Sermon, Raiph W. Farrelt, S. A. Bargess, and C. R. H. 12:15 p. m., First Presbyterian church; Frances Hardin, organist; 9:15, baschali; 9:25, classicali recital, New WGBD, Zion, III. (344.6), 8 p. m., trombone quartet; quartet on Celestial Bells; J. D. Thomas, bartone; Mrs. Ruth Phd, sopramo; Edith Carey, contrallo; Carey Sisters; John Mchaffey, planist; Lois Wiedman, WGCO, Minneapolis-St. Paul, Milm. (446.4), 10:20 a. m., Plymouth Congregational church; 5:10, House

render.

WCGO. Minneapolis-St. Paul. Minn. (416.4), 19.29
a. Dymouth Congression Minn. (416.4), 19.29
a. M. S. Church, 19.13, Classical concern.

M. S. Church, 19.13, Classical concern.

WDAF, Kansas City, Mo. (365.6), 4-5 p. m. classical missic; 5-5.30, Sunday school lesson, Dr. Walter L.

WDAF, Kanasa City, Mo. (365.0), 4-9 p. m. teamer-music; 5-5:30, Sunday sehool lesson, Dr. Walter L. Wilson WFAA, Dr. Wilson M. Tenderson, patter (1994), 6-20-7:30 p. m. Bible WFAA, Dr. William M. Anderson, patter; Geopel Songs; 8-9, First Mithodist Episcopal church services; Dora Potect, organist; 9:30-11, Jack Gardner's orchestra. WHA, Madison, Wls. (355.4), 4 p. m., baccalaureato address, Pres. L. A. Birgs. (1995), 8-10, 1997, 8-10, 1998, 1999,

Ruth R. Petrotta, (below) soprano, v be the soloist on the Sunday aftern program at KPO, the Hale Brothers' s tion at San Francisco.



Senator Harold C. Kessinger of the Four-teenth Senatorial District will give a se-rles of talks at WJJD, Moosheart, on events at Springfield, so that the Illinois taxpayer may have an unbiased idea of the bills up before the legislature.

of First Baptist church; 8:30, grand opera, from WGBS.
WHT. Described, III. (399.8), 9:30 a. m.-9 p. m.. Paul

WHT. Descrictit. III. (398.8), 9:30 a. m. vp. p. m. Edgewater Rader, Oliago, III. (299.8), 9:15 a. m. Edgewater WHEO, Physical and Physical Computer State Physical Computer Physical Computer State Physical Computer Physical Physical Computer Physical Computer Physical Physica

William, Massies, Butt. (202.8), 12 midnight, froile-Lea Cameron, Walter Fett, Charley Straight's orchestra.

Lea Cameron, Walter Fett, Charley Straight's orchestra.

WKRG, Cincinnati, Ohio (422.3), 645 p. m., Walnut Hills Christian draid, 31, 730 n. m., Balph Emerson, organist. 8-8.55. WIS. Little Brown Church.

WLW, Gineinnati, Ohio (422.3), 9.30 n. m., school, Editorial Stuff of Sundry School Publications, Melho-Leditorial Stuff of Sundry School Publications, Melho-Dyn-Prank Stevenson, 7:30 p. m., services, First Pres-byterian Church of Walnut Hills; Dr., Frederick McMillan, minister; 8:30, orchestra concert.

Millan, minister, 8:40, orchestra.

Millan, 8:40, orchestra.

Mil

WSAI. Girchmadf. Dbie (328), 3 p. m., sermoente, sared chinnes concert.
WTAS, Elgin, III, (392.8), 2-5 p. m., Sunday afternoon popular concert, Joe Rudolph and the Boss' Own orchesters, 8-12, VIII of Dira Radio concert, Joe Rudolph Willis, Fanny and Eddie Cavanauch, Willis, Fanny and Eddie Cavanauch, WWJ, Detroit, Mich. (352.7), II a. m., St. Paul's Episcopia clathedral; 2, Detroit News orchestra 6-20, Roxy and his Gang.
Central Standard Time Stations
CKY, Winnipse, Can. (384.4), 7 p. m., Broadway Bap-list church.

KFAB, Lincoln, Nebr. (240), 4-5 p. m., church service. KFDM, Beaumont, Texas (315.6), 11-12 m; 8-9 p. m.,

KFUM, Denamont, Lease Growt, 1.5 m., Pirst M. Sarred Sporgansah, Iswa (268), 10:55 m. m., Pirst M. E. church; 2:30 p. m., Rev. and Mrs. Hanley; 3. men's Gossel team; 6:30, Golden Rule Circle; 8. Christian church. KFUO. St. Louis, Mo. (545.1), 8:15 p. m., 'Is it Lawful to Give Tribute unto Caesar?' Rev. P. Koenlg; Luffleran, normality curvate. K. K. Christian C. (240), 6:7 p. m., Radiocast review, Romaine Firiding; 16, sacred recital.

chestra; 19-12, dance musle, Plentword Radio orchestra, specialties.

WG, Memphis, Tenn. (499.7), 11 a. m., Second Preshyterian church, Rev. A. B. Curry.

WOAM, Lawranceburg, Tenn. (522.9), 9 p. m., Vaughan WOAM, Omeha, Nebr. (526), 3 a. m., chapel service, Rev. R. R. Brown; 9. Pirst Memorial Methodist church, Rev. E. A. Knight, WOC, Davagort, Iswa (485.6), 1-2 p. m., orchestra, WOC, Davagort, Iswa (485.6), 1-2 p. m., orchestra, WoC, Davagort, Iswa (585.6), 1-2 p. m., orchestra, Emil P. Bergren; 3:30-1130, Planter Little symphony, Ewvin Swindell, conductor.

Emil P. Bergren; 3:30-1130, Planter Little symphony, Ewvin Swindell, conductor.

Filicious Services, Wes. (404.9), 8 p. m., Union religious Services, WSUI, Iswa Gity, Iswa (583.6), 9 p. m., familiar hymns.

Mountain Standard Time Stations

Mountain Standard Time Stations
KEWA, Orden Uthl (261), 8-11 p. m., musical program, Chumber of Commerce
KOA, Denver, Gole. (322.4), 11 a. m., Trinity Mcthodist
Episcopal church: 4 p. m., Trinity orchestra; 7-45,
Methodist Episcopal church.

Pacific Standard Time Stations

Pachte Standard Ime Stations
KFI, Los Angeles, Calif. (467), 6:39 p. m., McDanlels'
nightly doings; 6:45, musical appreciation talk, 7-8,
from stage and studio of Metropolitum theater; 8-9,
KFI's hour of the classics; 9:10, Examiner: Anton
Lada and his Louisians Five dance orchestra; 10:11,
Fackard Eight orchestra, 2011 Hennessy and Chet
KFWE, Hellywood, Calc. (252), 9:11 p. m., late news,
Warners Sunday night movie frolle, music, fun and
movie stars,

KFWB. Hellyweed, cault. (202), 1. p. mage, fun and Warners Sauday night movie frolks mage, fun and KGO, Oakland, Calif., (381.2), 11 a. m., St. Luke's Episcopal church 3:39 p. m., KGO Little Symphomy orchestrs 8. St. Luke's Episcopal church. (201.6), 10:30-12 m., Funder, Friedrich and Charles of the Company of the Compa

son. KNX. Hollywood, Calif. (336.9), 7-8 p. m., First Pres-byterian Church of Hollywood, remote control, Rev.

Stewart P. MacLennan, pastor; 8-9, Ami concert orchestra, Josef Rosenfeld, direc Midsummer Night's Dream program, 1

Midsummer Night's Dream program, Bewerly Hills nurseries. RPO. Callf. (428.3), 5-6-530 p. m., RPO. Callf. (428.3), 5-6-530 p. m., Palice hold concert orchestra, 8-35.7-30, Palice hold concert orchestra, 8-35.9, Palace hold concert orchestra, 8-30-10, Rudy Seiger's Fairmont hold orchestra.

#### Monday, June 22

Menday, silent night for: ATB, CKAC, CKY, CNRT, KFAM, KGWM, KGW, KHJWLDS, KYW, WFB, WEBJ, WFI, WGN, WGBS, WGES, WHAS, WHO WEBJ, WFI, WGN, WGBS, WGES, WHAS, WHO WJY, WKAQ, WLS, WMAQ, WMBB, WGC, WOAL, WQI, WRC, WREO.

## Atlantic or Eastern Daylight Saving

Time Stations
Toronto, Canada (357), 8:30 p. m., CHNC or-

GHNO, Toronto, Canada (357), 8:30 p. m., CHNC orchestra.

WARG, Richmond Hill, N. Y. (315.8), 7:30-7:45 p. m.,
sports talk, Thornton Fisher; 7:45-8, Edward Kruse,
tenor; 8:45:15, Hornes J. Taylor, render; 8:15-8:30,
ttori, 9:15-9:30, Edward Kruse, 9:30-9-45, Ruth Haym;
9:45-10:15, Synchrophase atring trio; 10:15-10:55,
Kentucky Rambiers; 11:65-11:30, Kentucky Rambiers;
WBBR, New York, N. Y. (272.6), 8p. m., Irene KleinFranz; 8:29, "Public Sarkey," C. E. Spayd; 3:40,
Fred Franz, tenor; 8:45, Bible instruction from "The
Harp of God"; 8:35, vond duet.

WGAE, Fittburgh, Ph. (461.3), 6 p. m., dinner conconsenble; 11: Press-Kaylo, 30, concert; 2, Hamilton
WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Henry
Kohen, piantit, 4:10-4; 29, Jonquin Quevedo, tenor;
4:20-4:30, William Briefotsky, violinist, 4:30-4:40,
Bla university; 6:7, dinner music, Widort'Astoria,
7:7:15, talk, Paris Conservation association; 7:168:115, program, Mark Strand theater and stadio, direction of Joseph Plunkett; 8:30-10, Bureau of Budget

Billie Dunn is the popular pianist at the Warner Brothers' station, KFWB, Holly-wood. No program is complete at this studio without Miss Dunn.

wood. No program is complete at this studio without Miss Dunn.

Meeting; addesses, Cain Coulide, General Lord; assets, interest of the control of the contro

(Continued on page 10)



## FORD AND GLENN OF WLS VISIT KOA

#### Monday, June 22

(Continued from page 9)

Kriskut's Cinderella orchestra; 7:15-7:25, sports talk by Bill Wathey; 8:15-8:39. "Learn to Swin," Frank E. Dalion: 8:39-9:39. Al Reid's hour; 9:39-9:45, Dr. Frank H. Vizetelly, lexicographer; 9:45-10:45, Dr. Sigmund Spa

## Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KDKA, Pittsburch Pa. (3088), 2:30-5 , m., baseball.

Takeball; 8:45, concer 3:25, time stams, baseball.

Takeball; 8:45, concer 3:25, time stams, baseball.

Robert or chosts; 8:40, baseball; 6:32, Capitol theater or-chestra; 9:40, baseball; 6:32, Capitol theater or-chestra; 9:40, baseball; 6:40, capitol theater or-chestra; 9:40, baseball; 6:40, capitol theater or-chestra; 6:40, capitol theater or-

gram; 6, dinner concert, Book-Cadillac hotel; 7, musical program.
WEAR: Cleveland, Ohio (389.4), 7-8 p. m., musicale, Loew's State theater. (250), 5-6:30 p. m., Mrs. Bernard McDevitt. Seturer: Loretta Clusman, sorrano; Amboritt. Seturer; Diec Devits orchestra; Cource Effection! Section sections are maders; 0:30-7, Cornella Dungan.

McDevitt Silters; Blue Devil's orchestra; Coyne Electrical School serenden; c.30-7. Cornella Dingen;
beddime stories.

N. V. (379.5); 2.D. m., intercolledate
regath. Pounthicensie; 5:30, dinner music John Fink.
Ar's orchestra; 6, weekly spott review, Harold Anson
Bruce; 6:35, program of music for twy planos, EdnaMicroness, J. Anthu. Synthese, and Microness, J. Anthu. Synthese, Anthu. Synthese, Anthu. Synthese, Planis; William Diefendorf, musical saw soloist; 10. Fluck's orchestra.
WHT, Deerfield, III. (399.3), 7.8-30 p. m., classical procrains, planis; William Diefendorf, musical saw solofield, bartlone; 1233, 8:45-10-35, Elmer Kaiser's
Riveriew Park ballboom orchestra; Al Carrey, organist; (399.8), 10:30-12:30 a. m., Davida Boyd, whistier;
Milliam Grossman, ascophomist; Walter Domeran, tenor;
WJID, Mooscheart, III. (302.8), 10:30 p. m., Geneva
organ, Charley Straight's orchestra.
WKRC, Gincinnati, Ohio (422.3), 10 p. m., Benžol entertainers; 11, popular program; 12, regular nidodicht
program, Kodel gans.
WLW, Climinati, Ohio (422.3), 7 p. m., dinner hour
WLW, Climinati, Ohio meinter, Robert Visconti, diWLW, Climinati, Ohio meinter, Robert Visconti, diWLW, Climinati, Ohio meinter, Robert Visconti, di-

women's it. monutar program; 12, regular midulent program, Kodel Sans.

WLW. Clincinasti, Ohio (422.3), 7 p. m., dinner hour concert. Hotel Gibson ordensetra, Robert Visconti, director: S-15, entertainment from theater of the Cincinnati Zoological Gardon; 9.15, (from theater) of the Cincinnati Zoological Gardon; 9.15, (from theater) of the Cincinnati Zoological Gardon; 2.15, concepture, India Cincinnation of the Cincinnati

WRC. Washington, D. C. (469), 5-6:30 p. m., United States Navy band.

States Navy band.

WSA1. Glinchanati, Ohie (328), 7 p. m., Bureau of Budacts, meeting from New York; Invisible choir; 19, Engene Perazzo, plainist; Tom Byrne, cellist; Mrs. Maud Layman, soprano.

WTAS, Elgin, 111. (302.3), 8-10:30 p. m., Joe Rudolph and the Bost Own orciestra; Eddie and Faunic Cavanaugh; Frank Morris, Polity Willis, John Fold. Humbergers Hole Bond trio; 0.50, basSchall, 7, dhiner

#### WWJ. Detroit, Mich. (352.7), 6 p. m., dinner concert; S. concert from New York; 9, Detroit News orchestra.

#### Central Standard Time Stations

K-RAB. Lincoln, Nebr. (240), 7:390-7930 p. m., Clyde Darls, violinist; Arthur Rayfeld, planist; Gladys Soller. Blernice Rodaway; Colonians cordestra. KFNF, Shenandeah, 1ewa (266), 7:30 p. m., concert. Henry Field Seed compart. (FUO, St. Louis, Mo. (345.1), 8 p. m., "Honorins Our Farents," Rev. M. (240), 6-7 p. m., Radiceast, Kryte, Romains Fielding; 10, Orchestra Romaine; Big Brother minstrols.

view, Romaine Figuria, 10, 5 cother minstrels. J. St. Louis, Mo. (545.1), 9 p. m., program. HS, Hot Springs National Park, Ark. (374.8), 9:15 m., baseball; 9:25, Como hotel roof garden or-

KSD. St. Louis, Mc. (545.1), © D. M., Programs, 9.15
P. The Springs National Park, Art Collars, 9.15
P. Thomas, Darlon, M. Thomas, Springs, M. R. Springs, 10.15
P. Thomas, Darlon, E. B. Paston, barbone, C. R. Sparrow, tentalo, Mr. F. H. LaRose, contractor, 3.7
P. Thomas, Darlon, E. B. Paston, barbone, C. R. Sparrow, tentalo, Mr. F. H. LaRose, contractor, 3.7
P. Thomas, Darlon, E. B. Paston, barbone, C. R. Sparrow, tentalo, Mr. F. B. Paston, barbone, C. R. Sparrow, tentalo, Mr. P. H. Larose, C. R. Sparrow, tentalo, 1.15
P. Pere, William, 1.15
P. The Park, M. P. Larose, 1.15
P. The Park, M. P. Larose,

WOAN, Lawrenceburg, Tenn. (222.29, 5 p. m., vaugnau Radio orchesti. Nabr. (259.5 p. m. p. Thyllis Gris-wold, organist stall, McCron's popular period, Lillian words, and the control of th

#### Mountain Standard Time Stations

KFWA. Odden. Utah. (28.1), 9.1 p. m. senda programs KFWA. Odden. Utah. (28.1), 9.p. p. p. sed Sentiti and KFWA. Odden. Construction of the Constru

#### Pacific Standard Time Stations

KFI, Los Angeles, Gallif. (467). 5:509-6 p. m. Examiners, matthew mustas and McDandels' nightly dollars, dollars, and matter and

#### Baseball Scores

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

### Atlantic or Eastern Daylight Sav-ing Time Stations

Saturday, June 20: 4:30, WJZ; 5:30, WJZ; 7:25, WNYC; 8; WJZ. Monday, June 22: 4:30, WCAE; 7:15, WEEL; 7:25, WNYC. Tuesday, June 23: 7:25, WNYC; 7:45, WEEL, June 24: 7:25, WNYC; 7:45, WEEL, June 25: 7:25, WNYC;

7:45, WEEL, Thursday, June 25: 7:25, WNYC; 7:45, WEEL, Friday, June 26: 7:15, WEEL.

## Eastern Standard or Central Day-light Saving Time Stations

night Saving lime Stations
Saturday, June 20: 2, WGY; 2:30,
KDKA; 2:45, KDKA, WMAQ; 2:30,
KDKA; 8, KDKA; 3:15, KDKA; 3:30,
KDKA; 3:55, WWJ; 4, WMAQ; 4:15,
4:30, KYW; 4:45, 5, KDKA; 5:55,
WTIC; 6, WGN, WLS; 6:50, WTIC; 7,
KDKA; WTIC; 9:55, KDKA; 10,
WREO.

\*\*EDIKA; WTIC; 9:85, KDKA; 10, WREO.

Sunday, June 21: 6:30, WBZ; 6:55, WTIC; 9:50, WBZ.

\*\*MONDAY, June 22: 2, WRC; 2:45, WMAQ; 3:30, KDKA; 3:45, WEAR; 3:65, WWID; 4:30, KYM, 5; KDKA; 6:55, WTIC; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 9:50, WBZ; 9:55, KDKA; 10, WREO.

\*\*Tuesday, June 23: 2, WRC; 2:45, WMAQ; 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4, WMAQ; 4:30, KYW; 5, 7, KDKA; 6:30, WBZ; 9:50, WBZ; 9:55, KDKA; 10, WREO.

WREO.

10, WEEO. June 28: 2. WFC: 2:45, WIAG. 3:45, WEAR; 3:30, KDKA; 3:45, WEAR; 3:30, KDKA; 3:45, WEAR; 3:30, KDKA; 3:45, WEAR; 4:30, WEZ; 6:50, WTC; 6:50, WTC; 9:50, WEB; 9:55, KDKA; 10, WREO. Friday, June 26: 2:30, KDKA; 2:45, WMAQ; 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4, WMAQ; 4:30, KYW; 5, KDKA; 6, WGN, WEZ; 6:30, WTC; 9:50, WBZ, 9:55, KDKA; 10, WREO. 4:50, WBZ; 6:50, WBZ; 9:55, KDKA; 10, WREO. 4:50, WBZ; 9:55, KDKA; 10, WBZ; 9:50, WBZ; 9:55, KDKA; 10, WBZ; 9:50, WBZ; 9:55, KDKA; 10, WBZ; 9:50, WBZ; 9:50, WBZ;

10-11, Examiner: Ray West and his Alexandria hotel

Mountain Standard Time Stations
Monday, June 22, 6, KOA.
Tuesday, June 23, 6, KOA.
Wednesday, June 24: 6, KOA.
Thursday, June 25: 6, KOA.
Friday, June 26: 6, KOA.

Friday, June 26: 6, KOA.
Pacific Standard Time Stations
Saturday, June 20: 2-5, KNX; 6,
KFOA; 6:15, KPO.
Monday, June 22: 6, KFOA; 6:30,
KPO; 6:46, KGO; 7:30, KGW.
Tuesday, June 23: 6, KFOA; 6:15,
KFO; 6:46, KGO; 7:30, KGW.
6: KGO, Go, KGO; 7:30, KGW.
6: KGO, Go, KGO; 7:30, KGW.
6: KGO; 6:10, KFO; 6:46, KGO; 7:30, KGW.

Wednesday, June 24: 2, 3, 4, KNX; 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW. Thursday, June 25: 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW. Friday, June 26: 2, 3, 4, KNX; 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.

EAF, New York, N. Y. (491.5), 4-4:15 p. m. Lels Kelly, soprano; 4:15-4:30, Irls Torn, pianist; 4:30-5, Weldorf, Astoria

WEAF, New York, N. Y. (491.5), 4-4.15 p. m. Lela Kolly, soprano; 4.15-4.30, Jiris Tori, planist; 4:30-5, women's program; 6-7, dinner music, Walderf-Astoria; 7-7.10, Rose Haas, soprano, accompanied by Bernite Program; 6-7, dinner music, Walderf-Astoria; 7-7.10, Rose Haas; 7:30-8, Adam Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, planist; 7:40-7.50, Laki, Ranh of America; 8:10-8.30, "Micros and Carroll, grand opera, "Il Trovatore"; 11-12, dance music. WEBJ, New York, N. V. (233), "7:30, p. m. Matt. WEBJ, New York, N. V. (233), "7:30, p. m. Matt. America; 8:10-8.30, Micros and Carroll, Ranh of Micros and Carroll, Park of Micros and Carro

mai Home Bullders, R. T. Ditmars of Zoological society.

WIZ, New York, N. Y. (455), 4:30-5:39, Brenhard Levitow's Holed Commodore tea orchestra; 5:30-6, daily Carlot Commodore tea orchestra; 5:30-6, daily Strissof's Thotal Vandobils orchestra; 8:82:0, Wall Street Journal review, 8:10-9:30, Wannamker program; 9:30-16, A. Duques, clarineiist.

WILT, Philadelphia, Pa. (394.5), 2. m., arcadic acte WLT, Philadelphia, Pa. (395.6), 5:30-7.35, p. m., beauty talk by Mme. Belle; 9:11, musical program; 1:1-2, Errite Golden and his Hotel McAlpin orchestra. WYO, New York, N. Y. (250), 6:30-9, m., m., marked results; 7:30-7:35, polica niarus; 7:33-8, dance music: 8-8:15, talk; 8:15-8:20, sone recitals; 8:30-10:30, program by residents of Edizemere, L. I. WOO, Philadelphia, Pa. (506.2), 4:35 m., orçan resolutions. B. Yort; 7:30, A. Candelott's roof; garden orthestra. WOR, Newark, N. J. (495), 6:15-6:30 p. m., Hotel WOR, Newark, N. J. (495), 6:15-6:30 p. m., flored work.

Cital, created WOR, thewark, N. J. (405), 6:15-6:30 p. m. Hetel Lorraine orchestra (3:30-7, Man in Mocn; 7-7:15, Hotel Lorraine orchestra 7:15-7:25, sports talk, Bill Wathey; 7:25-7:45, Hotel Lorraine orchestra.

## Eastern Standard or Central Daylight Saving Time Stations

Eastern Standard or Central Daylight
Saving Time Stations

KDRA. Pittsburgh. Pa. (2001.); 2:30-5 D. m., baseball:
7, basebull; 8:45, concert; 9:55, baseball; 10:30, concert, Grand theater, 9:55, baseball; 10:30, concert, Grand theater, 9:55, baseball; 10:30, concert, Grand theater, 9:56, baseball; 10:30, concert, Grand theater, 9:56, baseball; 10:30, concert, 9:56, pa. (2001.); 10:56, pa. (2001.); 10:56

Red Apple chib.

WERH, Chicago, III. (370.2), 7:30-8:30 p. m., Orlole orchestra; Livila Lochener, contration; Riviera theater; 9:30-10:30, Orlole orchestra; Frank Bordiner, Davidone; 9:30-10:30, Orlole orchestra; Frank Bordiner, Davidone; Davidone; Davidone; Davidone; Davidone; Davidone; Davidone; Davidone; Charles, Carlone; Locale, Charles, Carlone; C

trude Wemple Craiz, reader: Mrs. Charles. A. Griffin, planist, from WJZ; 10. Meyer Davis orchestra from WTG. 10. Meyer Davis orchestra from Park ballomon orchestra: Al Carney, organist; (309.8), 10.20.12.30 a. m., Eleanor Glimour, sopramy: January Carnette, 10. Meyer organist, (309.8), 10.20.12.30 a. m., Eleanor Glimour, sopramy: January Carnette, 10. Meyer organist, (309.8), 10.20. p. m., Rushmore engenible. Geneva organ, Charley Straight's orchestra. WIJD, Mooseheart, III. (302.8), 10.30 p. m., Rushmore engenible. Geneva organ, Charley Straight's orchestra. WILS, Chicago, III. (344.8), 8.20 p. m., Raiph Emerson, organist; 7.15. Cornhuskes orchestra; Brooks Colby, solist; 7.45, Iullahy time, Aum Martial, Uncle George, S., "The Mitacio," Warren K. Howe; S.45, "Bunielt, Carnette, Charley, Meavillan, Charley, Meavillan, Charley, Meavillan, Charley, Meavillan, Charley, Meavillan, Charley, Grant Martiel, 10.24, Grane Wilson, centralio, 10. Cornhuskes orchestra; 10.24, Grane Wilson, centralio, 10. Meyer organist, Charley, Meavillan, 10. Meyer organist, Meyer, Mey

(Continued on page 11)

Ford Bush and Glenn Rowell, are known to both children and grownups who enjoy the programs of WLS, Chicago. These familiar voices will be heard from western stations during the summer. Saturday and Sunday of this week they will wind up their visit at KOA, Denver. Among the stations they will visit are KFI, RFO, KGW, KJR and WCCO.

10-11, Examiner: Ray West and his Alexandria hotel dance orchestra. (EV.) B. Hollogher of K.P.W. B. Hollogher of K.P.W. B. Hollogher of K.P.W. Stevenson of the control of



## MARIMBA ARTIST FEATURE AT WLW

#### Tuesday, June 23

(Continued from page 10)

orchestra; special feature: Armand Le Brun

(Continued from page 10)

cert gradestern; special feature; Armand Le Bran,
marimba artist.

WhAQ, Chicago, III. (447.5), 6 p. m., Chicago theater
organ; 6:30, Hotel LaSalle orchestra; S. Jack Chapman's orchestra; 8:30, take, Harry Hansen; 9:315, ChiWhBB, Chicago, III. (250), 7-8:30 p. m., semi-classical
program, J. indoewalt Lampe, director; Bestrice Teller
and Trianon ensemble; Ambrosa Wyrlek; Rita MeFawn; Haze Wookawi, Laber orchestra; 3:30-10:30,
Doell Lampe and Trianon orchestra; Johnnic Keane,
Bob Duffs, Geraldine Dovle, Charles Aare and Trianon orchestra, Fisher and Smith, Plorence Tenny,
Annie, Emils Schneider, Tory the Janitor's Boy, Clyde
Hager, Cop, Irish Woman, Pedro, the Organ Grinder.
WORD, Batwis, III. (275), 8:30 p. m., Word News,
Discust, G. L. Prier 3:30, Wocker hotel orchestra; 9.
Florence E. Massus, accompanist.

WOJ. Chicago, III. (447.5), 7-8 p. m., Ralph Williams
and his Halinto Gardens orchestra; Lou Byram Reed;
Flystet Miller, baritone; Mrs. Adelaide Stees, contraito; 10-11, Ralph Williams and his Rainbo Gardens
Skylarks; Everett George Opte, reader; FrankParette Miller, baritone; Mrs. Adelaide Stees, contraito; 10-1, Ralph Williams and his Rainbo Gardens
Skylarks; Everett George Opte, reader; FrankParette Miller, baritone; Mrs. Adelaide Stees, contraito; 10-1, Ralph Williams and his Rainbo Gardens
perano; 1-2, Ginger hour.
WRC, Washington, D. G. (469), 7:10 p. m., Wannmaker program; 9:35, "The William Steel, Paretter
WRC, Washington, D. G. (469), 7:10 p. m., Wannmaker program; 9:35, "The William Steel, Paretter
WRC, Washington, D. G. (469), 7:10 p. m., Wannmaker program; 9:35, "The William Steel, Paretter
WRC, Lansing Mich. (285.5), 8:15-9:45 p. m., Reo
Broudestilars band; Reo mile glee club; 10, baseball.
WRC, Lansing Mich. (285.5), 8:15-9:45 p. m., D., baseball;
7, Matth Organ company; 7:46, E. K. Siack, centure
WILL, Marter G. Garden, Rainous Karley, Paretter
WILL, Marter G. Garden, Rainous Allerter, Paretter
WILL, Marter G. Garden, Rainous Allerter, Paretter

from WEAF; 8-9, musical program, artists from Clinton, Iowa.
WSMB, New Orleans, La. (319), 6:30-7:30 p. m., dinner musicale.

wSMB, New Orteans, La. (319), 6.30-7.30 p. m., dinner musicate.

Mountain Standard Time Stations
DNRR, Resina, Can, (336), 8. m., bedtine travel tale, Jingles Kiddles; Grace Newman Mandolin club.

Pacific Standard Time Stations
KFI, Les Anceles, Calif. (467), 5:30-6 p. m., Examiner's matinee musicale; 6-6-15, McDaniels' nightly doings; 6-35, radictorial talk; 7-8, program, Hills Dress, presenting Hills Brothers dimer-dance or-streek of Radio; 8-9, Examineer program arranged by Jean Jacques; 9-10, KFI Burlesquers in a variety program; 16-11, Fachard Ballard hour, Billy and Janison and other; Steess, Ednyl Talmadke, Dud Janison and other; Steess, Ednyl Talmadke, Dud Janison and other; Steess, Ednyl Talmadke, Dud KFWB, Hollywead, Calif. (252), 6-7 p. m., children's hour, Bill grather of KDW1; 8-9, lath news, program, Indion Oil company of California, Non-detonating dance orderestra, Kathyn Martin, sogram, Miller's International Hawalian trie; 10-11, Warner Brothers KGO, Oakkada, Calif. (321, 6-7 p. m., dinner concept. Wiley B. Allem company; 8, program, Magenavox company, Clyck Gates, violant; Martin, Bersond, Libertin, Kathyn Martin, Soprano, Miller's International Plawalian trie; 10-11, Warner Brothers KGO, Oakkada, Calif. (321, 6-7 p. m., dinner concept, Wiley B. Allem company; 8, program, Magenavox company, Clyck Gates, violant; Martin, Bersond, L. Sherwood, soprano; stitter ducts, Elsie Male, Arthur Jarthure, Parish Flynon, bass; 10-1, Henry Halsted's orchestra.

dialogue, Emile Roucher, Emile Desrosiers; Chateau Laurier dance orchestra, WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m., aports talk, Thornton Fisher; 7:45-8, Joe Zhinmerman, planist; 8-3:15, Jack Abbott, tenor: 8:30-8:45, Arthur Elliott, reader; 8:35-9, Hyde Auld, buritone; 9:515, Full Henessler, planist; 9:30-9:55, Jack Abbott; 9:45-10, Faul Henessler; 10-19:25, Austaw Har-WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner cert, William Penn hotel; 8:30, concert; 9, concert; 9, concert.

Ref. Les Andeles Calif. (467), 5:30-6 p. m., Extains Calif. (467), 5:30-6 p. m., Expendings; 6:46, radioterial talk; 7-8, program, Hills Brook, presenting Hills Brothers dinner-dance or chestra, Way Wetts, bartone, and Star Russell, blue streak of Radio; 8-9, Exemines program arranged by program; 10-11, Fackand Ralland hour, Billy and Polly Hall, Ashley Sisters, Ediyl Talmades, Bud Polly Hall, Ashley Sisters, Ediyl Talmades, Polly Hall, Ashley Sisters, E

8:15, talle; 8:15-10-15, Shannon's Band from the Mall, Coutinl Park; 10:15-10-30, popular sones.

WOO, Philadelphia, Pa. (508.2), 4:45, p. m., organ recttal, Mary E. Vogt; 7:30, A. Candelor's Roof Garden ordentar 8, concert from WEAF; 10, organ rectlal; 10:30, Hotel Sylvania dance ordestra. Tuvell work, Newart, N. J. (469.), 6:15-7:15 p. m., Vistant organization of the Day, "Speher Armstrong; 10:15-10:45, Jascha Gürevich Saxaphone ensemble; 11-12, Cito's orchestra.



Carlos E. Penfield is the leader of the Boston orchestral club which broadcasts regularly through WEEI, Boston.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh. Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, Dry Slitz Hour of Music; 9:55,

KDKA, Pittsburgh, Pa. (1992.1), 220-2 p. m. (1982.1), 230-2 p. m. (1982.1), 231-2 p.

William of the Control of the Contro

WEAO, Columbus, O. (293.3), 8 p. m., faculty lecture: Editionwork string quarter. Plant with string quarter. Plant with string quarter. Plant with string quarter. Plant with string quarter. WEBH, Chiespo, III. (370.2), 7:39-8:39 p. m., Oriole orchestra; books of the day, Levellyn Jones; Riviera theater; 9:39-10:30, Oriolo orchestra; Kay Konapue; Renama Brothers; Robert York, tenor; Gorman Brothers, III. (200.), 5:0-39 p. m., Mangaet Renama Brothers, III. (200.), 5:0-39 p. m., Mangaet Head, Planting, III. (200.), 5:0-30 p. m., Mangaet Head, Planting, III. (200.), 5:0-30 p. m., Mangaet Lend, planting; 0:30-4, Coretia Dungan, III. (39.4), Coretia Du

(Continued on page 12)



Edith M. Aab, contralto, is a favorite entertainer at WTIC, Hartford. Miss Aab is the director of the vocal studios bearing her name and has a reputation for being as good a teacher as she is a singer. Legends, Marion Sutherland; 3:50-4. Faina Gree ster: 6-6:30. Under Geebee; 6-30-7. Paliandians orchestra; 7:710. "(Newpoint of Postmaster General Harry S. Kev." Captain Archibald; 7:20-7:39, series of straight-thioning talks, Chartes Franklin Jones. WGR, Buffalo, N. Y. (318), 2:30-4:39 p. m., WGR's printing; 10-19-39, restlat, Cantor Benamin Levite 10:30-19-55, Jack Oakes; colored, singing popular songs and playing the utuelled; 11-4. m., super-dame music, Vincent Lopez Hotel Statler dance orchestra.

Mae Skoglund is called the girl with two voices because she can sing either tenor or soprano. She will appear on the Satur-day program at WBCN.

KTHS, Hot Springs, National Park, Ark. (374.8), 9:15 p. m., baseball; 9:25, Meyer Davis.

WCCO, Minneapolis-St, Paul, Minn, (416.4), 6 p. m., baseball; 6:09, Biloy's St. Paul hetel orchestra; 7-9, metional program from WEAF; 9, baseball; Ohlo Kitwanis band.

mational program from WEAF; 9, baseball; Ohlo Kirshamas City, Mo. (355.6), 6-7 p. m., piano maria band.

What shad the control of the control

cert, Herman Kenin's Mulinomah hotel dance orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m. Leighcon's Arrade cafeteria orchestra, Jack Crombaw, leader,
5-6:30, Art Hickman's Bilimore hotel concern exstories American history. Prof. Walter Sylvester Herizog, weekly visit of Queen Titania and Sandman from
Falryland, Chas. Lesile Hill, readings, Uncle John's
[3:30, Figuly Wighty Arth string trio. 8-10, program,
[3:30, Figuly Wighty Arth string trio. 8-10, program,
[3:31, Howard Johnson; 10-11, Art Hickman's Biltumer
hotel dance orchestra. Earl Burtnett, leader,
KNX, Hollywood, Calif. (336.9), 5:30-6-15 p. m., WurHutzer pipe organ studio, Sid Zuff's sports talk; 6:15,
tarvel talk, W. F. Alder, 6:30-7:30, dimen house
arram by Rell Press; 9-10, program, George Bray;
10-12, movie night at the Ambossador, 2be Lynan
and his Coccanut Grove dance orchestra.

KPO, San Francisco, Calif. (223.3), 6:30-6:40, p. m..

music, 7:30, style talk, Myer Slegel, Jr.; 8-9, pro-priam by Kell Frees; 9-10, program, Gootze Bazz-pram by Kell Frees; 9-10, program, Gootze Bazz-and his Coccanut Grove dance orchestra. (PO, San Francisco, Calif. (243.3), 6:30-6:40 p. m., Amusement information service; 9:40-7, Waldemar Lind and the States Restdanat orchestra; 7-7-30, Rudy Lind and the States Restdanat orchestra; 7-7-30, Rudy Madane Lillian Stelkey Putini 9-10, talk on air service; Emile H. Roveno, bartione; Mrs. Pelletic, toprano; Mrs. Mark T. H. Shwayder, contralto; 10-11, Johnny Bucke's Cabirlans.

#### Wednesday, June 24

Wednesday, silent night for: CHNC, CKAC, CKY, RT, KFDM, KGD, KLDS, WBR, WCBD, WDWF, EBW, WFAA, WFI, WGBS, WGY, WHAR, WHAF, LY, WMAK, WMC, WOAW, WOI, WGRD, WPG, BBC, WRC, WRED, WSUI, WTIO.

wREG., WRC., WREG. WSU, WTIG.

WRO, Memphis, Tenn. (499.7), 7:30 p. m., health talk, Dr. E. E. Francis; 8:30, musicale; 11, Harry O. Nichols, organizares, Tenn. (282.8), 9 p. m., Yaursham Radio orchestra. (826.8), 9 p. m., yaursham Radio orchestra. (826.8), 6. p. m., advice to loreslour; 6:20, baseball scores; 6:25, program; 9, DeLuxe program; 10:30, orchestra. (435), 8 p. m., chines wO.C. Davenpert, Iowa (435.6), 5:45-6 p. m., ch

Hatrol Cluser, director.

WHN. New York, N. Y. (360), 2:15-2:45 p. m., Jimpy WHN. New York, N. Y. (360), 2:15-2:45 p. m., Jimpy WHN. New York, N. Y. (360), 2:15-2:45 p. m., Jimpy WHN. New York, N. Y. (360), 2:15-3:30, Rubey Cowan, Constant Charles or Chestra, 19-18-30, Rubey Cowan, Constant Charles or Chestra, 19-18-30, 1930-11, Passades Amusement, Park orchestra; 11:30-12, Silver Slipper revue and orchestra; 12-12:30 a. m., Strand Roof orchestra; 7, lucle Wip's bedline stories; Clayton Lentz, planist. cert orchestra; 7, ton Lentz, pianist.

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

from New York. N. V. (485), 4-4:39 p. m., program, Namits oncess; 4:30-5:30, Hotel Belmont tea music; Namits oncess; 4:30-5:30, Hotel Belmont tea music; Namits oncess; 4:30-5:30, Hotel Belmont tea music; Namits oncess; 8:45-6:40, NVU Air College; 8:45-6:15, S. S. Minnekahd orchestra; 8:30-16, Robert Armbruster, pianoist; 10:30-11:30, Billy Wynne's Greenwich Village Inn urchestra. Park McAQ, San Juan, P. R. (340-7), 8-10 p. m., municipal

WKAQ, San Juan, P. R. (340.7), 8-10 p. m., municipal band.

WLIT, Philadelphia, Pa. (384.5), 2 p. m., Aradia cafe concert orbestra; 4:30, "Care of Children', Mrs. Louis Love; 7:30, Dream Daddy no dedwing the English of Children', Mrs. English Children', Mrs. William (1998), 1999, 1

## PRESIDENT COOLIDGE TALK MONDAY

#### 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
Ing Time Stations
Staturday, June 20: WHAR:
\$15. WBAF: \$3.0 WHA: 10.15.
WNYC: 10.30, WEAF: 12. WMCA.
Sunday, June 21: 7:20, WCAE,
WEAF, WEEI, WJAR; 10, WHN.
Monday, June 22: 7:30, WEBI,
WHAR: \$. WGR: \$3.30, WAHG, WEZ,
WOR: 9, WEAF, WEEI, WJAR,
WOO: 9:45, WAHG, 10:15, WAHG:
10:15, WAHG; 10:15, WAHG:
WHAR: \$3.0, CKAC, WCAE, WEAF,
WEEI, WFI; 8:45, WEE; 12, WIN,
Wednesday, June 24: 7, WNYC;
\$3.0, WNYC; 9, WMCA: 10, WAHG;
10:15, WNYC; 10:30, WGR.
Thursday, June 25: 7:30, WEAF; 8,
WHN: 9, WEAF, WGHS; 9:30,
WGBS; 10, WHN: 11, WMAK; 12,
WFIARAY, June 26: 6:30, WGBS; 7,
WEIL, WHN: 7:30, WGHS; 7:45,
WEEL, WHN: 7:30, WGRS; 7.

WHN. 12, WMAK; 12, WMAK; 12, Friday June 26: 6:30, WGBS; 7, WHAR, 7:30, WHAR, 7:31, WHAR, 8:45, WHAR, 8:45, WHAR, 8:45, WEAF; 8:45, WHAR, 8:30, WEBI; 10:45, WEAF; 11:30, WHN; 12, WHN

Eastern Standard or Central Day-

WHN; 12, WHN.

Eastern Standard or Central Daylight Saving Time Stations
Saturday, June 20: 6, W1BO; 7,
WEAR, WLS: 8, WBBM, WBCN,
WIRO, WLS, WMAQ; 8:30, WMBE,
WHT, 10, WBBM, WBCM, WMBE,
WHT, 10, WBBM, WBCM, WKRC,
WLS, WMBF, WOJ, WTAM; 10:30,
WEBH, WGES, WJJD, WRC; 11,
WBBM, WHT, WKRC, WLS, WGJ,
WTAM; 11:30, WEBH, KGES; 12,
WEAR, WHT, WLS, WQJ, WSAI;
12:30, WEBH, WEC, I, WEAR,
WEAR, WHT, WLS, WQJ, WSAI;
12:30, WEBH, WBC, I, WEAR,
WEAR, WHT, WLS, WQJ,
WEAR, WHT, WLS, WQJ,
WASI,
12:30, WWBH, WBC,
SINGAY, JUNE 21; 5:20, WWJ,
SINGAY, JUNE 21; 5:20, WJJ,
WTAS; 11, WGES, WHO,
WHAS; WCEE, WJJD, WMBF; 11,
WKRC, WSAI; 11:30, WCEE,
WMBF; 12, WKRC,
WBCN, WCEE, WJJD, WMBF;
MWRCN, WBC,
WHEN, WHAS, 10:15, WAS,
13:30, WCEE, WJJD, WAB,
13:30, WCEE, WJJD, WBB,
13:40, WCEE, WJJD, WBB,
13:40, WCEE, WJJD, WBB,
13:41, WGES, WHT,
14, WGES,
WHT, WJJD; 11, WBBM,
WGCN, WGES, WKRC, WJS, WQJ;
11:20, WLS; 11:30, WCEE,
WBEH, WGES, WKRC, WJS, WJB,
WEBH, WGES, WKRC, WJS, WJB,
WEBH, WGES, WKRC, WJS, WWBF,
WEBH, WGEN, WLS, WLW, WAS,
WREM, WRN, WLS, WLW, WAS,

WBBH, WGES, WHT: 1, WISO, WQJ. WGJ. WS & KYW. WBBM, WBCN. WLS. WLW. WTAS: WERC. WLS. 8:30, WEZ. WEBH, WMBB: 8:45, WHT. WKRC: 9. KYW. WBBM, WBCN. WTAS: 9:15, WKRC: 9:30, WEBH, WMBF: 10, KYW. WBCN, WISO, WBH, WGES, WGN, WTT, WJJD: 11, KYW. WISO, WLS. WQJ: 12:30, WEBH 12, WGES, WQJ: 12:30, WEBH WHT; 1, WQJ.

Central Standard Time Stations
Saturday, June 20: 6:20, WFAA: 8,
WSB: 10, KFVE: 10:45, WSB: 11,
KFAB; 11:45, WDAF:
Sunday, June 21: 9:30, WFAA.
Monday, June 22: 6:30, WFAA.
Monday, June 22: 6:30, WFAA.
MOAW: 6:45, WCCO: 7:30, KFAB:
8, WCCO: 8:30, KFAB. WSME: 9,
KSD: 9:25, KTHS: 9:30, WSMB: 10,
KFVE; WOI: 10:45, WSB: 11:45,
WDAF: 325, KTHS: 8:30, WFAA. 9,
WOAW: 9:25, KTHS: 8:30, WFAA: 11:45,
WARD: 8:30, KFAB, WFAA; 11:45,
WARD: 8:30, KFAB, WEAO: 9,
WHAD, WOAW: 9:25, KTHS: 9:30,
WOAN: 10, KFVE; 11:45, WDAF.
Thursday, June 23: 8, WSB: 8:30,
WAA, WSMB: 9:25, KTHS: 9:30,
WOAN: 10, KFVE; 11:45, WDAF.
Thursday, June 25: 8, WSB: 8:30,
WFAA, WSMB: 9:25, KTHS: 9:30,
WOAN: 11, KFAB; WEAO: 11:45,
WDAF: JUNE 26: 6:30, WFAA: 7:30,
WFAA, WSMB: 11, WFAA: 11:45,
WDAF: JUNE 26: 6:30, WFAA: 7:30,

Mountain Standard Time Stations Monday, June 22: 8, KOA. Wednesday, June 24: 8, KOA. Friday, June 26: 8, KOA.

Pacific Standard Time Stations Saturday, June 20: 8, KFWB, KNX; 9, KFWB, KNX; 10, KFI, KFWB; 11, KFI, KNX; 11:30, KHJ; 12, KFI, KNX; 12:30, KHJ; 1, KFI, KNX; 2, KFI

unday, June 21: 8, KHJ; 9, KFWB, KFWB.

Sunday, June 21: 8, KHJ; 9, KFWB, 10, KFWB, 10, KFWB, 10, KFWB, KNX; 10, KNX; 10, KFI, KFWB, KNX; 10, KNX; 10, KFI, KFWB, KNJ, KNX; 10, KFWB, KNJ, KNJ, KNX; 11, KNX, KFO; KFWB, KGW, KNX; 11, KNX, Wednesday, June 24: 7:30, KFI; 8, KFWB, KGW, 10, KFWB, KGW, KNX; 11, KNX, Thursday, June 25: 8, KHJ, KNX; 10, KFWB, KHJ; 10, KFF, KFWB, KHJ; 10, KFF, KFWB, KHJ; 11, KNX, Friday, June 26: 8, KFWB; 9, KFK, KFWB, KHJ; 10, KFWB, KFWB, KNX; 10:30, KGW; 11:30, KGW.

# Robert Visconti, violinist, is the director of the popular Hotel Gibson orchestraplaying from 7 to 8 every Monday, Wednesday and Thursday at WLW. Gincinnati. the State," Judge Ben B. Lindsey; "Wedding Bells," KOA players; 10-12, Dave Gingsburg and his Argonaut Pacific Standard Time Stations Pacific Standard Time Stations FAE, Pulman, Wash, G34.60, 72.30-9 p. m. program, Fourth Annual Conference of Bows' and Girks' clubs FAI, Annual Conference of Bows' and Girks' clubs KFI, Les Angeles, Califi. (467), 5-30-6 p. m., Examiner's matinee program; 6-6-15, McDamiels' nightly doines; 8-15, mureal appreciation talk; 7, detective states of the state of the state of the state of the state dimension of the state of the state of the state dimension music; 8-8, program, Ventura, Reiningcompany; 9-10, program any the Examiner girls, Madelyn Hardy and Jean Jaequee; 10-11, Patrick, Marsh dance orchester, Betty Patrick, soloist, Madelyn Hardy and Jean Jaequee; 10-11, Patrick, Marsh dance orchester, Betty Patrick, soloist, Marsh dance orchester, Betty Patrick, Marsh dance orchester, Betty Patrick, Marsh dance orchester, Marsh dance orchester, Hours, Brother of KFWB3, 7-8, program, Browellridge, company, Deverbyridge collections dance orchester, 8-9, program, Arrawhead Springs Water company; Lake Arrawhead String quartet; Bill Hatch's movelle, Frank Pierce, polanist, Vic Real, comer; 19-14, Warner Bros. movel frolic, arranged and presented hy Charlie Wellman.

br. Clurile Wellman.

Art. Company and Com

#### Thursday June 25

Thursday, silent night for: CHNC, CHYC, CNTR, KFAB, KFAE, KFDM, KFOA, KFUO, KFVE, KOA, KSD, PWX, WAHG, WCE, WEAO, WEBJ, WEBW, WHA, WHAD, WHAD, WHAZ, WJJD, WKRC, WLIT, WOR, WOS, WRG, WSU, WTAM

Atlantic or Eastern Daylight Saving
Time Stations
KAC, Montreal, Can. (410), 9 p. m., C. N. R. program

CKAC. Mentreal. Can. (440), 9 p. m., C. N. R. proferam.

WBRR. New York, N. Y. (272.6), 8 p. m., instrumental
trio, Carl Park, Frank Wood, George Twaroschig,
Silb, Lillian Haviln, soprano; Sunday school lesson,
N. M. Yan Shpma's 35.6 instrumental trid, carl selection,
N. M. Yan Shpma's 35.6 instrumental trid, dinner concert, William Haviln, soprano; Sunday school lesson,
N. M. Yan Shpma's 35.6 instrumental trid, dinner concert, William Penn hotel; 8, recital; 9, Advaler Kent
Radio artists; 10, Goodrich Silvertown Cord orderstra.
WOAU, Philadelphia, Pa. (278), 6:30 p. m. Hotel
Pennaryunia Interfraterally orchestra; 9:30, K. ChraZillessen; 8:30, recital; 10:30, dance orchestra.
WDWF, Providence, R. I. (440.9), 6:30-8 p. m., Nartragnesselt Hotel orchestra.
(391.5), 4-315 p. m. Artragnesselt Hotel orchestra.
(391.5), 4-315 p. m. Artragnesselt Hotel orchestra.
(391.5), 4-315 p. m. Artragnesselt Hotel orchestra.
(391.5), 5-4-315 p. m. Artragnesselt Hotel orchestra.
(491.5), 5-4-315 p. m. Artragnesselt Hotel orchestra.
(491.5), 5-4-315 p. m. Artragnesselt Hotel orchestra.
(491.5), 5-4-315 p. m. Artragnesselt Hotel orc

Philadelphia, Pa. (394.5), 3 p. m., House-

wives' Radio exchange and garden talk, Mahel Swint Ewer; 6:45. Bellevue Stratford roof garden orchestra; 8. concert from WEAP; 9. Adwater Kentten Radio artists; 10. Goodrich Silvertown Cord or-chestra.

WEAF, including Mozart vocal and instrumental ensemble; Atwater Kent and Goodrich Silvertown Cord
will all the state of the state of

10-10-20, staff recital; Milton J. Cross, tenor; Gott-frey Ludikov, violinist; Keth McLeed, planist; 10-330-11-30, Waldorf-Astoria dance orchestra.

WMCA, Wester State and Control of the Control of the Control of Carlottin.

WMCA, New York, N. Y. (341), 3-5 D. m., musical program; 7-5-8, songs, Loreal Farmur; 30-1-10, Sneed-dam Welf, bartione; 11-12, Ernde Golden and his Hotel WNYC, New York, N. Y. (326), 63-07 D. m., market high spots; 7-7-25, dance music; 7-35-7-30, baseball results; 7-35-5, dance music; 8-215, "Timely Topics," F. P. Bent; 8:15-10-30, program, residents of the Greenpoint Section of Brockyn.

WOO, Philadelphia, Pa. (508-2), 4-15 D. m., orran reden orchestra, Tost; 7-23, 5.

WOR, Newark, N. J. (405), 6:15-7:15 D. m., "Ton Cooper's Country club orchestra; 7-15-7-30, sports talk, Bill Wathey.

## Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8, program, National Stockman and Farmer studio; 8:45, Tenberry time; 9:55, baseball; 10:30, Pittsburgh Pets studio.

KYW, Chicage, Ill. (363), 6-68 p. m., Congross hotel; 15-7 p. m., Francis, 10:30, program, 10:

#### DANCING

(Central Time) (Central Standard Time)

#### Wednesday, June 24

(Continued from page 11)

(Continued from page 11)

WLW. Cincinnati. 0. (422.3), 7 p. m., dinner how consert. Riotal Gibson orrelatira, Robart Visional, director; 8, The South Sea entertainers; Hawatian specialties: The Cinc Male quartet; Instrumental trio, violat, cells and piano; organ concert. Johanna Grosse. And the control of the control of

Toadstool orchestra; 10, Congress Funyang, Catto quartet; Mrs. Hazel Morgan Levy, contrallo; Clarence Pearce, tenor. VTAS, Effin, III. (302.3), 3.10.30, p. m., Joe Rudolph Willey Toats. Works, Polly Willey Toats. Mortis, Polly Willey Toats. Mortis, Polly Willey Toats. Mortis, Polly Willey Toats. Mortis, Polly Will, Octob, Mich. (352.7), 6 p. m., dinner concert; 8, Detroit News orchestra.

#### Central Standard Time Stations

KFAB, Lineain, Neb. (240), 7.30-9.39 n. m., Walkiki tris; LeLand Wood, violinist; Everest Dodds, Secutish tris; Ruth Zimmerman, Geraldine Munderfer. KFMF, Shenandeah, la. (256), 7.30 p. m., Young People, Christian church, KFUQ, St. Louis, Mo. (545.1), 9.15 p. m., "The

KTHS. Hot Springs rational rats. Also conditions of the control of

WALL STATE CONTROL OF THE CONTROL ON THE CONTROL OF THE CONTROL OF

orchestra; 10-12, dance music, Freetwau naum unchestra, MoAN, Lawrenceburg, Tenn. (282.9), 9 p. m., Vaughan Radio orchestra; Vaughan male quarter. WGC, Davenport, 12, (483.6); 534-6 p. m., chimes condition of the state of the

WSMB, New Orleans, La. (319), 6:30-7:30 p. m., dinner musicale; Oriole male quartet; 8-10:30, talks, en-

#### Mountain Standard Time Stations

Krwa, Ogden, Utah (261), 9-11 p. m., old time music, Krwa trio; 11-12, Whoopus club. Koa, Denver, Colo. (3224), 8 p. m. Fred Schmitt and his Rialto theater orchestra; 8:10. "The Child and

## IDAY ON WEAF, NEW YORK, AND LINK



#### DANCING

(Central Time) (Central Standard Time) 

chestra; West 'Buil Harmony boys; Isabelle Shuson, soprano; "Big Boy" Yagle; Peggy O'Nell; 19-11. Eftner Jozdan and company seni-classical program; Mrs. Duncau, soprano; Pearl Falrehild, planist; 11-1; Nick Holland, tener; Peggy O'Nell, soprano; Jillewy Dannein; Gardens orchestra; Ed Wallace, tenor. WEZ, Springheld, Mass. (333.3), 6 p. m., Leo Reisman's Hotel Jenox ensemble; 6:39, baseball; 7:39, WO, N. Marche Innel; Spring Phon, Motionian install program; 6, dinner concert, Book-Cadillae hotel; 7, musical program; 6, dinner concert, Book-Cadillae hotel; 7, musical program.

Nemp.
WGES, Oak Park, III. (250), 5-6:30 p.m. Edgar
Scott, tenor; Edna Wallace, sourane; Lucille Matthews,
tollinst; 6:30-7; bettime stories, Cornelia Dungan;
10:30-1, A. Cavallo and list 11 Master Mueldans,
Edwin, Barge, Louis Buller; Coyne Electrical School

1050hr. A. Cretain and ma the states of the content of the content

tenor: Ritia McFawn, soprano; 12:30-1 a. m., Al McBerrey, cognalis; (344-6), 6:30 p. m., Ralph Emerson, organis; (374-6), 6:30 p. m., Ralph Emerson, organis; 7:15, Cormiuskore' orehestra; 7:15, Ullaby time, Aunt Martin, Uncle George; 8:8-35, WLS opera company, "The Mikado, Survey of the Control of the Con

Esther Manner, violinist; Mrs. Theodore Haun, so-prano.
WMAL Chenrit, N. (265.5), 11 p. m., Murray
WMAL Chiego, 111. (47.5), 8 p. m., Chicago theaster organ recital; 6:39, Botel LaSalle orchestra; 8, "Hunt-ing Possils in Patagonia," Prof. E. R. Riggs; 8:39, Boy Scout talk; 8:40, Jane Fritch, soprano; 9:15, Ukrainian choir.

Washington, D. C. (469), 7 p. m., Lee House 7:30, U. S. Marine band; 10, Hotel Mayflower

Detreit, Mich. (352.7), 6 p. m., dinner concert oucert from New York.

#### Central Standard Time Stations

CKY. Winnipse, Can. (384.4), 8 p. m., C. N. R. bruggins.

CKY. Winnipse, Can. (384.4), 8 p. m., C. N. R. bruggins.

CKY. Shaenadah, 12. (256), 1:30 p. m., contect content con

retrew, Homaine Fielding, (CH), S. p. m. Independence Net ChS. Independence, Mo. (441), S. p. m. Independence Industria, and the ChS. Independence Industria, and ChS. Independence Industria, and Industria, and Industria, and Industria, and Industria, and Industria, Industria

soon anno orrestar; 1-7.30, Fiethrood Radio orchestra.

MC, Memphis, Tenn. (499.7), 7.30 p. m., science dalk, Brother Joseph; 8.30, musicale.

ML, Brother Joseph; 8.30, musicale.

ML, Brother Joseph; 8.30, musicale.

MC, Marchart Joseph; 8.30, musicale.

Radio orchestra; male quartet.

MOAW. Onaha, Nebr. (526), 6 p. m., story hour, Grace Sorenson; 6.20, baseball soores; 6.30, announced; 7. Randalls; Royal Fontenelle ordestra; 9. Sunchine MC, Davenport, 1a. (483.6), 5.45-6 p. m., blings orchestra.

MCC, Davenport, 1a. (483.6), 5.45-6 p. m., blings concert; 6. haseball scores; 6.30-6.56 Sandman's concert; 6. haseball scores; 6.30-6.56 Sandman's WRAF processure; 9. "Phylinatism," Emil Silherstein; 11-12. Lonis Comor and his LeCulaire hotel orchestra; Peter MacArthur, bartions.

MCJ, Ames, Ia. (279, 8.15 p. m., missela procram.

MCJ, Ames, Ia. (279, 8.15 p. m., missela procram.

MCJ, Ames, Ia. (279, 8.15 p. m., missela procram.

But it alse; 8.30-10.30, Johnny Tohin's senaders; orchestra.

Pacific Standard Time Stations

KFI, Los Angeles, Galff. (467), 5:39-5 m. m. 2x
KFI, Los Angeles, Galff. (467), 5:39-5 m. m. 2x
6:45. radiotorial talk; 7. "Knee Deep in June",

uusie, poetry and foolishness; 7:39-9. Parker's Great
American band of 60 plees; 9-10. Southern Cali
fornia Music company; 19-11, Examiner's popular

KFWB, Hollywood, Califf. (252), 6-7. p. m., children's

hour, Big Brother of KFWB; 7:45, talk on plastic

surgery, Dr. T. Byod Brown; 8-9, late news, program

to the property of the property of

Fields Motor Car company; 10-12, dance music.
Kenfir's Multinoma's holed orchestra.

Kenfir's Multinoma's holed orchestra.

100's Arcade cafeleria orchestra, Jode Cronshaw, leader; 6-8-39, Art Hickman's Billimore holed concert orchestra, Edward Filspatrick, director; 6:30-7:30, Hillocope, 10-10-7, 1

#### Friday, June 26

Friday, silont night for: AT9, CHNC, CKAC, KFAE, KFUO, KGO, KLDS, PWX, WBBR, WCBD, WEAO, WEBW, WFI, WGBS, WHAZ, WKAQ, WKRC, WLW, WMAK, WOI, WOR, WRC, WREO, WSAI, WSUI, WTAM.

#### Atlantic or Eastern Daylight Saving Time Stations

"Time Stations

MRA. Montion. Gam. (313), 8:30 p. m., choir, First

Bapits clutech, Br., Ametrone cocalist; quartet; I. Kelth, planist; Ametrone cocalist; quardress, H. H. Melanson; CNRA orenestra.

WHG, Richmond Hill, N. (315.6), 7:30-7:45 p. m.,

WHG, Richmond Hill, N. (315.6), 7:30-7:45 p. m.,

Jack Joel and Fred Button 7:45-8, popular sones,

Jack Joel St., Joel St.

Caton; 10:43-11, 150s topper and Harriet Hoppe; 11-12, dance music.

EBJ, New York, N. Y. (233) 7-7-30 in. Jack EBJ, New York, N. Y. (233) 7-7-30 in. Jack September 11-12, dance music. S

WFI, Philadelphia, P.a. (394.5). 3 D. m. Canvilne Haffmanh, planist, 6:55, Bellevee Stratford roof garden man, planist, 6:55, Bellevee Stratford roof garden WGBS, New York, N. Y. (315.6), 3:3:10 D.c.m., interview with Edward A. Wilson by Tenese Rose Nagel; 5:10-2:30, Hen Hyans, planist; 3:29-3:30, rectations, C. L. Odetz, 3:30:3-43.6 Ben Hyans; 3:30-3:30-3:50, theory, 1:20-2:30, Londer, 3:30-3:30-3:50, theory, 1:20-3:30, Londer, 3:30-3:30-3:50, theory, 1:20-3:50, Londer, 3:30-3:30, L

gram; 9, Maine Creamery hour; 11, Frownesse Dis-more hotel orchestra. MJY, New York, N. Y. (405), 7:30-8:30 p. m., Freddie Rich & Totel Astor Roof orchestra; 9-9:15, Soutch Blad Blad Roof, Robert & Chree, barrione; 9:15-3:30, Six Yours in the Malay Jungle," Carreth Walls.

skil s. Hotel astor Root orchestra; 9.5:15. Sociel and programme of the control o

## Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KDKA, Pittsburgh Pa. (309.1). 2:36-5 p. m., baseball;

7. baseball; 8:45, concert; 9:55, baseball.

KYW, Chicago, Ill. (359), 6-6:30 p. m., Congress hotel;

7-7:30, Evening American studic; 9:11:39, Paul WhiteKYW, Chicago, Ill. (359), 8-3 p. m., Firestde hour;

George Cleveland; Dr. F. Wall, per leg concellan;

Charles Richards; Hidoby dult; 10-12, remest pro
Radio Company of the Co

planist; Goldie Shour, violinist; 9:40, "At the Release," A. I. S. Wood; 9:59, baseball. Well, and the Release of the Release of the Release of Release of

Hess; Sandy McTavish; Coyne Electrical School severanders; With, Chicago, Ill. (370.2), 6.39-7.39 p. m. Drake segment ensemble, Blackstone string quintet; 8.39-8. Med. (1998), 1998

mony orchestra. Julius Boxhorn, conductor; Floyd H. Marker, organist; 0,30, comedy, "Little Lord F. Marker, organist, orga

9:15. "Culture and Art." Theo. S. Bergy; 10:10:00, orchestra.

W.J. Ohicago, III. (447.5), 7-8 p. m., Raiph Williams and this Bulain Garden orchestra; Albuti M. Tilton, and this Bulain Garden orchestra; Albuti M. Tilton, reader; 10-1, Raiph Williams and S. Marker, and S. Salarks, G. Galdys Kern, contrailo; West Brothers; Lauretta Giles, soprano; Paul Sunall, tenor; 1-2, Ginner hour.

WREO. Lanison, Mich. (285.5), 10 n. m., baselall.
WTAS. Elgin. 111, (302.5), 8-10.30 n. m., baselall.
WTAS. Elgin. 111, (302.5), 8-10.30 n. m., Joe Rudoloh
WTAS. Elgin. 111, (302.5), 8-10.30 n. m., Joe Rudoloh
WILLING Lanison, W. L. (1990.), 100.00
WILLING Lanison, 100.

#### Central Standard Time Stations

Winnipeg, Can. (384.4), 8:30 p. m., studio pro-Eran.
KFAB. Lincoln, Nebr. (240), 7:30-9:30 p. m., F. C.
Curtice and students; Mrs. Flood and orchostra.
KFDM. Beaumont, Tex. (315.6), 8-19:30 p. m., Rey band. Shenandoah, Ia. (266), 7:30 p. m.. Prather

Sisters. KFVE, University City, Mo. (240), 6-7 p. m., Radiocast review. Romaine Fielding; 10, Orchestra Romaine;

review. Romaine Freidung; 10, Orenestal Ducco and Diana entertainers. KSD, St. Louis, Mo. (545.1), 7:30 p. m., "Commerce Hour," one act play, Ruth Kelso-Renfrow; 8, pro-

August Company and Company and

Marion Burges, accompanist; 10, Automos modernostra, WDAF, Kansas City, Ma. 365,50, 6-7 p. m., literary talk, R. Clay Harvey; address, speaker, Karnass City, Charles and Control and Cont

field free orenesses, 153.4), 7:45 p. m., Prof. Robert W. West, reader, West, reader, What, Missakee, Wis. (275), 6-7 p. m., Wisconsta theater organ recital; 8:30, Wisconsin theater weekly revue.

theater organ rectait; 0.00, viaconand mean.

WHAS, Louiville, My, (309.8), 730-0, pm., Original Kentucky Night Ords' orthestra; baseball scores, WHO, Des Monies, 1a. (259, 730-9, pm., Des Monies university; 11-12, Receo-Hudnes orchestra.

WHOF, Minani Beach, Fla. (3644), 630-7, pm., Fleetwood Radio orchestra; 10-12, dance missis, Fleetwood Radio orchestra; 10-12, dance missis, Fleetwood Radio orchestra.

chestra; 10-12, dance music, Picetwood Radio ercirestra.

WMC, Memphis, Tenn. (499.7), 7:30 p. m., Radio tall;

SMC, Memphis, Tenn. (499.7), 7:30 p. m., Radio tall;

SMC, Memphis, Tenn. (499.7), 7:30 p. m., Radio tall;

Bracelante, Gircelor, 11. 100 Miller and his Steamer
Idlewild orchestra; nuls quartels.

WOAN, Lawrencebura, Tenn. (822.9), 40 p. m., Vasushan,

Radio orchestra; nuls quartels.

Menter Bronson Cooper, 12.00, baseball sortes; 6:30,

orchestra; 9, First Christian church orchestra and suloists; 10:30, Brandels Ten Room orchestra.

WOC, Davensort, 1a, (438.6), 6:36-6 p. m., sundmark

WOC, Davensort, 1a, (438.6), 6:36-6 p. m., sundmark

visit, Val McLausthin; 7:30+7:30, "Horse

before Autos", "The Hog Market Prospects", 8-5,

Ziegler concert band,

WOS, Jefferson City, Mo, (440.9), S. p. m., "Condition

WSBB, New Orleans, La. (419), 6:39-7:30 p. m., dinnet

program, baseball.

#### Mountain Standard Time Stations

KFWA, Osden. Utah (261), 9-11 p. m., KFWA Radio Boys' dance orchestra. KOA, Denver. Colo. (322.4), 8 p. m., Fred Schmidt and his Riatio theater orchestra: 8:19, Loveland Chamber of Commerce program.

#### Pacific Standard Time Stations

Facilic Standard Thire Stations
Kfl. tos Angeles, Calif. (467), 5:30-6 b. m., Examiner's matinee musicale: 5, McDandels' nightly
doings; 6:45, radioorial talk; 7, community program
by the Examiner; 8, Acollan residence pipe organ
(Continued on page 14)

## An Evening at Home with the Listener In

#### STATIONS IN ORDER OF WAVE LENGTHS USED

Meters Call	Meters Call	Meters Call	Meters Call	Meters Call	Meters Call
Control of the contro					
226 WBBM	275 WHAD			405.2 WJY	468.5 WCAP
	275 WHAR			405.2 WOR	468.5 WRC
233 WEBJ	275 WORD	315.6 WGBS		406 WBAR	475.9 WBAP
240 KFAB	275.3 WJAS	319 . WGR	365.6 WHB	410.7 CKAC	475.9 WEEI
240 KFVE	278 WCAU	319 WSMB	370 CYB	416.4 WCCO	475.9 WFAA
243.8 WAMD	278 WLBL	322.4 KOA	370.2 WEBH	421 KIAF	480 CYL
250 WGES	278 WRBC	325.9 WSAI			483.6 WOC
250 WMBB	280.2 WNAC		374.8 KTHS	422.3 WLW	
252 KFWB	282.8 WOAN	333.3 WBZ		428.3 WSB	483.6 WSUI
261 KFWA	285.5 WKAR	336.9 KFMX		428.3 KPO	491.5 KGW
261 KSL		336.9 WCAL		434.5 CNRO	491.5 WEAF
265.5 WMAK	285.5 WREO	1336.9 WSAC		434.5 NAA	499.7 WMC
266 KFNF	288.3 KFKX	336.9 KNX		435 AT9	508.2 KLX
266 WBCN	293.9 KJS	340.7 WKAQ		434.5 CFCN	508.2 WIP
	293.9 WBAV	340.7 WMCA		440.9 WDWF	508.2 WOO
	293.9 WEAO	344.6 WCBD		440.9 WOS	516.9 CJCA
270 WOI	299.8 KFMQ	344.6 WLS		447.5 WMAQ	516.9 WCX
272.6 WBBR	299.8 WPG			447.5 WQJ	526 WHO
272.6 WFBH	302.8 WJJD		394.5 WOAI	454.3 KFOA	'526 WNYC
273 WRW	302.8 WTAS			454.3 WJZ	526 WOAW
275 KFAU	305.9 WJAR		399.8 WHT	455 KTW	535.4 KYW
275 KFKU	309.1 KDKA			461.3 WCAE	545.1 KFUO
275 WABL				467 KFI	545.1 KSD
\$14 CH					

#### INSTRUCTIONS FOR USE OF TABLES

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 here in three different standard times; Eastern, Central and Pacific. 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 Bastern daylight saving, or Atlantic time: Use Eastern time table by adding one hour to every figure given.

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

are necessary.

Friday, June 26 (Continued from page 13) studio, Dan McFarland, organist; 9, play with music, "The Kentucky Mountaineer," by George Frenger; 10-11, artist-pupils of Myra Belle Vickers in all vocal

## DESCRIBE AIR SHAM

MAJOR VAUGHN RECOUNTS MOVEMENTS OF FIGHT

11. artust-pupis of alym lenus viceors in all vocal Fw [8]. Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 8-9, program, Frazier's mountain park and fisheries, Frazier's ordiestra, McBa jazzmania piti; Salvino Balano string trio; 9-10, KFWB feature musical hour; 10-11, Warner Bros-frolte, direction Charlie Wellman. Fans Hear Reports of Scrimmage a Planes Attack and Defend New York

KGO. Oskiaad, Calif. (3812), 6.7 p. m., Ben Black's orchestra. KGW, Portland. Orc. (491.5), 7.30-8 p. m., bascball; conclusive and control of the control NEWARK, N. J.—One of the most novel Radio events was the recent broadcasting through WOR of the sham battle in mid air over Times Square, New York, by filters of the National Guard from Miller Field, Staten Island.

Field, Staten Island.

Major George C. Vaughn, Jr., D.S.C.,
D.F.C. broadcast from the air through
WOR, describing the progress of the
battle to listeners. Major Vaughn is the
commanding officer of Miller Aviation
Field and is rated the second greatest
American living ace, with a war record
which gives him official credit for bringing down twelve enemy planes and one
balloon.

balloon.

The planes flew over the central part of New York in plain sight of ground observers, and preliminary to the opening of the sham battle the air feet circle over the WOR New York studio, located in Chickering hall. According to WOR this was the first aerial combat ever described from the air.

## Dreams of Radio Joy for Convicts

New York Prison Allows Prison-ers to Have Sets in Their Cells

#### Educational Radio Work Tried in Wes

OSSINING, N. Y.—"Stone walls do not a prison make nor iron bars a cage". For, thanks to Warden Lewis E. Lawes, prosperous enough prisoners detained by the state at Sing Sing prison, can now have Radio receiving sets in their cells. On dull evenings, when there's no show in the prison theater to keep them happy and they read the latest issue of the prison newspaper, the more fortunate prisoners can slip on their head sets and tune in on their favorite jazz orchestra, lecturer or announcer of news events.

At the present time there are ten or invelve receiving sets privately owned. Each of these have several head set extensions to other cells. Sixty or seventy prisoners have head sets.

Loud speakers are not permitted in the cell blocks. Larger receiving sets have been installed for several months in the chapel, the home of Warden Lawes and the contract of the parts of the institution.

Work Tried in West
University of Washington Tests

Lecture Programs Broadcast

SEATTLE.—Educational test programs from KTCL are being planned in Seattle and the state of Washington officials, who have been collecting data from other colleges and trying their effects on the campus. Trofessor Edwin Guthrie of the psychology department has made tests by dividing his class of 400 into two parts. One section listens to his lectures "face to face" in Science hall. The other section face in Science hall. The o

71					FOR P	ACIFIC	TIME	and of James 6	-		
	Call	Met. I	Saturday I	Sunday I	Monday	Tuesday	Wednesday	Thursday	-14	****	
1	AT9	435	Silent	3:00- 4:00	Silent	Silent	Silent	Thursday 5:00- 7:55	Friday Silent	Met.	Call AT9
H	CFCA	356.9 434.5	Silent 9:00-11:00	4:00- 5:00 Silent	Silent Silent	5:15- 6:15 Silent	5:15- 6:15 Silent	5:15- 6:15 7:00- 8:00	Silent	356.9 434.5	CFCA
1	CHNC	356.9 516.9	Silent 8:00-10:00	Silent 6:30- 7:30	5:30- 6:30 6:30- 8:30	Silent 6:30- 7:00	Silent 5:00- 7:00	Silent 8:00-10:00	Silent 7:00-11:00	356.9 516.9	CHCN
1	CKAC	410.7 384.4	4:30- 9:30 Silent	1:30- 2:30 5:00- 6:45	Silent Silent	4:30- 9:30 5:30- 8:00	Silent	4:30 - 9:30 6:00 - 7:00	Silent 5:30- 8:00 4:30- 5:30	410.7 384.4	CKAC
1	CNRA	313 434.5	Silent 4:30-9:30	Silent Silent	Silent Silent	4:30- 5:30 Silent	Silent 4:30- 9:30	Silent Silent	4:30- 5:30 Silent	313 434.5	CNRA
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I	CYX KDKA	330 309.1	Silent 5:45- 6:55	Silent 12:00- 4:30	7:15- 8:30 5:45- 6:55	Silent 5:45- 8:30	Silent 5:45- 6:55	Silent 5:00- 8:30	7:15- 8:45 5:45- 6:55	330	CYX
	KFAB	240 348.6	9:00-10:30 Silent	2:00- 3:00 Silent	5:30- 8:00 Silent	Silent Silent	5:30- 8:00 7:30- 9:00	Silent Silent	5:30- 8:00 Silent	240 348.6	KFAB
I	KFAU	275 315.6	Silent	Silent Silent	7:00- 8:00 Silent	Silent 6:00- 7:00	Silent Silent	Silent	7:00- 8:00 6:00- 7:00	275 315.6	KFAU
	KFI KFKU	275	6:45-12:00 Silent	4:00-11:00 Silent	6:45-11:00 4:50- 6:00	6:45-11:00 Silent	6:45-11:00 Silent	6:45-11:00 4:50- 6:00	6:45-11:00 Silent	467 275	KF1 KFKU
1	KFKX	288.3	Silent	Silent	7:30- 9:00 Silent	Silent 7:00- 8:00	Silent	7:30- 9:00 5:30- 6:30	Silent Silent	288.3	KFKX
I	KFMX	336.9 266	Silent 5:30- 6:30	5:00- 6:00 4:30- 8:00	Silent 5:30-6:30	7:00- 8:00 8:00- 9:00 Silent	7:00- 8:00 5:30- 6:30	Silent 5:30- 6:30	Silent 5:30- 6:30	336.9 266	KFMX
3	KFOA	454.3 394.5	6:00-11:30 5:30-10:00	Silent 3:00- 5:00	6:00-10:00 5:00- 8:30	6:00-11:30 8:30-10:00	6:00-10:00 6:00- 8:30	Silent 8:30- 9:30	6:00-11:30 9:00-11:00	454.3 394.5	KFOA KFRU
	KFU0 KFVE	545. I 240	Silent 8:00-10:00	7:15- 8:15 Silent	Silent 8:00-10:00	Silent 8:00-10:00	7:15- 8:15 8:00-10:00	Silent Silent	Silent 8:00-10:00	545.1 240	KFU0 KFVE
f	KFWA KFWB	261 252	Silent 7:00-11:00	8:00-9:00 9:00-11:00	8:00- 9:00 6:30-11:00	8:00- 9:00 7:45-11:00	8:00-9:00 7:00-11:00	Silent 7:00-11:00	8:00-10:00 7:00-11:00	261 252	KFWA KFWB
1-	KG0 KGW	361.2 491.5	8:00-1:00 6:00-12:00	3:30-9:00 7:30-10:00	8:00- 1:00- 6:00- 7:00	8:00-1:00 9:00-12:00	Silent 8:00-11:00	8:00-1:00 8:00-12:00	Silent 9:00-12:00	361.2 491.5	KGO
n I-	KIAF	405.2	5:30-11:00 Silent	2:00-11:00	7:00- 1:30	5:30-11:00 Silent	5:30-11:00 7:00- 8:00	5:30-11:00 Silent	5:30-11:00 7:00- 8:00	405.2	KIAF
s.	KJR KJS	384.4 293.9	Silent	7:00- 8:00 7:15- 9:30	6:00-10:00 Silent	Silent 8:00- 9:00	8:30-10:00 Silent	10:30-12:00 8:00- 9:00	8:30-10:00 Silent	384.4 293.9	KJR KJS
n d	KLX	508.2 336.9	Silent 6:30- 2:00	Silent 5:00-11:00	6:00-11:00 6:30-12:00	Silent 6:30-12:00	6:00-11:30 7:00-12:00	Silent 6:30-12:00	6:00-10:30 6:30- 2:00	508.2	KLX
r s.	KOA KOB	322.4 348.6	8:00-11:00 Silent	3:30- 7:30 Silent	7:00- 8:00 6:30- 7:30	Silent Silent	7:00-11:08 Silent	Silent Silent	7:00- 8:00 6:30- 7:30	322.4 348.6	KOA KOB
x	KPO KSD KSL	428.3 545.1	6:25-12:00 5:00- 7:30	6:30-10:00 Silent	6:30-11:00 7:00- 9:00	6:30-11:00 4:30-6:30	6:30-11:00 5:30-6:30	6:30-11:00 Silent	7:00-11:00 5:30- 7:00	428.3 545.1	KP0 KSD
e	KTHS	261 374.8	7:00-10:00 6:30- 8:00	8:00-10:00 6:30- 9:30	7:00-10:00 6:30- 8:00	8:00-10:00 6:30- 8:00	7:00-10:00 6:30- 8:00	7:00-10:00 6:30- 8:00	8:00-10:00 6:30-8:15	261 374.8	KSL
f	KTW	455 535.4	Silent 4:00-10:30	7:00- 9:30 1:00- 5:00	Silent	Silent 4:00- 8:30	Silent 4:00-10:30	Silent 4:00- 8:30 4:45- 5:00	Silent 4:00-10:30	455 535.4	KTW
it!	PWX	434.5 400	Silent 5:30- 8:00	Silent Silent	4:45- 5:00 Silent	4:00- 8:30 4:45- 5:00 Silent	4:25 - 5:40 5:30 - 8:00	Silent	4:45- 5:00 Silent	434.5 400	NAA PWX
·e	WABL WAHG WAMD	275 315.6	9:00-11:00	Silent Silent	4:00-6:00 4:00-10:00	Silent Silent	4:00- 6:00 3:30- 8:00	Silent Silent	4:00- 6:00 4:00- 7:30	275 315.6	WABL
d	WBAP WBAR	243.8 475.9 406	8:00- 9:00 5:00- 6:00	12:00- 8:00 9:00-10:00	Silent 5:30-10:00	8:00- 9:00 5:30- 8:45	8:00- 9:30 5:30- 8:45	8:00- 9:30 5:30- 8:45 5:30- 6:30	8:00- 9:00 5:30- 8:45	243.8 475.9	WAMD WBAP
n	WBAV	293.9	Silent	8:00- 9:00 Silent	7:00- 8:00 5:00- 7:00	Silent	6:00- 7:00 Silent	Silent	Silent. 5:00- 6:00	406 293.9	WBAR
e	WBBM WBBR WBCN	226 272.6	5:00- 9:00 4:00- 4:45	1:00- 7:00 5:00- 6:05	Silent 4:00- 4:50	5:00- 9:00 Silent	5:00- 7:00 Silent	5:00- 9:00 4:00- 4:50	5:00- 7:00 Silent	226 272.6	WBBM WBBR
=	WBZ	266 333.3 461.3	6:00-10:00 3:30- 5:55	2:00- 9:00 4:00- 5:30	Silent 4:00-5:55	6:00-12:00 5:15- 5:55	5:00- 9:00 4:00- 5:55	6:00-11:00 3:30- 5:55	6:00-10:00 3:45- 5:55	266 333.3	WBCN
	WCAL	336.9 468.5	4:00- 5:30 10:00-11:00 Silent	12:00- 4:30 6:30- 8:00 1:00- 7:00	4:00-8:00 9:00-10:00 4:00-8:30	4:00- 7:00 Silent Silent	4:30 - 7:00 Silent	4:00- 7:00 7:00- 8:00 Silent	4:30- 5:30 6:30- 7:00	461.3 336.9	WCAE
	WCAU	278 344.6	2:30- 8:00 Silent	1:00- 4:00 6:00- 7:00	Silent 5:00- 7:30	2:30- 8:00 Silent	3:00- 9:00 Silent Silent	2:30- 4:00 5:00- 7:30	4:30- 9:00 2:30- 4:30 Silent	468.5 278 344.6	WCAP
<	WCCO	416.4	4:05- 9:00 Silent	5:20- 8:15 4:15- 5:15	4:00- 7:00 3:00- 6:30	4:00- 7:00 3:00- 8:00	4:00-10:30	4:00- 7:00 Silent	4:00-11:00	416.4	MCCO
~	WDAF	365.6 440.9	4:00-11:00 Silent	2:00- 3:30 1:00- 2:45	4:00-11:00 Silent	4:00-11:00 4:30- 5:30	3:00- 6:30 4:00-11:00 Silent	4:00-11:00 Silent	3:00- 8:00 4:00-11:00	516.9 365.6 440.9	WCX WDAF WDWF
S	WEAF WEA0	491.5 293.9	2:00- 8:00 Silent	3:20- 6:15 Silent	2:00- 7:30 Silent	2:00- 8:00 Silent	2:00- 8:00 5:00- 6:00	2:00- 8:00 5:00- 6:00	2:00- 8:30 2:00- 8:00 Silent	491.5	WEAF WEAD
	WEAR WEBH WEBJ	389.4 370.2	4:00- 5:00 4:30- 9:30	12:30 - 7:00 4:00 - 6:00	4:00- 5:00 Silent	4:00- 8:00 4:30- 9:30	4:00- 5:00 4:30- 9:30	4:00- 8:00 4:30- 9:30	4:00- 8:00 4:30- 9:30	389.4 370.2	WEAR
RS	WEBW	233 268	Silent Silent	Silent 2:25- 3:30	Silent 6:30- 7:45	4:00- 5:00 6:30- 7:45	3:00- 5:00 Silent	Silent Silent	4:00- 5:00 Silent	233 268	MEBM
	WEEL WFAA WFBH	475.9 475.9 272.6	Silent 6:30-10:00	3:20 - 6:20 4:30 - 9:00	4:00-7:00 4:30-7:30 7:30-10:00	4:00-7:00 4:30-10:00 7:30-10:00	4:00- 7:00 Silent	4:00-7:00 4:30-10:00 7:30-10:00	4:00- 7:00 4:30- 7:30	475.9 475.9	WEEL
el	WFI	394.5 315.6	7:30-10:00 4:00- 7:00 2:00- 8:00	1:00- 4:00 Silent 5:30- 6:30	Silent	4:00- 6:00 2:00- 8:00	7:30-10:00 Silent	4:00- 7:00 2:00- 9:00	7:30-10:00 Silent	272.6 394.5	WFBH
d	WGES	250 370.2	7:30-11:00 3:30- 8:30	7:30-11:00 6:00- 7:00	Silent	7:30-11:00 3:30- 8:30	Silent 7:30-11:00 3:30- 8:30	7:30-11:00 3:30- 8:30	Silent 7:30-11:00	315.6 250 370.2	WGBS
y	WGR	319 379.5	Silent 6:00- 9:00	12:00- 6:00 3:30- 8:00	6:00- 9:00 3:30- 5:30	5:00- 8:00 4:10- 8:00	6:00- 9:00 Silent	5:00- 8:00 3:45- 8:30	3:30- 8:30 4:00- 9:00 4:15- 7:30	319 379.5	WGN
	WHAD	275 275	4:00- 5:00	Silent	4:00- 8:00 3:30- 6:30	4:00- 5:00 3:30- 8:00	4:00-10:30	4:00- 5:00	4:00-6:30	275	WGY
h e	WHAS	399.8 379.5	3:30- 6:00 5:30- 7:00 Silent	5:00- 8:00 2:00- 3:00 Silent	Silent 6:00- 8:00	5:30- 7:30 Silent	Silent 5:30- 7:00 Silent	3:30-6:00 5:30- 7:00 Silent	3:30 - 8:00 5:30 - 7:00	275 399.8 379.5	WHAR
е	WHB	365.6 361.2	Silent 3:30- 6:00	6:00-11:00 3:30- 8:00	5:00- 6:00 3:30- 8:00	Silent 3:30- 8:00	5:00- 6:00 3:30- 7:00	6:00- 8:30 3:30- 8:00	5:00-6:00 3:30-8:00	365.6 361.2	WHAZ
n st	WHO	526 399.4	Silent 4:00-11:00	2:00-7:00 4:00-6:30	5:30-10:00 4:90-11:00	5:30-10:00 4:00-11:00	4:30-9:00 4:00-11:00	5:30-10:00 4:00-11:00	5:30-10:00 4:00-11:00	526 399.4	WHO
d 5-	WIBO	508.2 305.9	3:00- 5:00 4:00- 8:05	3:00- 9:00 Silent	Silent Silent	3:00-12:00 4:00- 9:00	3:00- 9:00 Silent	3:00-12:00 4:00- 9:00	3:00-11:00 Silent	226 508.2	WIBO
ie	WJAR	275.3	Silent	3:20- 6:15 Silent	4:00- 6:00 5:30- 8:00	4:30- 7:00 5:30- 8:00	3:30- 4:30 5:30- 8:00	4:00 - 7:00	4:00- 8:00	305.9 275.3	WJAR
rt	MIA	302.8 405.2	3:45-10:00 Silent	5:45- 7:00 4:15- 5:15	3:45-10:00 Silent	3:45-10:00 4:30-7:15	3:45- 7:00 Silent	Silent 4:30-6:00	3:30- 7:00 4:45- 5:45	302.8 405.2	MILL
g	WKAQ		3:00- 7:30 Silent	4:00- 7:00 4:00- 6:00	4:15- 5:15 Silent	4:10 - 7:30 Silent	5:30- 7:30 4:00- 6:00	4:30- 7:30 4:30- 6:00	4:15- 6:45 Silent	454.3 340.7	WKAQ
đ	WKAR	285.5 422.3	9:30-11:00 7:00- 9:00	Silent 3:45- 8:00	Silent 7:00- 9:00	Silent 7:00-10:00	5:00- 6:15 5:00- 9:00	Silent Silent	Silent Silent	285.5 422.3	WKAR
R s-	WLBL WLIT WLS	278 394.5 344.6	9:59-10:59 Silent 4:45-10:00	Silent Silent	Silent Silent Silent	6:00-7:00 3:45-7:00 4:00-10:00	Silent Silent	6:00- 7:00 Silent	Silent 3:45- 7:45 4:00- 8:30	278 394.5	WLBL
	WLW	422.3	3:00- 5:00	4:30- 5:55 3:30- 5:30	6:00- 7:30	4:00- 7:00	4:00- 8:30 4:00- 8:00	4:00- 5:55 4:00- 0:15	Silent	344.6 422.3	WLW
	WMAK WMAQ WMBB	447.5	Silent 5:00- 7:00 4:00- 7:30	Silent Silent	5:00- 6:00 Silent	Silent 5:00- 7:15 4:00- 7:30	Silent 5:00- 6:45	7:00- 8:30 5:00- 7:15	Silent 5:00- 7:15	265.5 447.5	WMAK
t	WMBF		3:30- 9:00 5:30- 7:30	4:00- 7:30 3:30- 9:00	Silent 3:30- 9:00 5:30- 7:30	3:30- 9:00	4:00-7:30 3:30-9:00	4:00~ 7:30 3:30- 9:00	4:00-7:30 3:30-9:00	250 384.4	WMBB WMBF
•	WMCA	340 7	5:00- 8:00 6:00- 7:00	Silent 2:30-4:00 4:30-6:30	6:30- 7:30 5:00- 8:00	5:30-10:00 5:00- 8:00 5:00- 7:00	Silent 5:00- 8:00 3:00- 7:00	5:30 - 7:30 5:00 - 8:00	5:30-10:00 5:00- 8:00 3:00- 7:00	499.7 340.7	WMCA
S	WNAC WNYC WOAI	394.5	2:30- 6:20 Silent	5:00- 7:00 5:30- 8:30	3:00- 7:00	5:00- 7:00 3:20- 6:20 6:30- 8:30	3:00- 7:00 3:30- 6:30 Silent	5:00- 7:00 Silent	3:30-6:20	280.2 526	WNAC
	WOAN	282.8 526	Silent 4:00-10:15	7:00- 8:00	7:00- 8:00 4:00- 9:30	7:00- 8:00 -4:00- 9:30	7:00-8:00 Silent	7:30- 8:30 7:00- 8:00 4:00- 9:30	Silent 7:00- 8:00	394.5 282.8 526	WOAN
ıs	WOC WOI	483.6 270	4:30-10:00 Silent	6:00- 9:30 Silent	Silent 8:00-11:00	4:30- 6:00 Silent	4:30- 8:00 Silent	4:30-10:00 6:15- 7:15	4:00- 9:30 4:30- 8:00 Silent	483.6 270	WOAW WOO
le r-	WOO WOR	508.2 405.2	Silent	2:05- 4:30	4:00- 7:30 2:15- 8:00	Silent	4:00- 7:30	Silent 2:15- 3:30	4:15- 7:30	508.2	WOO
e es	WORD	275 440.9	2:15- 8:00 5:30- 6:30 Silent	5:30- 6:30	5:00- 6:80 6:00- 8:00	2:15- 3:30 5:30- 6:30 Silent	2:15- 8:00 5:30- 6:30 6:00- 8:00	2:15- 3:30 5:30- 6:30 Silent	2:15- 3:30 5:30- 6:30 6:00- 8:00	405.2 275 440.9	WORD
s.	WPG	299.8 447.5	3:00- 8:00 4:00-12:00	5:00- 7:00 4:00- 7:00	3:00- 7:30 Silent	4:00-7:00 4:00-11:00	Silent 4:00-11:00	3:00- 8:15 4:00-11:00	8:00- 8:00 3:00- 7:00 4:00-11:00	299.8 447.5	WPG
1- 1-	WRBC	468.5	Silent 4:00-8:30	5:30- 6:30 Silent	5:30- 6:30 Silent	Silent 4:00- 9:00	Silent Silent	Silent 4:00- 8:00 5:15- 6:45	Silent	278 468.5	WRBC
ie to	WREO	285.5	Silent 6:00-8:30		Silent 6:00- 8:30	5:15- 6:45 6:00- 8:30	Silent 6:00- 8:30	6:00- 8:30	Silent 6:00- 8:30	285.5 273	WREO
n	WSAC WSAI WSB	336.9 325.9	Silent 5:00-10:30	Silent Silent	Silent 7:00-9:00	Silent 4:00- 7:00	5:00- 6:00 4:00- 9:00	Silent 4:00- 7:00	Silent Silent	336.9 325.9	WSAC
ıe	WSMB		6:00-10:00 6:30- 8:30	5:30- 7:15 Silent	6:00-10:00 6:30- 8:30	6:00-10:00 Silent	8:45-10:00 6:30- 8:30	6:00-10:00 6:30- 8:30	6:00-10:00 Silent	428.3	WSME
ll e-	WSUI	483.6 389.4	Silent 3:00- 9:00	5:00- 8:00 Silent	5:30- 7:00 3:00- 9:00	Silent Silent	Silent 3:00-10:00	Silent Silent	Silent	483.6 389.4	WSU

## An Evening at Home with the Listener In

	, a se constitute		(FOI	R CENT	RAL T	IME)	(Ta	bular fo	orm and listings copy- production is ferbidden.)		(FOR	EASTE	RN TIM	IE Or Cit	ies Usin ht Savi	g Central ng Time	)	narrivalues College
Call AT9	Saturday Silent	Sunday 5:00- 6:00	Monday Silent	Tuesday Silent	Wednesday Silent	Thursday 7:00- 8:55	Friday Silent	Call AT9	Location Fort Bragg, N. C	Met. 435	Saturday	Sunday 6:00- 7:00	Menday	Tuesday	Wednesday Silent	Thursday 8:00- 9:55	Friday	Call AT9
CFCA CFCN CHNC	Silent 11:00- 1:00 Silent	6:00- 7:00 Silent Silent	Silent Silent 7:30-8:30	7:15- 8:15 Silent Silent	7:15- 8:15 Silent Silent	7:15- 8:15 9:00-10:00 Silent	Silent Silent Silent	CFCA CFCN CHNC	Toronto, Ont Calgary, Alta Toronto, Ont	356.9 434.5 356.9	Silent 12:00- 2:00 Silent	7:00- 8:00 Silent Silent	Silent Silent 8:30- 9:30	8:15- 9:15 Silent Silent	8:15- 9:15 Silent Silent	8:15-, 9:15 10:00-11:00 Silent	Silent Silent Silent	CFCA CFCN CHNG
CKAC CKAC	10:00-12:00 5:30- 9:30 Silent	8:30- 9:30 Silent 7:00- 8:45	8:30-10:30 Silent Silent	8:30-9:00 5:30-9:30 7:30-10:00	7:00- 9:00 Silent Silent	10:00-12:00 6:30- 7:30 8:00- 9:00	9:30-12:00 Silent 7:30-10:00	CKAC CKY	Montreal, Que	516.9 410.7 384.4	11:00- 1:00 6:30-10:30 Silent	9:30-10:30 Silent 8:00- 9:45	9:30-11:30 Silent Silent	9:30-10:00 6:30-10:30 8:30-11:00	8:00-10:00 Silent Silent	11:00- 1:00 7:30- 8:30 9:00-10:00	10:30- 1:00 Silent 8:30-11:00	CKAC CKY
CNRO CNRO CYB	Silent 6:30-11:30 10:30-11:45	Silent Silent Silent	Silent Silent Silent	6:30-:7:30 Silent 9:15- 10:15	Silent 6:30-11:30 Silent	Silent Silent Silent	6:30- 7:30 Silent Silent	CNRA CNRO CYB	Moneton, Can Ottawa, Ont Mexico City, Mex	313 434.5 370	Silent 7:30-12:30 11:30-12:45	Silent Silent Silent	Silent Silent Silent	7:30- 8:30 Silent 10:15-11:15	Silent 7:30-12:30 Silent	Silent Silent Silent	7:30- 8:30 Silent Silent	CNRA CNRO CYB
CYL CYX KDKA	Silent Silent 7:45-8:55	Silent Silent 2:00- 6:30	Silent 9:15-10:30 7:45- 8:55	10:00-11:30 Silent 7:45-10:30	Silent Silent 7:45-8:55	Silent Silent 7:00-10:30	10:00-11:30 9:15-10:45 7:45- 8:55	CYL CYX KDKA	Mexico City, Mex Mexico City, Mex Pittsburgh, Pa	480 330 309.1	Silent Silent 8:45- 9:55	Silent Silent 3:00- 7:30	Silent 10:15-11:30 8:45- 9:55	11:00-12:30 Silent 8:45- 9:30	Silent Silent 8:45- 9:55	Silent Silent	11:00-12:30 10:15-11:45	CYL
KFAB KFAE KFAU	11:00-12:30 Silent Silent	4:00- 5:00 Silent Silent	7:30-10:00 Silent 9:00-10:00	Silent Silent	7:30-10:00 9:30-11:00 Silent	Silent Silent Silent	7:30- 9:30 Silent 9:00-10:00	KFAB KFAE KFAU	Linceln, Nebr Pullman, Wash Boise, Idaho	240 348.6 275	12:00- 1:39 Silent Silent	5:00- 6:00 Silent Silent	8:30-11:00 Silent 10:00-11:00	Silent Silent Silent	8:30-11:00 10:80-12:00 Silent	8:00-11:30 Silent Silent	8:45- 9:55 8:30-10:30 Silent	KDKA KFAB KFAE
KFDM KFI KFKU	Silent 8:45- 2:00 Silent	Silent 6:00- 1:00 Silent	Silent 8:45- 1:00 6:50- 8:00	8:00- 9:00 8:45- 1:00 Silent	Silent 8:45-1:00 Silent	Silent 8:45- 1:00 6:50- 8:00	8:00- 9:00 8:45- 1:00 Silent	KFDM KFI KFKU	Beaumont, Texas Les Angeles, Calif Lawrence, Kan	315.6 467 275	Silent 9:45- 3:00 Silent	Silent 7:00- 2:00 Silent	Silent 9:45- 2:00 7:50- 9:00	9:00-10:00 9:45- 2:00 Silent	Silent 9:45- 2:00 Silent	Silent Silent 9:45- 2:00 7:50- 9:00	9:00-11:00 9:00-10:00 9:45- 2:00	KFAU KFDM KFI KFKU
KFKX KFMQ KFMX	Silent Silent Silent	Silent Silent 7:00-8:00	9:30-11:00 Silent Silent	9:00-10:00 10:00-11:00	Silent Silent 9:00-10:00	9:30-11:00 7:30- 8:30 Silent	Silent Silent Silent	KFKX KFMQ KFMX	Hastings, Nebr	288.3 299.8 336.9	Silent Silent Silent	Silent Silent 8:00- 9:00	10:30-12:00 Silent	Silent 10:00-11:00	Silent	10:30-12:00 8:30- 9:30	Silent Silent Silent	KFKX
KFNF KFOA KFRU	7:30- 8:30 8:00- 1:30 7:30-12:00	6:30-10:00 Silent 5:00- 7:00	7:30-8:30 8:00-12:00 7:00-10:30	Silent 8:00-1:30 10:30-12:00	7:30-8:30 8:00-12:00 8:00-10:30	7:30- 8:30 Silent 10:30-11:30	7:30- 8:30 8:30- 1:30 11:00- 1:00	KFNF KFOA KFRU	Shenandoah, Ia Seattle, Wash Bristow, Okla	266 454.3 394.5	8:30- 9:30 9:00- 2:30 8:30- 1:00	7:30-11:00 Silent 6:00- 8:00	Silent 8:30- 9:80 9:00- 2:00	11:00-12:00 Silent 9:00- 2:30	10:00-11:00 8:30- 9:30 9:00- 2:00	Silent 8:30- 9:30 Silent	Silent 8:30- 9:30 9:00- 2:30	KFMX KFNF KFOA
KFUO KFVE KFWA	Silent 10:00-12:00 Silent	9:15-10:15 Silent 10:00-11:00	Silent 10:00-12:00 10:00-11:00	Silent 10:00-12:00 10:00-11:00	9:15-10:15 10:00-12:00 10:00-11:00	Silent Silent Silent	Silent 10:00-12:00 10:00-12:00	KFU0 KFVE KFWA	St. Louis, Mo University City, Mo Ogden, Utah	545.1 240 261	Silent 11:00- 1:00 Silent	10:15-11:15 Sllent	8:00-11:30 Silent 11:00- 1:00		9:00-11:30 10:15-11:15 11:00- 1:00	11:30-12:30 Silent Silent	12:00- 2:00 Silent 11:00- 1:00	KFRU KFUO KFVE
KFWB KGO KGW	9:00- 1:00 10:00- 3:00 8:00- 2:00	11:00- 1:00 5:30-11:00 9:30-12:00	8:30- 1:00 10:00- 3:00 8:00- 9:00	11:00- 2:00	9:00- 1:00 Silent 10:00- 1:00	9:00- 1:00 10:00- 3:00 10:00- 2:00	9:00- 1:00 Silent 11:00- 2:00	KFWB KGO KGW	Hollywood, Calif Oakland, Calif Portland, Ore	252 361.2 491.5		12:00- 2:00	9:30- 2:00 11:00- 4:00	11:00-12:00 10:45- 2:00 11:00- 4:00 12:00- 3:00	11:00-12:00 10:00- 2:00 Silent	Silent 10:00- 2:00 11:00- 4:00	11:00- 1:00 10:00- 2:00 Silent	KFWA KFWB KGO
KIAF	7:30- 1:00 Silent Silent	8:00- 1:00 4:00- 5:00 9:00-10:00	9:00-3:30 9:00-10:00 8:00-12:00	Silent Silent	7:30-1:00 9:00-10:00 10:30-12:00	7:30- 1:00 Silent 12:30- 2:00	7:30-1:00 9:00-10:00 10:30-12:00	KHJ KIAF KJR	Los Angeles, Calif	405.2	8:30- 2:00 Silent	9:00~ 2:00 3:00~ 4:00	9:00-10:00 10:00- 4:30 8:00- 9:00	8:30- 2:00 Silent	11:00 - 2:00 8:30 - 2:00 8:00 - 9:00	11:00- 3:00 8:30- 2:00 Silent	12:00- 3:00 8:30- 2:00 8:00- 9:00	KGW KHJ KIAF
KJR KJS KLX	Silent Silent 8:30- 4:00	9:15-11:30 Silent	Silent 8:00- 1:00 8:30- 2:00	10:00-11:00 Silent 8:30- 2:00	Silent 8:00-1:30 9:00-2:00	10:00-11:00 Silent 8:30- 2:00	Silent 8:00-12:30 8:30- 4:00	KIS KLX	Seattle, Wash Los Angeles, Calif Oakland, Calif	384.4 293.9 508.2	Silent Silent Silent	10:00-11:00 10:15-12:30 Silent	9:00- 1:00 Silent 9:00- 2:00	Silent 11:00-12:00 Silent	11:30- 1:00 Silent 9:00- 2:30	1:30-3:00 11:00-12:00 Silent	11:30- 1:00 Silent 9:00- 1:30	KJR KJS KLX
KNX KOA KOB	10:00- 1:00 Silent 8:25- 2:00	7:00- 1:00 5:30- 9:30 Silent 8:30-12:00	9:00-10:00 8:30- 9:30 8:30- 1:00		9:00- 1:00 Silent 8:30- 1:00	Silent Silent 8:30- 1:00	9:00-10:00 8:30- 9:30 9:00- 1:00	KNX KOA KOB KPO	Hollywood, Calif	336.9 322.4 348.6 428.3	9:30- 5:00 11:00- 2:00 Silent 9:25- 3:00	8:00- 2:00 6:30-10:30 Silent	9:30- 3:00 10:00-11:00 9:30-10:30	9:30- 3:00 Silent Silent	10:00- 3:00 10:00- 2:00 Silent	9:30- 3:00 Silent Silent	9:30-5:00 10:00-11:00 9:30-10:30	KNX KOA KOB
KPO KSD KSL KTHS	7:00-9:80 9:00-12:00 8:30-10:00	Silent 10:00-12:00 8:30-11:30	9:00-11:00 9:00-12:00 8:30-10:00	6:30-8:30 10:00-12:00 8:30-10:00	7:30-8:30 9:00-12:00 8:30-10:00	Silent. 9:00-12:00 8:30-10:00	7:30- 9:00 10:00-12:00 8:30-10:15	KSD KSL KTHS	San Francisco, Calif St. Louis, Mo Sait Lake City, Utah Hot Springs Ark	428.3 545.1 261 374.8	8:00-10:80 10:00-1:00 9:30-11:00	9:30- 1:00 Silent 11:00- 1:00 9:30-12:30	9:30 - 2:00 10:00-12:00 10:00 - 1:00	9:30 - 2:00 7:30 - 9:30 11:00 - 1:00	9:30- 2:00 8:30- 9:30 10:00- 1:00	9:30- 2:00 Silent 10:00- 1:00	10:00- 2:00 8:30-10:00 11:00- 1:00	KPO KSD KSL
KTW KYW	Silent 6:00-12:30 Silent	9:00-11:30 3:00- 7:00	Silent Silent 6:45- 7:00	Silent 6:00-10:30 6:45- 7:00	Silent 6:00-12:30 6:25-7:40	Silent 6:00-10:30 6:45- 7:00	Silent 6:00-12:30	KTW KYW NAA	Seattle, Wash Chicago, III	-455 535.4	Silent 7:00- 1:30	10:00-12:30 4:00- 8:00	9:30-11:00 Silent Silent	9:30-11:00 Silent 7:00- 11:30	9:30-11:00 Silent 7:00- 1:30	9:30-11:00 Silent 7:00- 11:30	9:30-11:15 Silent 7:00- 1:30	KTHS KTW KYW
NAA PWX WABL	7:30-10:00 Silent 11:00- 1:00	Silent Silent Silent Silent	81lent 6:00- 8:00 6:00-12:00	Silent Silent Silent	7:30-10:00 6:00- 8:00 5:30-10:00	Silent Silent Silent	6:45- 7:00 Silent 6:00- 8:00 6:00- 9:30	PWX WABL WAHG	Radio, Va	434.5 400 275	Silent 8:30-11:00 Silent	Silent Silent Silent	7:45- 8:00 Silent 7:00- 9:00	7:45- 8:00 Silent Silent	7:25- 8:40 8:30-11:00 7:00- 9:00	7:45- 8:00 Silent Silent	7:45- 8:00 Silent 7:00- 9:00	NAA PWX WABL
WAHG WAMD WBAP WBAR	10:00-11:00 7:00-8:00 Silent	2:00-10:00 11:00-12:00 10:00-11:00	Silent 7:30-12:00 9:00-10:00	10:00-11:00 7:30-10:45 Silent	10:00-11:30 7:30-10:45 8:00- 9:00	10:00-11:30 7:30-10:45 7:30- 8:30	10:00-11:00 7:30-10:45 Silent	WAMD WBAP WBAR	Richmond, N. Y	315.6 243.8 475.9 406	12:00- 2:00 11:00-12:00 8:00- 9:00 Silent	Silent 3:00-11:00 12:00- 1:00 11:00-12:00	7:00- 1:00 Silent 8:30- 2:00	Silent 11:00-12:00 8:30-11:45	6:30-11:00 11:00-12:30 8:30-11:45	Silent 11:00-12:30 8:30-11:45	7:00-10:30 11:00-12:00 8:30-11:45	WAHG WAMD WBAP
WBBM	Silent 7:00-11:00 6:00- 6:45	Silent 3:00- 9:00	7:00- 9:00 Silent	Silent 7:00-11:00	7:00-9:00	Silent - 7:00-11:00 6:00- 6:50	7:00- 8:00 7:00- 9:00	WBAV	Columbus, O	293.9	Silent 8:00-12:00	Silent 4:00-10:00	10:00-11:00 8:00-10:00 Silent	Silent Silent 8:00-12:00	9:00-10:00 Sitent -8:00-10:00	8:30- 9:30 SHent 8:00-12:00	Silent 8:00-9:00 8:00-10:00	WBAR:
WBBR WBCN WBZ	8:00-8:45 8:00-12:00 5:30-7:55 6:00-7:30	7:00- 8:05 4:00-11:00 6:00- 7:30	6:00- 6:50 Sllent 6:00- 7:55	Silent 8:00- 2:00 7:15- 7:55 6:00- 9:00	Silent 7:00-11:00 6:00- 7:55	8:00- 6:30 8:00- 1:00 5:30- 7:55 6:00- 9:00	Silent 8:00-12:00 5:45- 7:55	WBBR WBCN WBZ	Staten Island, N. Y Chicago, Itl Springfield, Mass	272.6 266 333.3	7:00- 7:45 9:00- 1:00 6:30- 8:55	8:00- 9:05 5:00-12:00 7:00- 8:30	7:00- 7:50 Silent 7:00- 8:55	Silent 9:00- 3:00 8:15- 8:55	Silent 8:00-12:00 7:00- 8:55	7:00 - 7:50 9:00 - 2:00 6:30 - 8:55	Silent 9:00-1:00 6:45-8:55	WBBR WBCN WBZ
WCAE WCAL WCAP	12:00- 1:00 Silent 4:30-10:00	2:00-6:30 3:30-10:00 3:00-9:00	6:00-10:00 11:00-12:00 6:00-10:30	Silent Silent 4:30-10:00	6:30-9:00 Silent 5:90-11:00 Silent	9:00-10:00 Silent 4:30-6:00	6:30- 7:30 8:30- 9:00 6:30-11:00	WCAE WCAP WCAU	Pittsburgh, Pa Northfield, Minn Washington, D. C	461.3 336.9 468.5	7:00- 8:30 1:00- 2:00 Silent	3:00- 7:30 9:39-11:00 4:00-10:00	7:00-11:00 12:00-1:00 7:00-11:30	7:00-10:00 Silent Silent	7:30-10:00 Silent 6:00-12:00	7:00-10:00 10:00-11:00 Silent	7:30-8:30 9:30-10:00 7:30-12:00	WCAE WCAL WCAP
WCAU WCBD WCCO	Silent 6:05-11:00	3:00- 6:00 1:30- 9:00 7:20-10:15	Silent 7:00-9:30 6:00-9:00	Silent -6:00- 9:00	Silent 6:00-12:30	7:00- 9:30 6:00- 9:00	4:30- 6:30 SHent 6:00- 1:00	WCED	Philadelphia, Pa Zion, III MinnSt. P., Minn	278 344.6 416.4	5:30-11:00 Silent 7:05-12:00	4:00- 7:00 2:30-10:00 8:20-11:15	8:00- 10:30 7:00-10:00	5:30-11:00 Silent 7:00-10:00	Silent Silent 7:00- 1:30	5:30-7:00 8:00-10:30 7:00-10:00	5:30- 7:30 Silent - 7:00- 2:00	WCAU WCBD WCCO
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WEAF WEAR	4:00-10:00 Silent 6:00- 7:00	5:20- 8:15 Silent 2:30- 9:00	4:00- 9:30 Silent 6:00- 7:00	Silent 6:00-10:00	4:00-10:00 7:00- 8:00 6:00- 7:00	4:00-10:00 7:00- 8:00 6:00-10:00	4:00-10:00 Silent 6:00-10:09	WEAF WEAD WEAR WEBH	New York, N. Y Columbus, Ohio Cleveland, Ohio	491.5 293.9 389.4	5:00-11:00 Silent 7:00- 8:00	6:20-9:15 Silent 3:30-10:00	5:00-10:30 Silent 7:00- 8:00	5:00-11:00 Silent 7:00-11:00	5:00-11:00 8:00- 9:00 7:00- 8:00	5:00-11:00 8:00-9:00 7:00-11:00	5:00-11:00 Silent 7:00-11:00	WEAF WEAO WEAR
MEBN MEBI MEBH	6:30-11:30 Silent Silent	6:00- 8:00 Silent 4:25- 5:30	Silent Silent 8:30- 9:45	6:30-11:30 6:00- 7:00 8:30- 9:45	6:30-11:30 5:00- 7:00 Silent	6:30-11:30 Silent Silent	6:30-11:30 6:00- 7:00 Silent	MEBM MEB1	New York, N. Y Beloit, Wis	370.2 233 268	7:30-12:30 Silent Silent	7:00- 9:00 Silent 5:25- 6:30	Silent Silent 9:30-10:45	7:30-12:30 7:00- 8:00 9:30-10:45	7:30-12:30 6:00- 8:00 Silent	7:30-12:30 Silent Silent	7:30-12:30 7:00- 8:00 Silent	WEBH WEBJ WEBW
WEEL WFAA WFBH	Silent 8:30-12:00 9:30-12:00	5:20- 8:20 6:30-11:00 3:00- 6:00	6:00- 9:00 6:30- 9:30 9:30-12:00	6:00-9:00 6:30-12:00 9:30-12:00	6:00- 9:00 Sllent 9:30-12:00	6:00- 9:00 6:30-12:00 9:30-12:00	6:00- 9:00 6:30- 9:39 9:30-12:00	WEEI WFAA WFBH	Boston, Mass Dallas, Tex New York, N. Y	475.9 475.9 272.6	Silent 9:30-1:00 10:30-1:00	6:20- 9:20 7:30-12:00 4:00- 7:00	7:00-10:00 7:30-10:30 10:30- 1:00	7:00-10:00 7:30-1:00 10:30-1:00	7:00-10:00 Silent 10:30- 1:00	7:00-10:00 7:30-1:00 10:30-1:00	7:00-10:00 7:30-10:30 10:30- 1:00	WEEL
WFI WGBS WGES	6:00- 9:00 4:00-10:00 9:30- 1:00	2:00- 3:00 1:30- 8:30 9:30- 1:00	Silent Silent Silent	6:00-8:00 4:00-10:00 9:30-1:00	Silent Silent 9:30-1:00	6:00- 9:00 4:00-11:00 9:30- 1:00	Silent Silent 9:30-1:00	WFI WGBS WGES	Philadelphia, Pa New York, N. Y Oak Park, III	394.5 315.6 250	7:00-10:00 5:00-11:00 10:30- 2:00	3:00- 4:00 2:30- 9:30 10:30- 2:00	Silent Silent Silent	7:00-9:00 5:00-11:00 10:30-2:00	Silent Silent 18:30- 2:00	7:00-10:00 5:00-12:00 10:30- 2:00	Silent Silent 10:30- 2:00	WFBH WFI WGBS WGES
WGN WGR WGY	5:30-10:30 Silent 8:00-11:00	1:30- 9:00 2:00- 8:00 5:30-10:00	Silent 8:00-11:00 5:30- 7:30	5:30-10:30 7:00-10:00 6:10-10:00	5:30-10:30 8:00-11:00 Silent	5:30-10:80 7:00-10:00 5:45-10:30	5:30-10:30 6:00-11:00 6:15- 9:30	WGN WGR WGY	Chicago, III	370.2 319 379.5	6:30-11:30 Silent 9:00-12:00	2:30-10:00 3:00- 9:00 6:30-11:00	Silent 9:00-12:00 6:30-8:30	6:30-11:30 8:00-11:00 7:10-11:00	6:30-11:30 9:00-12:00 Silent	6:30-11:30 8:00-11:00 6:45-11:30	6:30-11:30 7:00-12:00 7:15-10:30	
WHAD WHAR WHAS	6:00- 7:00 5:30- 8:00 7:30- 9:00	Silent 7:00-10:00 4:00- 5:00	6:00-10:00 5:30-8:00 Silent	6:00- 7:00 5:30-10:00 7:30- 9:30	6:00-12:30 Silent 7:30-9:00	6:00-7:00 5:30-8:00 7:30-9:00	6:00-9:30 5:30-10:00 7:30-9:00	WHAD WHAR WHAS	Milwaukee, Wis Atlantic City, N. J Louisville, Ky	275 275 399.8	7:00- 8:00 6:30- 9:00 8:30-10:00	Silent 8:00-11:00 5:00-6:00	7:00-11:00 6:30- 9:00 Silent	7:00- 8:00 6:30- 9:00 8:30-10:30	7:00- 1:30 Silent 8:30-10:00	6:30- 9:00	7:00-10:80 6:80-11:00	WHAD
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WHO WHT WIBO	Silent 6:00-1:00 5:00-7:00	4:00- 9:00 6:00- 8:30 5:00-11:00	7:30-12:00	6:00- 1:00 5:00- 2:00	6:00-1:00 5:00-11:00	7:30-12:00 6:00- 1:00 5:00- 2:00	7:30-12:00 6:00- 1:00 5:00- 1:00	WHO WHT WIBO	Des Meines, Ia Deerfield, III Chicago, III	399.8 226	6:00-8:00	6:00-12:00	8:30- 1:00 7:00- 2:00 Silent	7:00- 2:00 6:00- 3:00	7:30-12:00 7:00- 2:00 6:00- 3:00	8:30- 1:00	8:30- 1:0	WHO WHT
WIP WJAR WJAS	6:00-10:05 Silent Silent	2:15- 3:15 5:20- 8:15 Silent	Silent 6:00- 8:00 7:30-10:00	6:00-11:00 6:30- 9:00 7:30-10:00	5:30 - 6:30 7:30-10:00	6:00-11:00 6:00- 9:00 6:30- 9:00			Philadelphia, Pa Providence, R. I	508.2 305.9 275.3	Silent	3:15- 4:15 6:20- 9:15 Silent	Silent 7:00- 9:00 8:30-11:00		Silent 6:30- 7:30	7:00-12:0	Silent 7:00-11:0	WIP WJAR
WIZ	5:45-12:00 Silent 5:00- 9:30	7:45- 9:00 6:15- 7:15 6:00- 9:00	5:45-12:00 Silent 6:15- 7:15	5:45-12:00 6:39- 9:15	5:45-12:00 Silent 7:30- 9:30	Silent 6:30- 8:00 6:30- 9:30	5:45-12:00 6:45-7:45 6:15-8:45	WIZ	Mooseheart, III New York, N. Y New York, N. Y	302.8 405.2 454.3	6:45- 1:00 Silent	8:45-10:00 7:15- 8:15 7:00-10:00	6:45- 1:00 Silent	6:45- 1:00 7:30-10:15	6:45- 1:00 Silent	Silent 7:30- 9:00	6:45- 1:00 7:45- 8:40	WIID-
WKAQ WKAR WKRC	Silent 11:30- 1:00 9:00-11:00	6:00- 8:00 Silent 5:45-10:00	Silent 6:00- 7:00 9:00-11:00	Silent Silent 9:00-12:00	6:00-8:00 -7:00-8:15 7:00-11:00	6:30- 8:00 Silent Silent	Silent 6:00- 7:00 Silent	WKRC	San Juan, P. R Lansing, Mich Cincinnati, O	. 340.7 285.5 422.3	12:30- 2:00 10:00-12:00	7:00- 9:00 Silent	Silent 7:00- 8:00	Silent	7:00- 9:00 8:00- 9:15	7:30- 9:00 Silent	7:15- 9:4 Silent 7:00- 8:0 Silent	WKAQ
WLBL WLIT WLS	11:59-12:59 Silent 6:45-12:00	Silent Silent 6:30- 7:55	Silent Silent Silent	8:00-9:00 5:45-9:00 6:00-12:00	Silent Silent 6:00-10:30	8:00- 9:00 Silent 6:00- 7:55	5:45- 9:45 6:00-10:30	WLS	Stevens Point, Wis Philadelphia, Pa Chicago, III	394.5	7:45- 1:00	Silent Silent 7:30-8:55	Silent Silent Silent	9:00-10:00 6:45-10:00 7:00- 1:00	Silent Silent 7:00-11:30	9:00-10:00 Silent 7:00- 8:55	Silent 6:45-10:4 7:00-11:3	WLBL WLIT
WMAK WMAR	5:00- 7:00 Silent 7:00- 9:00	5:30- 7:30 Silent Silent	7:15- 9:30 7:00- 8:00 Slient	6:00- 9:00 Silent 7:00- 9:15	6:00-10:00 Silent 7:00- 8:45	9:00-11:15 9:00-10:30 7:00- 9:15	7:00- 9:15	WMAK		422.3 265.5 447.5	Silent	6:30- 8:30 Silent Silent	8:15-10:30 8:00- 9:00 Silent		7:00-11:00 Silent	7:00-12:15	Silent Silent	WLW
WMBB WMBF WMC	6:00- 9:30 5:30-11:00 7:30- 9:30	6:00- 9:30 5:30-11:00 Silent	Silent 5:30-11:00 7:30-9:30	6:00 - 9:30 5:30-11:00	6:00- 9:30 5:30-11:00 Silent	6:00- 0:30 5:30-11:00 7:30- 9:30		WMBF	Chicago, III Miami Beach, Fla Memphis, Tenn	499.7		7:00-10:30 6:30-12:00 Silent	Silent	7:00-10:30 6:30-12:00	7:00-10:30 6:30-12:00	7:00-10:30	7:00-10:30	WMBB WMBF
WMCA WNAC WNYC	7:00-10:00 8:00- 9:00 4:30- 8:20	1:00- 5:00 6:30- 8:30 7:00- 9:00	7:00-10:00 5:00- 9:00	7:00-10:00	7:00-10:00 5:00- 9:00 5:30- 8:30	7:00-10:00 7:00- 9:00 5:20- 7:30	7:00-10:00 5:00- 9:00	WMCA	New York, N. Y Boston, Mass New York, N. Y	340.2 280.2 526	8:00-11:00 9:00-10:00	2:00-6:00 7:30-9:30	8:00-11:00 6:00-10:00	8:00-11:00 8:00-10:00	8:00-11:0 6:00-10:0	8:00-11:0 8:00-10:0	8:00-11:0 6:00-10:0	0 WMCA 0 WNAC
WOAI WOAN WOAW	Silent Silent 6:00-12:15	7:80-10:30 9:00-10:00 9:00-10:00	Silent 9:00-10:00 6:00-11:30	8:30-10:20 9:00-10:00 6:00-11:30	Silent 9:00-10:00 Silent	9:30-10:30 9:00-10:00 6:00-11:30	Silent 9:00-10:00 6:00-11:30	WOAN	San Antonio, Texas	. 394.5 . 282.8 . 526	Silent Silent 7:00- 1:15	8:30-11:30 10:00-11:00 10:00-11:00	Silent 10:00-11:00 7:00-12:30	9:30-11:30	10:00-11:0	10:30-11:30	Silent 0 10:00-11:0	WOAL
WOC	6:30-12:00 Silent Silent	8:00-11:30 Silent 4:05- 6:30	Silent 10:00- 1:00 6:00- 9:30	6:30- 8:00 Silent Silent	6:30-10:00 Silent 6:00- 9:30	6:30-12:00 8:15- 9:15 Silent	6:30-10:00 Silent 6:15- 9:30	WOC	Davenport, IaAmes, Ia	483.6	3 7:30- 1:00 Silent	9:00-12:80 Silent 5:05- 7:80	Silent 11:00- 2:0	7:30- 9:00 Silent	7:30-11:0 Silent 7:00-10:3	9:15-10:1	7:30-11:0 Silent	WOC WOI
WOR WORD WOS	4:15-10:00 7:30- 8:30 Silent	Silent 5:45- 7:00 7:30- 8:30	4:15-10:00 7:00- 8:30 8:00-10:00		4:15-10:00	4:15- 5:30 7:30- 8:30 Silent	4:15- 5:30 7:30- 8:30 8:00-10:00	WORD WORD WOS	Newark, N. J Batavia, III Jefferson, City, Me	405.2 275 440.5	5:15- 9:00 8:30- 9:80 Silent	Silent 6:45- 8:00 8:30- 9:30	5:15- 9:0	5:15- 6:30 8:30- 9:30	5:15- 9:0	0 5:15-6:3 0 8:30-9:3	0 8:30- 9:3	0 WORD
WPG WQJ WRBC	5:00-10:00 6:00- 2:00 Silent	1:15- 9:00 6:00- 9:00 7:30- 8:30	5:00- 9:30 Silent 7:30- 8:30	6:00- 9:00 6:00- 1:00 Silent	Silent 6:00- 1:00 Silent	5:00-10:18 6:00- 1:00 Silent	5:00- 9:00	WPG WQJ WRBC	Atlantic City, N. J Chicago, III Valparaiso, Ind	299.8 447.5 278	6:00-11:00 7:00- 3:00 Silent	2:15-10:00	6:00-10:3 Silent	7:00-10:00 7:00- 2:00	Silent	6:00-11:1	7:00- 2:0	WPG
WRC WREO WRW	6:00-10:30 Silent 8:00-10:30	Silent 6:30- 7:30 7:00-10:30	Silent Silent 8:00-10:30	6:00-11:00 7:15- 8:45	Silent Silent 8:00-10:30	6:00-10:00 7:15- 8:45 8:00-10:30	Silent	WRC WREO	Washington, D. C Lansing, Mich Tarrytown, N. Y	468.8	7:00-11:30 Silent	Silent 7:30- 8:30 8:00-11:30	Silent	7:00-12:00 8:15- 9:45	Silent Silent	7:00-11:00 8:15- 9:45	Silent '	WRC
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WSB WSMB WSUI WTAM	8:00-12:00 8:30-10:30 Silent 5:00-11:00	7:30- 9:15 Silent 7:00-10:00 Silent	8:00-12:00 8:30-10:30 7:30- 9:00 5:00-11:00	Silent	8:30-10:30 Silent	8:30-12:00 8:30-10:30 Silent 5:00- 6:00	Silent	WSMB	Atlanta, Ga	319 483.6	9:30-11:30 Silent	8:30-10:15 Silent 8:00-11:00	9:30-11:30 8:30-10:00	Silent Silent	9:30-11:3 Silent	9:30-11:3 Silent	Silent Silent	WSMB
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# Radio Digest

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Saturday, June 20, 1925

No. 11

#### "Silent" Night in Name Only

"Silent" Night in Name Only

With the erection of a number of high power studios in Chicago, the plan of Monday night being silent for DX listeners, has been lost to the greed of the publicity seekers, propagandists and other of these stations which believe their service indispensable for the short period of about six evening hours each week. Once upon a time Chicago's silent night meant what it implied. Now it means only that the stations whose transmitters are in the city boundaries remain off the air, while those stations with transmitters removed some ten, twenty or sixty miles shoot everything they can to the great Chicago audience, having as they do zero competition from the purely locals.

Public indignation is rising. When WTAS was the only station within fifty miles on the air Monday night, the situation wasn't so bad. WTAS was on lower power then, and besides, it wasn't selling the air. Then came an increase in power, a sister station, WCEE, and both stations went toll. Shortly afterward, WIJD took the air. Then came WORD, Batavia, with its religious program on high power. Superstation WHT finally opened, shooting plenty of power into the gradually noisier "silent" night of Chicago fans. WHT is also operated for toll.

The religious station, WORD, claims it located at Batavia so that it could broadcast Monday nights. WHT station operating broadcasters with they live in Chicago?

Most of the nearby Monday operating broadcasters they may be a superstation of they live in Chicago?

Most of the nearby Monday operating broadcasters claim that the poor crystal fan and single tube histener must be entertained. That is the chief altruistic motive for their existence. And this premise is incorrect, because the crystal fans have six days a week to be entertained. The seventh gives them a chance to clean off the crystal or go to a movie.

Most single tube listeners would be glad to have the whole Central time band silent one night a week. Then their unselective sets would perhaps get a change of diet.

The expen

change of diet.

The expensive, or average set owner will unanimously prefer to have these nearby stations silent Mondays as well as the purely locals. The owners will have a real opportunity to learn how to tune a set, and besides, can listen to every distant station. The average set owner might thus become acquainted with what other broadcasters are like, and—horrors—might decide that the distant stations knew a whole lot more about putting on a program than the Monday jammers who persist in spending their money on electricity every night in the week.

As a cure, may we suggest that EVERY Chicago station, purely local especially, break down the Monday filled with the beautiful local program for the poor programless Chicago listeners? Then, perhaps, the public will rise up and tell all broadcasters within sixty miles of Chicago to take a night off on Monday and arrange good programs for the rest of the week, taking care to make all advertisements as indirect as possible, and washing their ears good so that they will be presentable next time they go on the air.

#### Promoting Interest in Art

STRIKING evidence of the value of Radio as a means of arousing interest in art, has been given in Vienna, Austria, where a largely increased attendance of the Viennese at the art galleries and museums followed broadcast talks on the paintings and sculpture

there.

We would be delighted if some of the American stations would follow the example of the Austrian broadcaster, and tell the public of the treasures they can see at their local art galleries. Such lectures would be worth countless times more to the invisible audience than some of the wash-pan beating orchestras that unblushingly claim to be exponents of symphonic jazz music

#### RADIO INDI-GEST

The recent saxophone concert was a great success. Gene Paul says that it is his desire to show people that beautiful classical can be played on the much maligned instrument and it is his prediction that people will begin to see the real hidden beauty of the saxophone.

(News copy from KFOA at Seattle)

For many generations now,
The poets, bound by duty,
Have sung of clouds and rolling waves
And things of hidden beauty.

They sang of love, and also fame, But not in things so tootey As the blooping of the saxophone Did they seek for hidden beauty.

The violin's been doled its share, And so's the flute so flutey, But Mr. Paul will show us now The swinette's hidden beauty.

#### News Bulletins from Milwaukee Furnished in Cooperation with the Milwaukee Daily Beverage

(Beer up, my friend, beer up)
Erich Strohbein, local Radio dealer, gives away a prize with each Radio set. He has one for the flappers which is proving exceedingly popular. It consists of a neat leather carrying case containing a complete Flapper's Road Outfit. The articles are a pair of collapsible roller skates, a road map showing dirt roads in detail and a box of Keepa-Shine Shoe Polish. Erich is some progressive.

The young man in the garage next to ours said he got Spain last night. You couldn't make out what they was saying, so it musta been, a foreign language, and the orchestra, or was it singing maybe, there was some code going, was playing "La Paloma," that's Spanish, ain't it? and it was two degrees away on the dial where Spain should been like it said in the book he won on a raffle last year on Radio, so it musta been Spain, wasn't that wonderful? We asked him whether they were broadcasting any bull fights, but he was stepping on the starter and didn't hear us.

High Pressure Salesman Julius Bierbaum went to Zion City the other day to sell Overseer Revoliver a Radio set. "With this set," said Julius, 'you can always cut out that consarned local station." Notworthy was the floral tribute from the Sangverien consisting of a loop aerial with the words. "No static up yonder." Further particulars in the obituary column.

A Radio installed in the convention hall of Milwauke A Radio installed in the convention hall of Milwauser Soft Drink Parlor Dispensers proved a sensation. Wher Florence Gushley sang, "Tell Mother I'll Vote Dry, many an eye which had never looked softer than a ten minute egg shed copious tears and many a fist which had landed an unfortunate Coca Cola addict in the streets completely Horlicked was folded in prayer. Hoping you are the same,

THE THIRD TROMBONE PLAYER.

It's too bad Mr. Paul can't go to Milwaukee to display the saxophone's hidden beauty. The home of corne music would undoubtedly see the point.

#### The Ear-Lap

Ine Car-Lap
Oh, ye waves of the ocean,
You're mightly mean,
As action's conjuror
You've sure got the steam;
You rumble and pound
When the wind makes you mad—
But piffle, old ocean,
You're only half bad.

Why, waves of the ocean, You haven't the strength, Nor even, by Judas, One half of the length Of the ponderous, stringy, Entang-l-ing snare Condensed in my speaker From ariel air.

From ariel air.
They rear and they lear,
And they leap and they clap,
Till they heave the loud speaker
Right into my lap;
They twist where they list,
But they never play dunce—
They're so darn educated
They talk six at once.

Yet I, like the ocean,
Am never at rest,
Though oftentimes quiet—
May virtue attest—
For sally I may
To the dump with my fears,
But I've always that lappity lap
In my ears!

RUSTY LEWIS OF

RUSTY LEWIS OF ELAND.

## "What I Like Least About Radio"

(Send in Your Pet Peeve)

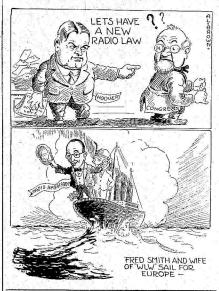
Dear Indi: Here's a starter for this valuable department which I hope you will incorporate in your splendid

ment which I hope you will incorporate in your spienaus column:

Any station that thinks that the soprano will soon be extinct, and that gives us plenty of such stuff as Miss Lucy So-and-So of the Squeedunk church choir, who will oblige with "Little Gray Home in the West" and two of her own compositions, so we will be sure and remember just, how glorious a soprano voice was, ......and the long-winded mayors and chairman of the Society for the Uplit of Such-and-Such. ......and other pseudo orators.

The fact that this paper goes into the home forbids from expressing our own peeve-rating announcers.

#### News of the Week



#### Condensed

By DIELECTRIC

Several of the broadcasting stations have facilities for transmitting on either of two wave lengths, which provides a medium whereby more than one style of provides a medium whereby more than one style of program may be given at one time without conflicting with each other. Station WBOQ is the low wave studio of WAHG, A. H. Grebe at Richmond Hill, L. I. Upon the occasion of the last appearance of the inimitable Finn—Nurmi—this station entertained with an account of the race given by Thornton Fisher. These WBOQ and WAHG sporting events are followed by a large audience of Radio listeners, whose appreciation is genuine.

New England has some very good musical talent and, thanks to broadcasting, it is possible for music lovers in many parts of the country to share in the enjoyment they offer. WBZ, Springfield, has been generous in the manner of such concerts it has included in the programs. The Huntington music clubs appeared in the stdio of WBZ to spend a large part of one evening having a royal good time while we fans listened in. This is but another sign of musical growth in America. growth in America.

Dialing down into the land of Georgia, WSB was discovered in process of introducing the Melody Artists' orchestra. Not all of the tunes from southern climes are in the nature of languorous harmonies, as this aggregation of musicians proved. Real fast and furious jazz numbers constituted most of the numbers played and dancers had to step lively to keep pace with them: Just wait a month or two for the new installation at WSB and see how the programs come in. come in.

Station WGN, Chicago, had two excellent features Station WGN, Chicago, had two excellent features to present not long ago in the Southland concert and the WGN trio. Unquestionably the latter had the better of it. I wish to express my conviction that few, if any, station trios surpass this one. It was the initial appearance of the players and I followed their work carefully with increasing admiration for their balanced playing and studious attention to the intent of each selection rendered. This is truly an asset

After hunting around to find a violinist capable of impressing a Radio audience, I finally found Miss Magee playing at WSAI, Cincinnatti, on an instrument with pleasing tone. Had such a program as this lady arranged been disrupted by the reading of telegrams, as still happens in many studios, the effect would have assumed an entirely different aspect. It is heartily to be hoped that encomiums will continue to pour into the studios, but NOT spill over into the microphone. That is a practice devoid of public appeal.

All offenders take notice. Took a long breath the other night and tuned in on KFWB, the movie station in Hollywood, and listened to a right-down-innovieland dance orchestra play. This Montmarte cafe orchestra has it all arranged so that the station call letters—no more—are announced after each number is played. Between suites of numbers the usual procedure of treating the public to eight or ten minutes of carrier-wave hum is varied to the extent that obliging members of the orchestra play solos. First time I ever heard a brass horn solo in dance time. And what is a tarepach? The banjoist plays it. At any rate, I voted the boys were good.

## Various Uses of Filament Control Jacks

By Harry C. Lodge

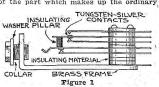
OMPARATIVELY few fans use filament control jacks because the majority of the Radio public does not know how. Most home constructors feel that these jacks are too complicated, hence they resort to the plain variety. There is another reason for not employing these jacks, that is a theory, started by no one knows who, that the use of these jacks is detrimental because there is too much distributed capacity in the jacks. Jacks do have some distributed capacity; however, this capacity is not the least bit harmful on the broadcast range. The use of filament jacks on a receiver made to tune on wave lengths around 50 meters is inadvisable.

On the broadcast range, that is from 200 to 550 meters, the use of filament jacks is a convenience with which every fan building a set should be familiar. With them installed it is no longer necessary to have an extra switch to turn out the A battery. The simple performance of plugging the phones or loud speaker in and out, does the work. Put the phones in and automatically the filaments light up. When one is through for the evening pull out the plug and the filaments go out. Filament control jacks may be used with any number of audio stages and will light or put out the filaments as they are used.

light or put out the filaments as they ar

Types of Filament Control Jacks

Types of Phannent Control Jacks
There are two types of filament control
jacks, one for use on the last stage and
the other for use on other than the last
stage. As may be seen from the drawings, filament control jacks consist first
of the part which makes up the ordinary,



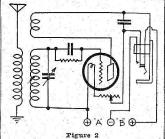
presence of the filament control by the presence of the filament control springs.

Filament control jacks are so arranged that when the phone plug is pushed in to make contact, a spring of the plate circuit pushes up the pillar of insulation which in turn closes or opens the springs which make up the filament circuit. As may be seen from the enlarged drawing figure 1, the jack is made up of a brass frame on which the springs and supporters are built up, and the frame, while holding all of the parts, also serves to make contact with the phone plug. At the end of the frame are small pieces of insulation between which are sandwiched the springs. At the other end is the collar by which the frame is held to the panel.

The ends of the springs nearest the

COLLAR BRASS FRAME

The ends of the springs nearest the panel have tungsten silver contact points, and since this metal is not attacked by the elements we can always depend upon the phone circuit, the second being of course the part which controls the filament. This part is insulated from the ends of the springs project a short way rest of the jack usually by a pillar of behind the separating pieces of insulation.



in which case the wire is merely held in place and the spot heated.

Simplest Filament Control
In figure 2 we have the simplest filament control arrangement. In this case

insulation such as bakelite or hard rubber. The phone circuit part of the jack is are made. The ends of the springs are is necessary. All that it does is make and susually coated with solder although some presence of the filament control springs.

Filament control springs of the plate circuit, when the phone plug is pushed in to make contact, a spring of the plate circuit pushes up the pillar of insulation which in turn closes or opens the springs which make up the filament circuit. As may be seen from the enlarged drawing figure 1. The fiack is made un of a brass

In figure 3 we have the filament control jack arrangement used in a two tube hook-up, a detector and one stage of audio frequency amplification. However, this arrangement cannot be used in the usual two tube refex as in this case both tubes are used at once and at all times. In the are used at once and at all times. In the circuit shown one double filament control and one single filament control is the state of the control should be succeed. When the phone plug is in the first jack the detector tube alone is on, the amplifier is out. When the plug is in the second jack both tubes are on and ready for use. Pulling out the plug disconnects both tubes.

In figure 4 we have filament control jacks in the most popular arrangement, (Continued on page 18)

## Getting Concerts WHOLE



Cabinet Model "C" \$30

It soon dawns on the owner of a Bristol Speaker that he is listening in on entire concerts.

That roving disposition to tune in every station on the map is due, much more than is generally supposed, to a yearning for really sweet music.

One reason radio music does not always sound sweet is that certain of the tones are out of tune.

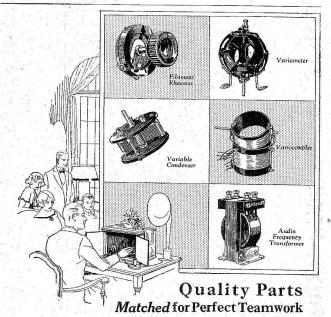
Coming through a Bristol Speaker, all the tones are evenly in tune. The result is an arresting sweetness that "invites" you to stay through a concert to the end.

## AUDITIONE Loud Speaker

For \$25 and \$30 you can get a Bristol Speaker; and there are others as low as \$12.50. Ask your dealer to send one out. Write us for Folder No. AY-3022, telling why the Bristol is such a delight to the ear.

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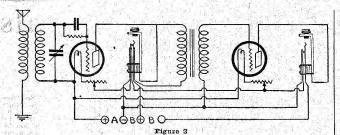




"pet" hook-up needs first quality parts-perfectly matched-to give you real radio.

Every Federal Standard Radio Part is designed, made, matched and guaranteed by Federal. That is why you find Federal parts in all the better hook-ups-that is why you should insist on Federal parts when purchasing.

FEDERAL TELEPHONE MANUFACTURING CORP Products

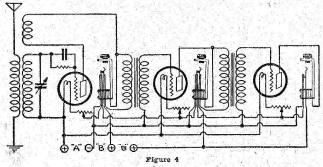


- In the second

USE OF CONTROL JACKS

(Continued from page 17)
namely, the detector with two stages of audio frequency amplification. In this case, plugging the phones in and out does the same things as explained in the preceding paragraph except that it takes care of three tubes. In this arrangement two double filament control jacks and one single filament control jacks and one single filament control jacks and one single filament control jacks and one hard detector tube with two amplifiers, in figure 5 filament control jacks are presented in a circuit comprising a detector and three stages of audio frequency amplification. This combination came into some popularity with the Hetdungen. It was not used much before that circuit because it was hard to get properly shielded transformers for this arrangement.

The use of these jacks is very useful when three stages are used. In this case,



if the same type of tubes are used throughout, that is 201-A or all 139's, you can use a single rheostat, and set the voltage right with a voltmeter. The conveniences over the old arrangement where in some cases there was a rheostat for each tube can be plainly seen. Here we have only one rheostat yet all tubes are properly controlled and automatically go on or off whenever the plug is placed in the proper jack. With these, the most common arrangements, one can work out all sorts of combinations for filament common arrangements, one can work out all sorts of combinations for filament control jacks such as detector and four stage, detector with one stage and push pull amplification, detector with a stage of transformer and two stages of resistance coupled, or detector and three stages of resistance coupled.

Secret of Correct Wiring

if the same type of tubes are used the panel because it is here that the for the panel because it is here that the for the panel because it is here that the lidament terminals are found inasmuch as the tube sockts rest on the baseboard. If jacks are not placed near the bottom various leads will not be as short as they might be and it will be found that the plugs are always in the way when tuning.

When jacks with filament control have been wired for the first time by an inexperienced reader, it is best to check the wiring at least twice before putting the swiring at least twice before putting the same properly of the panel because it is here that the filament terminals are found in samuch as the tube scokets rest on the baseboard. If jacks are not placed near the bottom various leads will not be as short as they might be and it will be found that the plugs are always in the way when tuning.

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only one rheostat yet all tubes are properly controlled and automatically go on or off whenever the plug is placed in the proper jack. With these, the most common arrangements, one can work out all sorts of combinations for filament control jacks such as detector and four stage, detector with a stage of transformer and two stages and push pull amplification, detector with a stage of transformer and two stages of resistance coupled, or detector and three stages of resistance coupled.

Secret of Correct Wiring

The whole secret of connecting filament control jacks correctly can now be seen. It depends upon remembering that the

#### The Reader's View

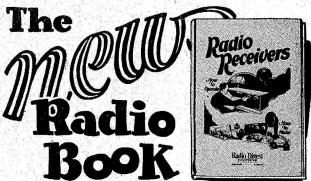
Superstations

Superstations

Being a subscriber of your good magazine and an ardent Radio fan I wish to say that I believe Mr. Kinter of the Westinghouse Electric company has discovered a plan that if worked out in its details will be the solution to the Radio problems that have for some time been puzzling the engineers over the country. What strikes me as the most favorable point in his plan is the locating of only is superstations in a certain band of wave lengths and as his plan is to give them each a difference of 20 kilocycles there would be no interference, though they should use as much as 50 kw.

I would also like to say a few words concerning the much talked about question, "Who is to pay for broadcasting?" To answer that intelligently, I think we should all first decide this question, "Who is broadcasting for?" It is done by the broadcasters for advertising purposes to place him or his firm before the public, and to entertain the listener, for if there is no entertainment why should the public listen. As a whole, we can sum it all up as to who derives the benefit from it. I believe both parties are benefited, the people who are putting out the programs are putting their names before thousands of people who would otherwise never hear of them, the public who listens gets the entertainment and educational benefit, and as it is today, the

average fan is not asking for more stations, but a solution to the problem on how to prevent interference from so many closely alloted wave lengths, which subject goes back to our Mr. Kintner's plan. In closing allow me to thank you for such a splendid magazine at so reasonable a



### How to ≈ understand radio, assemble circuits, improve reception, operate sets,

VERY phase of Radio reception gathered into one book at a last! Explanation of elementary principles, directions for constructing parts, detailed how-to-build articles for the assembly of sets, operating directions on popular manufactured outfits.

Haven't you often wondered what all the spirals, wriggly lines and zig-zag lines were about on diagrams? A big chart shows you a picture of the part as you see it and, beside the picture, the symbol used in diagrams. Other articles show clearly just what happens within the mysterious little vacuum tubes that glow hour after hour within your set, apparently without change, yet pass every note of a jazz orchestra or soprano.

Antennas, for whose erection there are seemingly no rules, are covered fully; the reason for a long wire in some locations and a short one in others, is readily grasped by anyone. Crystal sets, one tubers, two tube reflexes, three tube regenerative and reflex outfits, four tube R. F. and neutrodynes, five tube assembliesall types are presented up to the nine tube "super," king of the air.

#### For the Man That Bought His Set

For the non-technically inclined there is a two-color broadcast map of the country, operating schedules of all the leading stations, call letters and power rating of every station on the air, suggestions for the care of batteries and tubes.

No matter what type of receiver you own, there are dozens of valuable suggestions on tuning, trouble shooting and operating. Your head receivers, loud speaker, antenna and certain parts within the set, require frequent cleaning, adjusting and care. Interference and its remedies are factors you should understand even though you care nothing about "what makes it go."

Compiled by the technical staff of Radio Digest, it represents the high lights of the past twelve months in the Radio field. All this data is indexed for ready reference and logically arranged. Only a few thousand have been printed and this offer will stand for a limited time. The only book of its kind and is FREE with one year's subscription to Radio Digest. This offer good only on subscriptions sent directly to this office, not through agents or

Subscription Department

## Radio Digest

510 N. Dearborn St., Chicago, Ill.

r	
	Radio Digest 6-20-25
1	Enclosed is \$5.00 in ( ) M. O., ( ) Check, ( ) Currency, for which enter my subscription to Radio Digest for one year and send me the
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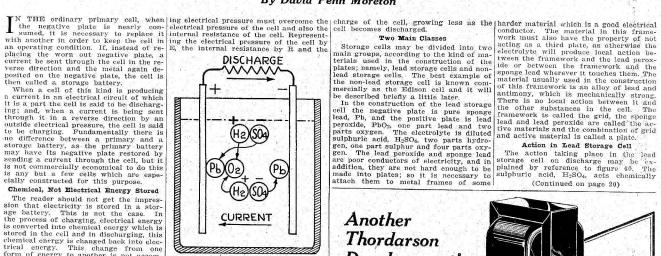
## A. B. C. Course in Radio Fundamentals

## Chapter XIII—Storage Batteries

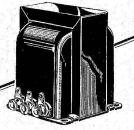
By David Penn Moreton

Is any but a rew cens which are especially constructed for this purpose.

Chemical, Not Electrical Energy Stored
The reader should not get the impression that electricity is stored in a storage battery. This is not the case. In the process of charging, electrical energy is converted into chemical energy which is stored in the cell and in discharging, this chemical energy. This change from one form of energy is changed back into electrical energy. This change from one form of energy to another is not accomplished without some loss, or in other words the storage battery is not 100 per cent efficient. For example, when the cell is discharging, a part of the electrical pressure is used in overcoming the internal resistance of the cell. As a result only a part of the electrical pressure is used in overcoming the internal resistance of the cell. As a result only a part of the electrical pressure is used to the fact that the electrical pressure in the cell is not a constant but depends upon the degree of



Another Thordarson Development!



The Thordarson **Autoformer System of** 

## All Frequency Amplification!

Lowest Notes Now Amplified as Perfectly as High Notes Greater Clarity on All Signals

Achieved Solely Through This Latest Triumph



## All Frequency Amplifier

NOTE: ONLY THORDARSON BUILDS THE AUTOFORMER

THE Thordarson Autoformer System of All Frequency Amplifica-It em of All Frequency Amplifica-tion is an adaption of capacities, im-pedances and resistances. A new idea developed and perfected by the world's oldest and largest trans-former builders. The same in prin-ciple, however, as the line amplifiers now in use at the more recently in-stalled high powered broadcasting stations. stations.

Three stages of Thordarson Auto-formers give—with beautiful clarity

more amplification than two stages of audio transformers. And as much or more amplification than four stages of resistance coupled amplification

To amplify clearly the lowest notes on any instrument as perfectly as the high C of the soprano—and to amplify with even magnitude all notes within range of the human ear—is the purpose of Thordarson Autoformers.

Write for the Autoformer Hook-up Bulletin-Just Out!

Full directions, with diagrams, for building a Thordarson Autoformer Amplifier are also supplied with each Autoformer. All Thordarson Products are unconditionally guaranteed. Thordarson dealers everywhere,

THORDARSON ELECTRIC MANUFACTURING CO. WORLDS OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS

Chicago, U.S.A.

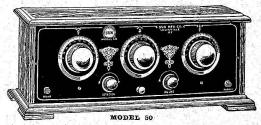


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Exclusive dealers franchise eliminates jobbers, brokers and distributors profits and makes more money for you.

The Complete SUN RADIO Line IS superior in beauty, selectivity, performance, tone quality and price.

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A beautiful four tube receiver that will do the work of six. Very selective, Tunes out local stations. Receives from coast to coast on the loud speaker. Tone quality unexcelled and operating cost exceedingly low.

## Sun Manufacturing Co.

722 SO. 26th STREET

LOUISVILLE, KY.

#### A. B. C. RADIO COURSE

(Continued on page 19)

(Continued on page 19)

upon the negative plate of sponge lead, Pb, and, it is broken up into positively charged SQ. The SQ4 part of the acid unites with the lead plate, forming lead sulphate, PbSQ., and gives up its negative charge. The hydrogen carries its positive charge to the positive plate of lead peroxide, where it gives it up, and unites with the oxygen of the lead peroxide, it forming water, HpQ. The sulphuric acid in contact with the positive plate of lead peroxide, where it gives it up, and unites with the oxygen of the lead peroxide, it forms more water. The SQ4 part of the acid combines with some of the oxygen of the lead peroxide and forms more water. The SQ4 part of the acid combines with some of the oxygen of the lead peroxide and forms more water. The SQ4 part of the oxygen of the lead peroxide plate and forms more water. The sQ4 part of the oxygen of the lead peroxide stand forms more water. The sQ4 part of the oxygen of the lead peroxide plate and forms have been supported to lead sulphate. During the process of discharge both plates are covered with the surface of the plates are evered with the sulphate, when of course, all action will cease as there is only one kind of material, namely lead sulphate, in contact with the electrolyte. There must be two kinds in order that a cell may operate. The practical limits of discharge are, however, reached before the surface of both plates are completely covered.

The water formed during the discharge and the breaking up of the acid results in the acid continually growing weaker. The active materials, lead and lead peroxide, are replaced by lead rical resistance and it is more bulky than the active materials which it replaces. The sulphate causes an increase in the material resistance, and since at takes up more space than the scales in the material which it replaces there will be an expanding action due to the formation of the sulphate which usually bends them as a plate of the formation of the sulphate of both plates are the process of them, as it is

tion due to the formation of the sulphate which usually bends the plates out of shape or "buckles" them, as it is commonly called.

Lead Cell Charging Action

The action taking place in the lead storage cell on charge may be explained by reference to figure 61. The cell is assumed to be in a discharged condition and both plates are covered with lead sulphate. PBSQs. When a charging current is sent through a cell, it breaks up the water which was formed during the discharged to the positively charged hydrogen. H2, and negatively charged hydrogen larged to the positively charged hydrogen is now attracted to the negative plate.

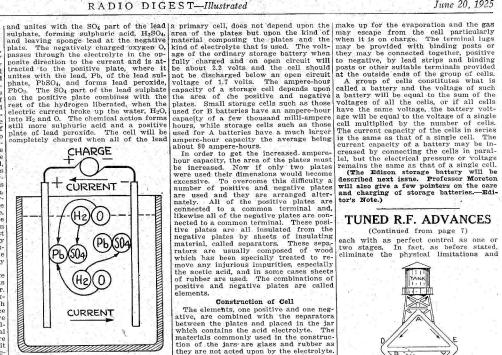


Figure 61

#### Construction of Cell

Construction of Cell
The elements, one positive and one negrative, are combined with the separators between the plates and placed in the jar which contains the acid electrolyte. The materials commonly used in the construction of the jars are glass and rubber as they are not acted upon by the electrolyte. Glass is usually used for stationary batteries and rubber when the battery is to be carried about. In some of the very large power cells, lead lined boxes are used.

The containing jars are provided with ribs or supports for the elements to rest upon and any sediment which accumulates in the bottom of the cell will not cause a short circuit between the elements. Several cells are usually mounted in a wooden containing case painted with handles. Each cell is sealed with a lid through which the terminal lugs project and in which there is an opening through which water and acid may be added to

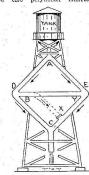
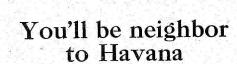


Figure 26

there remains no limit to the number of stages it is possible to cascade. Hence, (Continued on page 21)



\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*



LISTEN to it! Hear the Shamrock-Harknotice how distant stations come in as though
they were near at hand.
Radio frequency, controlled by variable
condensers mounted on air core transformers,
gives the Neutrodyne its remarkable distance.
The Shamrock-Harkness Two-Tube Reflex
uses these transformers (flexo-formers).
Build your own set at half the cost. All
parts necessary to make this marvelous set,
including full directions, simply told, furnished in Shamrock Kit.

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Also Ask to See THE IMPROVED Shamrock-Harkness

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ONE—"Goode" Detector-Amplifier. THREE—"Goode"
Detector-Amplifiers..... (All postage prepaid)

The "Goode" Two-o-One A Tube amplifies or de tects. It is a quarter ampere, five voits, standard base silvered tube. Send express or postal money order—New York draft—or personal check to—

The Goode Tube Corporation Owensboro (Dept. A) Kentuck

Finer Selectivity Equip your receiv-Equip your receiving set with Apex Vernier Dials. They will greatly increase the efficiency of any set. Make tuning positive- bring in distant stations. Your dealer has them. If not, send \$2.00 for Royal Brass Finish—\$2.50 for Satin Silver Finish, or \$3.50 for DeLuxe Gold Plated (24k). APEX SUPER 5 This highly efficient tuned radio frequency tuned radio frequency receiver is most advanced indesign and construction. An instrument that meets every critical expectation of the radio enthusiast. Housed in a highly finished walput cabinet, complete with the construction of the radio enthusiast. Housed in a highly finished highly fold plated. Sells for \$95 complete excepting accessories. ccessories. At All Good Dealers APEX ELEC. MFG. CO. 1410 W.59th St. Chicago Dept. 605A

## Three Tube Set Free from Local QRM

#### Trap and Regeneration **Give Good Selectivity**

I am showing a wiring diagram of a particularly selective set that I have had very good luck with. The following facts are just as I found.them. While WCCO and WAMD were transmitting and the

#### WORKSHOP KINKS EARN A DOLLAR-

THERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much interested in obtaining such material. Send them in with full details, including stamped envelope, so rejected copy may be returned. The work must be entirely original not couled

may be returned. The work must entirely original, not copied. RADIO KINKS DEPARTMENT Radio Digest, 510 North Dearborn St., Chicago

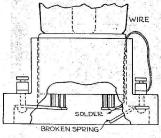
latter station is just 100 yards away I received WHT, Chicago; WQJ, Chicago; WTAY, Oak Park; WDAF, Kansas City; WOAW, Omaha, and KYW, on a joud speaker, using just three tubes. I had absolutely no interference from either of the local stations and I assure that they are notable when it comes to "stepping on the loud pedal." C2 is the trap arrangement which cut out much local QRM.

The adjustment of La is very critical.

QRM. The adjustment of  $L_3$  is very critical.  $L_3$  and  $C_1$  log practically the same in picking up a station. If  $L_3$  is advanced too far signals will be blocked. The constants are shown in the diagram. The set has real good volume on loud speaker up to 1,000 miles. I do not know what it will do on the phones as I never use them.—R. D. Lewis, Minneapolis, Minn.

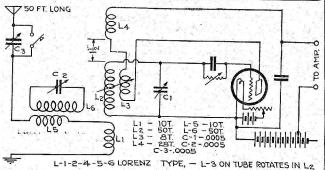
#### Repair for Socket Spring

When bending up springs of a socket while in the set a spring often breaks. In some sets to remove the socket is very difficult, but a repair may be made without removal.



Determine which tip of the tube should make the contact and solder a small insulated wire to it, replace the tube and connect the other end of the wire to the correct binding post on the socket. This will make a permanent repair.—A. H. Sime, Somerville, Mass.

#### DIAGRAM AND CIRCUIT CONSTANTS

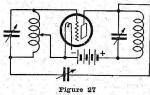


#### TUNED R.F. ADVANCES

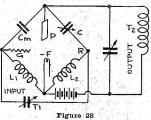
(Continued from page 20

the way is now open for you scalawags who will never be satisfied with anything less than a twenty-four tuber with mudguards and a spotlight.

To illustrate the application of the Wheatstone bridge principle I again show the Rice circuit as figure 27, mentioned in a previous article as a capacitive feedback



rigure 27
compensation method for the control of regeneration, and also refer to the Goodrich circuit as shown on page 17 of Radio Digest Illustrated in the issue of May 23. This is not with the intention of discrediting Mr. Goodrich but rather to amplify the statement that, properly designed, there is no reason why it cannot be totally compensated or balanced by the application of the Wheatstone principle, as it is the counterpart of the Rice circuit with

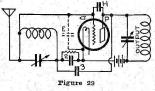


the addition of magnetic coupling in the detector circuit, and is well worth build-

only the input of Mr. Goodrich's contribution is shown in figure 27 though tribution is shown in figure 27 though picturized schematically in order that the capacitive feedback may be made more

clear, while figure 28 shows both Rice and the Goodrich as it is drawn into a balanced bridge.

Note particularly that G and R represent the input circuit, while terminals P and F are output. Bach pair is at opposite points of the hridge. This bridge thus contains two arms which are capacitive and two which are inductive, the inductive arms representing the tuned input circuit L1 and L2. ductive arms represent put circuit L1 and L2.



This interesting bridge in operation is balanced so that the L1 inductance bears the same relation to L2 that the capacitance C bears to the lumped capacity CM inherent between the grid and plate of the tube including the capacities within their clicuit wiring; hence as it is possible to have C equal the value of CM through C being variable. Therefore Rice at once saw that the balance of L1 and L2 could be made permanent at the center of the input inductance.

Although it is reasonably certain that as he showed the value C as fixed in his patent application, he apparently missed the value of a Wheatstone arrangement through not making the value C variable. However the courts are now earning their salaries trying to decipher claims of infringements, as I understand no Wheat-

#### Try Trees for Static Free Aerials—Squier

Free Aerials—Squier

Maj. Gen. George O. Squier, former chief signal officer of the U. S. army, believes an aerial placed a certain way in a tree may be free from static. He says:

"At this season of the year, where static is more pronounced and whore the other static is more pronounced and whore the one spaces, it is highly desirable that the static is more pronounced and whore that this very simple and efficient type of antitions should be tried out practically in the field.

We have found, in short, that a living vigorous tree becomes an efficient antenna for a receiving set by driving a nail about three inches into the tree at an optimum, polit, usually about two-thrits of, the total height of the tree from the ground and well within the tree top, and attaching the antenna binding post of the set to the nail by a piece of wire, the other terminal of the set being connected to the earth, or sometimes without any earth.

The resistance between the nail and the tree through the trunk and root system may be high, but this is thought to be an advantage, since it retards the escape of the varying potential of the nail due to the broadcast message and divert it along the wire to the receiving set. Such an aerila gives a louder signal than wire alone and one apparently free in a large measure from external disturbances. There is no definite theory to put forward at present as much more data would have to be obtained from experience in the field.

"From a practical standpoint it makes it very simple to take set in the auto, or into camp anywhere, by merely carry, ing along a piece of insulated wire, and, anail to drive into the tree. It is believed that the American boy, if informed of this interesting experiment, will soon find additional data during the summer which will be helpful to the

stone structure was claimed by the many experimenters following Rice who made this value variable.

experimenters following Rice who made this value variable.

Action Creating Compensation
You may wonder whether you can explain from this bridge diagram just how a balanced or compensation is obtained. The balance is obtained, as previously explained, while the action is as follows. As TI is independent electrically from \$2.

As TI is independent of wave length.

It might be of interest at this point to caution the prospective builder that success with this method is measured primarily by, and with, his ability to ellminate radio frequency loops and foreign capacity coupling in the design and wiring of this circuit. Total interstage shield
(Continued on page 22)

#### Static Loosens Its Strangle Hold When Your Receiving Set Goes Into Action WITH A KANE ANTENNAE

Whenever radio reception is bad during the summer months, the blame is usually placed on "Static."

A lot of this interference is not real static, but man-made interference coming from power lines, defective insulators, leaky transformers and similar causes. Electricily is very largely used during the summer months for cooking purposes, and frequently this throws an overload on the power lines. This causes beliame.

## Electrical power interference with good reception is responsible for

more than half the noise you get during the summer months.

The Kane Antennae absolutely eliminates electrical interference, and cuts the squeals from reradiating sets and "real static" at least in two.

Mr. Geo. Bowles of El Centro, Imperial Co., Calif., takes the stand and testifies as follows:

Gentlemen:

Gentlemen:

May 12, 1925.

Your Antennae has made my Mohawk set very selective, and I consider the money well invested and would not be without your Antennae.

It has made many sit up and take notice when they heard my outfit going can get nothing except one big roa.

Yours truly, (Signed) Geo. E. Bowles.

Can you, too, sit on the lawn and enjoy your radio set? Or do you, like Mr. Bowles', my they will be set to the property of th

See for Yourself How the Roar Is Overcome

A dollar bill brings you the working drawing of the Kane Antennae with full instructions for erecting it. If after looking over the drawing you decide that you would rather have a factory-built Antennae than build one yourself, we will take back the drawing and allow you full purchase price on an order for an Antennae.

The Special Kane Antennae for Radiola Super-Hets.... The Regular Kane Antennae for all other sets that use a ground

connection 1:

Working Drawing with Instructions for Erecting, \$1.00

(STANPS NOT ACCEPTED)

Pestpaid to any part of the United States, or sent C. O. O. when 25% of purchase price accompanies anadian Orders filled by The Kane Anteanae Company of Canada, 1220 Seymour Street, Vancouver "HEAR AS YOU HAVE NEVER HEARD BEFORE"

ory, HOQUIAM (Indian name, meaning "Hungry for Wood"), Washington. THE KANE ANTENNAE COMPANY, (Dept. c), Hoquiam, Washington



ATT BENEVICO CONTRACTOR OR RECOGNIZACION DE CONTRACTOR OR RESULTANTOR OR RESERVOIR DE CONTRACTOR DE CONTRACTOR CONTRACTOR DE CON up your set with good tubes

FOR the portable set—or for any set that is to be operated from dry batteries you can't beat the MAGNATRON DC-199. This is the little tube with the big voice! It is made with either the large or the miniature base; it will fit any set.

The Magnatron DC-199 (large or miniature base) and the Magnatron DC-201A sell for only \$3 each at your dealer's.

CONNEWEY ELECTRIC LABORATORIES

## **Questions and Answers**

Neutroformer Spacing
(18361) ETJ, Cresbard, S. Dak.
I have a neutrodyne which I made up of manufactured parts but I did not follow directions in this respect: the connections come in the back and I set the neutroformers I inch further apart than designated, all the works were placed on a 30-inch panel. My main trouble is that I fail on a medium or high wave length but squeal on the lower. I can stop that by reducing the filament current. It is quite good on distance. I can pick up both Los Angeles stations, Beaumont, Texas, Pittsburgh and have had Mexico City several times. I have heard you mention X wire or three condensers. You have an article in a previous issue. Would be pleased to have you use enclosed addressed envelope and give me the dope on that.

that.—A great deal of the difficulty which you are having with your neutrodyne is due to the fact that you set the neutroformers one inch farther apart than they should be. The 55 degree angle has been figured out for, and is only correct for, coils of a certain size and diameter placed at a certain distance apart. If any of these three factors are changed the angle no longer holds good and there will be magnetic coupling between the neutroformers.

magnetic coupling between the neutro-formers.

Under separate cover we are forward-ing the issue of December 27, which con-tained the article on X wire and we will appreciate your forwarding 10 cents to our circulation department, with a note stating what it is for. The X wire cir-cuit however is good only when the neu-treformers are properly spaced as men-tioned above.

(13786) HAS, Hamilton, Ont., Can.
I received your answer to my questions I sent. The circuit I wanted information on was out of a small book entitled "One Hundred Radio Hook-ups" by F. F. Webb, figure 35. I have most of the parts for this set but will not attempt it for I am not sure that it would work.
Probably though you could publish a diagram of a super-regenerative for me that you know would work if properly constructed without honeycomb coils, or variometers if possible. I would like to use only one variable condenset, an eleven plate and able to work a loop fair. I have a Federal No. 95 variocoupler that I would like to use somewhere in the set if possible.

A.—In answer to your latter of Marchaelest and was a federal No. 95 variocoupler that Laydel like to use somewhere in the set if possible.

I would like to use somewhere in the set if possible.

A.—In answer to your letter of May 15th we must advise that you ask the impossible. It would be an impossibility to construct a super-regenerative receiver along the lines you suggest as inductance and capacity must be present in the various circuits so that two wave lengths are present, one of them being the incoming signal and the other a very long wave length in the neighborhood of 10,000 to 18,000 meters which will break up the incoming signal at just the proper interval to prevent the tubes spilling over. The most honest advise we can give you is

Salesmen calling on radio dealers wanted to handle Radio Tubes as a side line. Thoria Tube Company, Dept "D," Middle-town, Ohio.

#### PATENTS

Time counts in applying for patents. Don't risk delay in protecting your ideas. Send sketch or model for instructions or write for FREE book, "How to Obtain a Patent" and "Record of Invention" form. No charge for information on how to proceed. Communications strictly confidential. Fromprediction of the process of the pr

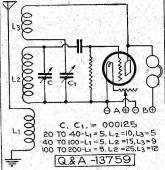


114; OUT—Complete eventating ready to run non-acid, non-subhating 22½-volt rechargeable "B" storage battery, 83.05. Includes chemical. Does not lose its charge standing title. Special 2-22½ volts (45 volts) \$5.557, 90 volts \$1.00.05 in 1324 volts \$13.50.1 20 volts \$1.00.05 in 1324 volts \$13.50.1 20 volts \$1.00.05 volts

to leave super-regeneration alone for the time being until some of the country's more advanced experimenters have had a chance to work out some simple and more stable circuits for you.

Short Wave Weagant Hoop-Up

Short Wave Weagant Hoop-Up (18759) JRF, N. Braddock, Pa. I wish to use the Weagant X circuit for my short wave receiver which is to cover a range of 20 meters to 200 meters. What I wish is a sketch of said circuit giving the condenser capacities, grid leak capacity, number of turns on colls and size of wire. This is wanted for the primary, secondary and tickler colls. I plan using a VT-1 or DV-2 tube.



A.—As requested, we are showing herewith the Weagant circuit. On it we have noted the values of the various units necessary. No one coil can be used to cover the entire range from 20 to 200 meters so it will be essential that these coils be constructed on some sort of a plug-in arrangement.

#### TUNED R.F. ADVANCES

(Continued from page 21)

(Continued from page 21)
ing with copper very materially increases
its efficiency, and it should also be borne
in mind that each input stage must be a
repetition of the first input in that as
the two inductive arms are adjusted permanently at their center, and as these
two comprise the input or grid circuit inductance, it is therefore essential that for
each stage added, the variable capacity
C must be provided and the input inductance of each stage tapped at its center and brought to minus filament.

Cantion in Wiring Circuit
Particular attention is called to the grid

Particular attention is called to the grid

Men to build radio sets in spare time Leon Lambert, 501-H Kaufman Bldg. Wichita, Kansas.

MAN. WANTED in every district immediately, Remarkable value Men's, Women's, Children's Shoes and Hosiery direct—saving Wearer 40%. Experience unnecessary, Permanent, steadily increasing income Write today. Tanners Shoe Mfg. Co., 6-431 C Street, Boston, Mass.





22 Cells Lasts Indefinitely—Pays for Itself Economy and performance unheard of before. Recharged to a nerligible cost. Approved and listed as Standard by portant institutions. Equipped with Solid ance against acid and leakage. Extra he rugged plates. The property of the property

Valent Fesched, Ettra University of the American Strategy of the Americ

World FOR RADIO

ment and A battery resistance cannot become a part of the bridge, which is desirable.

Wholly Capacitative Bridge Circuit
I believe those engineers who are familiar with bridge circuits are in agreement that where possible it is quite desirable that one or two of the bridge arms be made inductive as, in practice, they become much easier to construct as a production product. However, a variance no doubt is possible and I offer for the first time, I believe, a wholly capacitive Wheatstone bridge circuit as designed by a prominent engineer, which circuit you will very likely see incorporated in one of the leading manufacturer's receivers this fall. It would be unfair for me to give the constants of this circuit prior to its introduction, while to the contrary, the giving of these constants no doubt would be superfluous to many of my readers as it is obvious that the usual input and output values would be nearly if not totally correct.

Here then, is a circuit wholly capacitive and very interesting, first, because of its originality, and second because it portrays a most unusuab bridge arrangement. Figure 29 shows the circuit schematically as you would draw it, while figure 30 pictures it when compounded into a bridge. Note in particular that its only change from that of the Ricc circuit is that of removing entirely the center tap grid return, and in its place inserting a choke or resistance with capacity, making it common to the low potential of the input circuit, just a mere juggling of wires as it were, yet entirely changing the whole bridge construction.

How many manufacturers paid dearly just to see this circuit would be of interest, but surely more than two enjoyed this privilege. In each of the diagrams a standard nomenclature is employed in

#### PATENT ATTORNEYS

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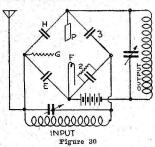
Mail in Your Tubes To Us FOR
FROMPT RETURN, Parcel Peat, C. O. D.

O'CONNOR & COMPANY

return, also the plate battery return in all balanced bridge methods of neutralization. It is quite permissible that the rheostat control be placed in either the minus or positive leg of the filament, the position selected being of no moment as the A battery's function in such circuits will be solely as a current supply to heat the filament in order to secure desired electron emission.

But it is not permissible and in such circuits you should never permit other than common returns for the grid and minus plate battery. In other words one leg of the filament, the grid return and the minus B battery should always be connected together. By so doing the filament and A battery resistance cannot become a part of the bridge, which is desirable.

Wholly Capacitative Bridge Circuit



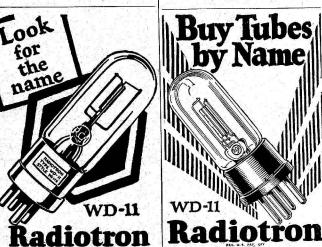
separate values of capacities met nightly when the filament was aglow, three wise little fellows who well knew someone, sometime and someplace would put then to work, and I believe the bridge struc-ture shown in figure 30 keeps them on the igh

(Wiring, is a secret of successful R.F. sets, and further details of the bridge circuit, will be discussed next issue by Mr. Gurney.—Editor's Note.)

Securing Wire Ends
To secure ends of the wire on narrow colls, drill three holes a little larger than the diameter of the wire used. Through one of these draw the end of the wire and put a piece of stiff spaghetti over it. Now bend the spaghetti over and thread the free end of the wire through the small holes, forming one or more loops around the spaghetti.

ELLCITE SUPER RADIO RECEIVER. No Tubes, A or B Batteries. Operates Speaker. Clarity, Distance. Write Ellcite Radio Co., Box 193, Buffalo, New York.





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172.5 pm, music, mariests, weather, reports, same process, process

Artz Amouncer, Max Voss Auenzer, Artzanus schedule.

KFDI, Corvalli, Ore. 254 meters. 500 watts. Oregon KFDI, Corvalli, Ore. 254 meters. 500 watts. Magnolane KFDI, Statumont, Tex. 315.5 meters. 500 watts. Magnolane Petroleum Co. Amouncer, Magnolane Milke. Sincur. Tall for Dependable Magnolane. Milke. Sincur. Tall for Dependable Magnolane. Milke. Sincur. Statumont. Statumont. 30. 11. 12 m. 3.0 pm. Deury; 8-10.30. concerts. Sun, 11-12 m. 8-9 pm. Cantral.

Sloten, "Kall for Dependable Magnolene." Thes. Fit. 1, 230-1255 pm, hand concert; 7-130, etildient's Third. 120-1255 pm, hand concert; 7-130, etildient's Central Baptist church. Amouncer. Sun, 11-12 m, 3-9 pm. Central Baptist church. Amouncer. Hund. Chaycomb. Week. KFDX. Shreeport, La. 250 bmeters. 100 watts. First Baptist church. Amouncer. Hund. Chaycomb. Week. KFDX. Browns, S. D. State Collego. Amouncer, G. A. Rietz. Delly commission of the Collego. Amouncer, G. A. Rietz. Delly commission between Contral Republic Collego. Amouncer, G. A. Rietz. Delly commission between Contral Republic Collego. Amouncer, G. A. Rietz. Delly commission between Contral Republic Collego. Amouncer, C. A. Rietz. Delly commission between Collego. Amouncer, Call meters. 10 watts. Meter & Frank Co., Inc. Delly ex Sun, 12 m, weather, crop. markets, republic, Sat. 11 am. 12 m, etildren's hour. Pacific W. L. Wellmer Radio Shop. Amouncer, Eugene P. O. Fallon. Delly ex Sun, 11 am., 2 pm, 4. Tree, Thurs, Sat, 20-12 midnight, dance. "Top of the World" study. KFEQ, Oak, Nobr. 268 meters. 100 watts. J. L. Scrognin. Amouncer, Clarence Roch. Wed, 9-10 pm, Sun, KFER, Fort Delice, Lowa. 231 meters. united Study. The Collego. The Collego. The Street Co. Amouncer, Market Co. Amouncer, Walter G. Clark. Slogan: "Yolce of the Cour. Palence." Mon, Wed, Sat, Sun, 7-39-8-30 pm. KFFP, Moberly, Mo. 256 meters. 50 watts. First Saphts.

J. Alena." Mon, Wed, Sat, Sun, 7:30-8:30 pm.
KFFI Moberly, Mo. 256 meters. 50 watts. First
Rapitst Church. Announcer, Granville Ray. Boots
Slogan: "The Gespel Mossenger of the Afr." Sun,
9:45 am, 11, 8 pm. Central.
KFFV, Lanond, Ma. 250 meters. 100 watts. Graceland College. Closel for the summer.
KFGO, Chickasha, Okla. 232 meters. 200 watts.
KFGO, Chickasha, Okla. 232 meters. 200 watts.
Okla. College for Women. Tues, Thurs, 8 pm. msef.al
KFGO, Chickasha, Okla. 232 meters. 8 pm. special
KFGO, Shanford Univ., Calif. 270. Intents. 500 watts.
Leland Stanford Junior University. No regular schedule.

Leland Stanford Junior University. No regular schedlice, Boone, Ia. 293 meters. 10 watts. Crary
Kerker, Boone, Ia. 293 meters. 10 watts. Crary
"Daniel Boone Station." Wed. 10-11 pm. Sun, 3-4
pm. Central.
KFAX, Ormans. Fc. 250 meters. 500 watts. First
KFFHA, Gumison. Colo. 252 meters. 50 watts. Western State College of Colorado. Announcer, B. Russel Wightman. "Where the Sun Shines Every Day."
Treey, Fr. 500 pm. bediene story: 8 pm. musclaer;
KFFHA, Oskalossa, Iowa. 240 meters. 10 watts. Penn
College.

KFIII. VSaniboss, 2000.
KFIIII

United States

AG. Canton, O., 425 meter. Rods. 136m Field

AG. Canton, T., The Canton of the Canton

KFRM, Fort Sill, Okla. 263 meters. 50 waits. James P. Boland.
KFRQ, Portland, Ore. 213 meters. 5 waits. Radio Market Service Co. Market Service Co

KFUR, Oxden, Utab. 224 meters. 50 watts. Peerly Bullding Co. Tues, Thurs, Sat, 9:20-11:50 pm, dance music. Mountain.
KFUS, Oxdand. Calif. 234 meters. 50 watts. Louis Ed. Sherman, M. D.

KFUT, Salt Lake City, Utah. 251 meters. 100 watts. University of Utah. Tues, Thurs, 12:10 pm. Mountain. Conversity of Chan. Tree, Tribers, 12110 pm. Accordant,
KFUU, San Leandro, Calif. 224 meters. 50 watts,
Colburn Radio Laboratories. Announcer, H. C. Colburn,
Slogan, "Vulce of the Cherry City," Daily ex Sin,
10-11 am. Wed, Fri, 8-9 pm. Sun, 2-3,30 pm.
Pacific.

KFUV, Springfield, Mo. 252 meters. 10 watts. G. Pearson Ward. KFUY, Butte, Mont. 254 meters. 5 watts. Irvine H. Bouchard.

Bouchard.

Ke UZ, Virginia, Minn. 248 meters. 10 watts. Burton Ellier's and Albh Loffnek. Y. Mr. C. A. Slogans, Heart of the Arrowbeat Country, Virginia, Minn., the West, 9:30-11 pm, dance music. Sat. 9-10 pm, units; 20-111.5, Ore Diggers. Club. Central.

recent of the Arrowbead Country, "Wed Sat. 8-5, me. 1 and the country of the coun

church, beramento, Calif. 248 meters. 500 watts. to Chamber of Commerce. neouver, Wash. 231 meters. 10 watts. Army Sacramento Chamber of Commerce.

KFVL, Vanceuver, Wash. 231 meters. 10 walts. Army

\*Radio Station.

KFVN, Welcome, Minn. 227 meters. 10 watts. Carl

\*E. Radio Station.

\*\*\* Army Welcome, Minn. 227 meters. 10 watts. Carl KFVO. Kirkswille, Mo. 226 meters. 5 watts. F. M. Henry. KFVR, Caper Broadcasting Station. KFVR, Cape Giravalea.\*\* Mountains Station. KFVS. Cape Giravalea.\*\*

Henry,
KFVR, Denver, Colo. 246 meters. 50 watts. Moonriight Branch Broadcasting Station.
KFVS, Cape Girardeau, Mo. 224 meters. 50 watts.
"Cape Girardeau Battery Station.
KFVU, Bursta, Calif. 2017 meters. 5 watts. The
Tactic Shop. Calif. 246 meters. 509 watts.
"Airfan Badio Corp.
KFVX, Bentonville, Ark. 236 meters. 10 watts. Radio
"Shop."

\*Shon.
(FWA) Ogden, Utah. 251 meters. 500 watts. Brow-ling Brothers Co. Announcer, H. C. Mailander. Slogan. Keeping Friends with All. Daily ex-Sun, 4-5 pm, Zenith hour, stocks, markets, time. Mon, Tues, Wed, Fri. 9-11 pm, music. Sun 9-12 midnight, music.

Zentiti hour, stocks, markets, time. Mon, Tues, Weil, Fri. 9-11 pm, nusie. Sun 9-12 minisht, music. Komatian. The property of the property of

church partyles; 5:28-5 mp., Little Sumphony ordestart. Pacific.
RGU, Honolulu, Hawaii. 270 meters. 590 watts. Marion A., Mulrony. The Honolulu Advertiser. Aunomore, A., Mulrony. The Little Advertiser. Aunomore, St., Sat., special program. Sun. 11 mp. 7:39 pm. 150 merddin. 2% hours carlier than Pacific CNote—The second part of the station data list will appear neat week.)

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 corrections must be certified by the stations themselves, and NOT by comparison to other so-called accurate Radiocast directories and lists. Station verifications must accompany corrections.

That's Just how sure Radio Digest

corrections.

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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:

made unconditionally.
With reference to the directory:
It appears in five parts, serially continuously; the first four parts are station data listings, arranged alphabetically; the fifth part is a state, city index of stations. The information contained in each station data listing is given in the following order:
Call letters, city, state, wave length used, watts antenna input, owner's name, announcer's name, slogan used if any, name of listener in "club," aschedule of operating hours, and kind fany, name of listener in "club," aschedule of operating hours, and kind in the used, as "Central," "Mountain" etc. Asterisks have been placed in front of corrected listings and new stations in order to distinguish these. Five successive issues of Radio Digest will give one the most complete and accurate list of Radiocast stations obtainable. This service is original with this publication, and has been maintained from the start. Right of reproduction without permission of any or all of the data contained herein is denied.

"Westinghouse like & Mig. Co. Slosans. The Empress of the Art." The Finners of the Art. The Finners of the Finners

Slogan: "The New Furniture Co., the Home of Good Furniture," Located at Greenville, Texas, Where You Find 'The Blackest Land, the Whitest People." Daily expenses to be presented by the Blackest Land, the Whote Thurs, Fri, 3 cm. S. M. Thurs, Fri, 3 cm. 1 cm.

Eind: "The Blackus and the sex Sun, 2 pm, number ex Sun ex music. Central.

MRIP, Cedar Rapids, In. 256 meters. 20 watts. Everett
KFLR, Albubuserauc, N. M. 254 meters. 100 watts.

KFLR, Albubuserauc, N. M. 254 meters. 100 watts.

KFLR, Albubuserauc, N. M. 254 meters. 100 watts.

MRIP, Cedar Rapids, In. 256 meters. 20 watts.

KFLR, Albubuserauc, N. M. 254 meters. 100 watts.

MRIP, Cedar Rapids, In. 256 meters. 20 watts.

KFLR, Albubuserauc, N. M. 254 meters. 100 watts.

MRIP, Cedar Rapids, In. 256 meters. 20 watts.

KRIP, Sand Benito, Texas. 235 meters. 10 watts.

MRIP, Sand Benito, Texas. 235 meters. 10 watts.

MRIP, Sand Benito, Texas. 235 meters. 10 watts.

MRIP, Sand Benito, Texas. 236 meters. 20 watts.

MRIP, Sand Benito, Texas. 236 meters. 10 watts.

MRIP, Sand Benito, Texas. 236 meters. 230 meters

Add 10% West of Rocky Mountains.

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