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

Company of the state of the second

# Ballo

Vol. XIII

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SATURDAY,

## KDKA TO HUNT EXPLORERS



WILL BE HEARD MONDAY FROM SIX STATIONS

President and General Lord Have Mes-sage for Taxpayers—Marine Band to Play

Band to Play

NEW YORK.—Fans will have an oppiortunity to hear addresses of importance
to every taxpayer by Calvin Cooldge,
president of the United States, and Genpresident of the United States, president of the
budget. The addresses will be broadcast
during the regular meeting of the budget
bureau from 7:30 to 9:00 p. m., Eastern
time, 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,
D. C.; WEEI, Boston; WOO, Philadelphia,
Unished 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

Compon.—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 Marconi 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.

l	CONSENSUS OF OPINION VOTE	
l	Send to Radio Digest, 510 N. Dearborn Street, Chicago	
	To be forwarded by Radio Digest to the Department of Commerce for the atte	
l	Scratch off wh	iichever
l	1. Do you want less class B (500 watts or more power) stations?Yes	ріу. No
l	2. Shall B stations be reduced to 94 in number, so that they can be	
l	accommodated satisfactorily in the "other roadways" now available	
l	for the use of broadcasting stations?Yes	No
l	3. How far away, approximately, is the nearest class B station?	mi.
١	4. Are you troubled by B stations heterodyning and interfering with one another?	No
l	5. Have you read a description of the Kintner plan?Yes	No
l	6. Are you in favor of it or some similar plan which will help clear the	
l	air of the present "traffic" congestion? Yes	No
l	7. Do you favor the appointment of an unbiased, non-partisan broad- casting control board for the settlement of all differences pertaining	
ŀ	to broadcasting and the interpretation of present or future Radio	
l	l legislation?	No
l	8. Include separately a list of five stations you like most and five you dislike	most.
l	* · · · · · · · · · · · · · · · · · · ·	
l	How many members Name	
l	in your family?	
l	In the second se	
l	Address	
l	Are all of the samo	
I	mind as yourself? City, County, State	
l	(Check here if more blanks are desired) , 6	-20-25

#### 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

If somebody doesn't display a burst of per, 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 out-distanced 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, WBAF, k. W. Arlin, KDKA, and Henry Field, KFNF, down-one position each.

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

Gaw-gia," slipped into eighth.

Barnett and Brokenshire Advance
Stanley W. Barnett of WOC, galned
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:

2 64	DUC OT CILLS MACK IS TO TOTIO!	
1.	George D. Hay, WLS	0,369
2.	Graham McNunec, WEAF	
· 3.	Gene Rouse, WOAW	
1.	The Hired Hand, WBAP	4.970
ô.	H. W. Arlin, KDKA	4.496
G.	Henry Field, KPNF	4.323
7.	W. G. "Bill" Hay, KFKX,	3.882
8.	Lambdin Kay, WSB	3,258
Ď.	N. Dean Cole, WHO	2.905
10.	S. W. Barnett, WOC	2.627
11.	Charles Erhstein, WTAS	2.324
19.	Norman Brokenshire, WJZ	
131	Jerry Sullivan, WQJ	2.174
11.	Robert Emery, WEEL	1.990
15.	Lee Fitznatrick, WDAF	1.981
16.	Fred Smith, WLW	

#### How to Vote and Get Bonus

How to Vote and Get Bonus
Don't miss a single ballot, for when
these are turned into Radio Digest in a
group of CONSECUTIVE numbers, extrabonus votes are allowed the announcerfor whom you are voting.
The ballots, top of page two, numberedconsecutively, will appear in each issue of,
the Radio Digest until the closs 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 3 votes will be allowed for your favorite announcer. For each 3 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, 60 votes, and for each 22 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 60 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.

#### 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 Marjorle
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, the Boys are marching," was heard by listeners, WJAG broadcasts on 276 meters with 250

#### WILL HUNT EXPLORERS

(Continued from page 1)

of 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 Stabilished Record

#### Arctic Established Record

The Arctic Istabilished Record

The Arctic last 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.

Sail in 40-Poot Yacht

#### Sail in 40-Foot Yacht

Sall in 40-Foot Yacht

The Nutting expedition set sall from Scandinavia in a 40-foot American yacht to follow the course of the Norsemen of a thousand years ago in an endeavor to loarn more about where on the American shoros 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 truders are marconed by the ice, they while away the tedium by listening in.

It was from RDKA 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 chord 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

WWJ-Pioneer of Newspaper Broadcasters	
Recent Advances in Radio Frequency Amplification, Part IV—The Capacity Bridge, by Mile Gurney	
Advance Programs for the Week 8 to	1
An Evening at Home with the Listoner In. a Chart in Eastern, Central and Pacific	
Time, showing when to listen in for your favorite stations	1
Editorials, Indi-Gest, and Condensed by Dielectric	
Various Uses of Filament Control Jacks, by Harry C. Lodge	1
A. B. C. Course in Radio Fundamentals, Chapter XIII—Storage Batteries, by David Penn Moreton	1
A Three Tube Set Free from QRM	2
Questions and Answers.	2
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 "Solenm 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 contraction 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

## Kadıo

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

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 Haif 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 Eddic 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, hurp, violin (played hoth pizzleato and with the bow), bagpipes and penny trumpet.

Part of the "Rolling Stones" cast which broadcasts parts of the comedy now playing in New York, over WHM. Right, Eleanor Gale, prima donna; below, Henri Gendron, leader of Strand Roof orchestra; lower right, Głoria Sylvia, and lower center, "Miskey" Selden.

#### PLAN EXPERIMENT IN COLOSSAL THINKING

COLUSSAL THINKING

ENEVA.—An interesting experiment to see what would happen if 50,000,000 persons thought or wish the same time will probably be attempted some 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 Eureau 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, 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 nincteen of the prinular features over nineteen of the prin-cipal stations clear to the Pacific coast. The journey from station to station will

## "BOTTLED" CONCERT 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 obligato of atmospherics. Britain may broadcast American music instead of its local fazz.

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.

Works Marnetized Into Wire



WOR is presenting each Monday evening at 7 o'clock Eastern time the Newark Philharmonic Consert band, broadcasting the organization direct from the band plaza of Branch Brock Park, Newark, N. J. The program of classical numbers continues from 7 to 8 p. Hrs. esason, which recently opened, is the third openair season of the Newark Philharmonic Concert band, and will control band, which will be such 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.

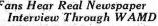
The second anniversary of broadcasting the Wanamaker Auditorium Radio Concerts is being celebrated by a series of special Thresday programs broadcast through WJZ, New York, WRC, Washington, D. C., and WGY, Schenestady, from 7:10 to 8:10 p. m. Eastern time. Three have been given; June 2, 9 and 16. Two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

"Doc Howard's WKRC (Cincinnati) Broadcasters," who present a regular Monday midnight program known as the Kodel Midnight Frolte, 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.

The second anniversary of broadcasting the Wanamaker Auditorium Radio Conserts is being celebrated by a series of special Tuesday programs broadcast through W12, New York, WRC, Washington, D. C., and WGY, Schenectady, from 7.10 to \$110 p. m. Eastern time. Three have been given; June 2, 9 and 16. Two remain, June 25 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

be made in their new sedans, in which Fans Hear Real Newspaper be made in their new seatans, 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 the open with their families, who will accompany them. Their first program was broadcast from WoC, at Davenport, flows, 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, or form of the "side lights" of the trial was heard a genuine newspaper interview.







The Synchrophase the result of painstaking care whose objec-tive has ever been "quality first.



HE Grebe Synchrophase maintains its ability to select desired 1 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.





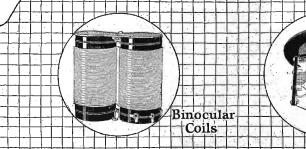


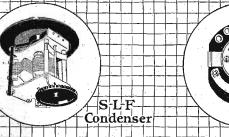
All Grebe apparatus is covered by patents granted and pending.

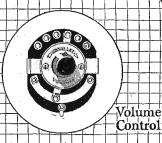
Reg. U. S. Pat. Off.

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



#### 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 Minwaukea 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 musical 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-watt, 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 from has 750 watts available power and is arranged so that 1,000 watts can easily be radiated.

#### HERE IS THE RADIO POLICEMAN OF WGR



specialty is

Cial specialty is Radio.

Probably the average police man and genit know any more about Radio than a lot of other people, but that is not the case with Clabeaux. Re knows the inside doings at WGR and the operation 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.

a piace to pair without restricted in 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 broad-

#### "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 capacity of \$600 which considerably exceeds the present capacity of the Capitol, now the largest motion picture theater in the city.

of the Capitol theater. Fits contract with them has still some time to run, but the new theater is expected to be completed late in the Fall of 1926.

#### New Stations and Recent Changes

KTCL. Seattle. Wash., 805.9 moters, 1,000 watts, is listed among the new class B licenses. The American Radto 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 276 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 Studies, Kansas City, Mo., 236 meters; 100 watts; WBRC, Bell Radio Corp., Birmingham, Ala., 248 meters, 10 watts; WIBL (portable), McDonald Radio Co., Jollet, Ill., 214.2 meters, 250 watts; wIBL, H. M. Couch, Jollet, Ill., 214.2 meters, 100 watts.

(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.

## WWJ\_DETROIT NEWS WILL USE RADIO TO FIGHT FOREST FIRES

KOA TO SEND OUT REPORTS FOR RANGERS IN FIELD

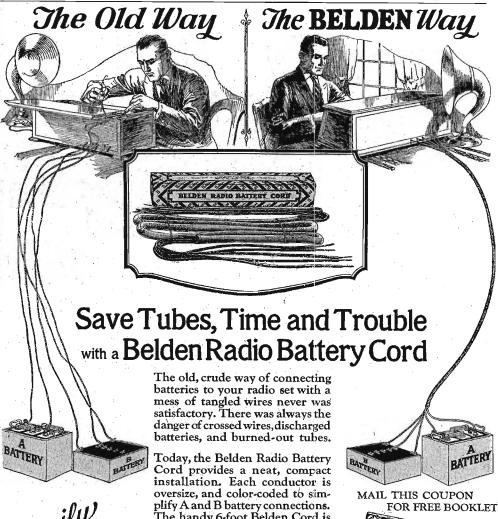
Broadcast Service as Hazard Grows in Rocky Mountain Wood Country

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.

destruction of the and property dark of ymouths.

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.

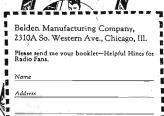


# Specif

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



## Recent Advances in Tuned R.F. Amplification

#### Part IV — The Capacity Bridge

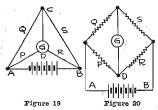
By Milo Gurney

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 industances or their combination, has been practiced for a great number of years in the electrical industry.

The Wheatstone bridge plan for the measurement of unknown resistances, cancettes and industances or their combination, has been practiced and industances or their combination, has been practiced and reavailable at many public libraries. However, it is only of recent date that three, or possibly four, prominent engineers have appreciated its practical decircuit and offices, and more often it is the one satisfance of most provided in our mind that a pridge circuit in order to be balanced must comprise (so far as Radio receiving circuits are concerned) in tuner radio frequency circuits. A forest that three, or possibly four, prominent engineers have appreciated its practical decircuit and offices, and more often it is the one satisfance of industances, cancel that three, or possibly four, prominent engineers have appreciated its practical proposal provided in the confidence of the con

vancement in the art of science of Radio receptors.

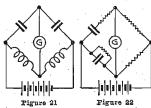
Another misunderstanding which has existed so long that it has now become a byword, is the crediting of Sir Charles Wheatstone with the invention of the balanced bridge theory carrying his name. Contrary to this impression an engineer by the name of Christie of the Royal Military Academy at Woolwich 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 ldea and invention.



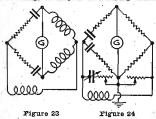
The Wheatstone bridge is usually defined as a network of six conductors and is usually represented as an arrangement of trilateral symmetry about the point D as shown in figure 19. With this arrangement, a battery is inserted in the branch AB white a galvometer is in series with CD. In practice, adjustments 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 P R

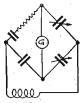
the arms PQ and RS representing the resistances of the conductors AB, AC, BD and CB. Hence when no current can flow through G, it is obvious that the currents in P and R have the same value, also the currents in Q and S have a like value. Therefore, according to Ohms law, P is equal to Q while R is equal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



rigure 21 Figure 22
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 18, but which has also the resistances inserted. To further ald 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 warmeet and what it brings to you

AY-FAN is like a great railroad station into which run
a hundred tracks.
The train from San Francisco
comes in on track 47. Fittsburgh's
comes in on track 13. A big New
York special comes in at 65.
These tracks belong to these
comes in on track 13. A big New
York special comes in at 65.
These tracks belong to these
trains. They always come in on
them. You know where to meet
them. So for a hundred other trains
ryes, you have guessed it. The
trains are the music, the specches,
the songs, that travel through space
to your radio. The hundred tracks
are the hundred lines on your DayFad dial.
In fruming from track to
track, know in advance where your
train comes in. The Day-Fan Air
Telephone Directory will tell you
need never again miss the "music
train" you had planned to meet, and
Day-Fan owners take distance for
granted, lust as they sneak across

the continent by telephone. They take selectivity for granted, and as a matter of course expect to cut 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 dollar violin differs from a fifteen thousand dollar stradivarius. Magnificent as Day-Fan is in volume, exact as it is in its arrow-like flight to, the music yield the selection of the se



OEM 12, \$75,00



OEM 7, \$98.00



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> With Legs \$165.00

Legs Separate, \$20.00

THE DAYTON FAN & MOTOR COMPANY DAYTON, OHIO

For 36 Years Manufacturers of High Grade Electrical Apparatus



## WINGFOOT GOBLIN HEARD AT WEAR

#### Saturday, June 20

Saturday, silant Blaht fer: AT9, CHNC, CNRT, CKY, KFAE, KFDM, KFUO, KLDS, KLX, WBAP, WBZ, WCAU, WCBD, WCEI, WEI, WGR, WHA, WHAD, WHAZ, WHE, WHO, WIY, WKAQ, WLIT, WMAK, WOAN, WOI, WOS, WSUI, WTC, WWJ.

#### Atlantic or Eastern Daylight Saving Time Stations

Time Stations

CKAC Monfrest, Can. (440), 7:30 p. m. Window hold dimore contert ensemble: 8:30 p. m. Window hold dimore contert ensemble: 8:30 p. m. Window hold dimore content of the state of the stat



The lm a Combes, planist, is a Chi cage will control to the care this week to the program structure by the bisabled American Veter and material work a will have will have will have charge of the program strom June 22 through 27.

8.13-8-46. Huyler's Foremost four; \$:45-10-15, U. S. Marino band, direction of Cantain William Santelmann; 20:15-18-20, Fenvick Newell, tenor; 10:39-11, "Humoroga Bair Haw"; 11:12. Vincent Lopes and his Hotel WFI, Philadelphia, Pa. (394-5), 6 p. m., Rey Elrao and his date ordinetar; 6:35, Relievas Straiford roof garden orchestra, N. V. (315-9), 3-3-10 p. m., intersitow with Piora In Preton, "English Mary Pickford," by Toreste Rose Nanci; 3:10-3:29, Solomon Pinnier, 2:30-3:59, Solomon Pinnier, plants; 2:30-3-96, Solomon Pinnier, 2:30-3:59, Solomon Pinnier, plants; 2:30-3-96, Solomon Pinnier, 2:30-3:59, Solomon Pinnier, 2:30-3:40, Vilevolott of Unde Gedeve; 6:30-7, the Criterions; 7:70-8:39, Armani Vesses's orchestra; 3:30-3:40, "Vilevolott of Cantain James Archibadi, 8:36-9, Edward Morrhs, composer, and Erra Giles, suprano; 10-10-15, Waren, Scofield, bariner, 10:30-11-130, California Rambiers, WGR, Suffalo, N. V. (319), 2:30-4-30, p., N. Cartina, James Archibadi, 2:30-9, Solomon Pinnier, 10:30-11-10, California Rambiers, WGR, Suffalo, 2:30-9, p., Seaside hotel trio: 9, Sheburno hatel concert orchestra, WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p. m., Strand WHA, New York, N. V. (369), 2:30-9, p

Surt"; 8:30, Vessell & Colla, London, dance orchestra.

WJAR, Providence, R. I. (305.9), 7:95 p. m., studio

WYTH, Previoence, R. I. (303-3), 739 B. th., sound WYZ, Mov York, N. Y. (455), 44-103, p.m., baseball scores; 4-30-4-323, haseball scores; 7-8, 1628-530, ten music; 53-0-322, haseball scores; 7-8, 1628-530, dinner cement; 8-8702, baseball scores; 8-92-530, 0-15-10-20, U. S. Navy percarain; 10-34-1130, Joseph Kuneth'a Wildner'-Astoria dance orchestra. WILT, Philadelphia, Pa. (334-3), 2-30 p. m., J. Russell Moorb, tenn; 34/rian Ochen, violinist; Exter M. Ochen, cert orchestra, dance orchestra; 7-30, Acadela serie con-

Mario, Mario, Carlo, M. A. (1994). A color care con-munication of the mario, and the mario, and the mario, and the Mario, Alvarez, tenor; 813-9135; Helen Muller; 8-8-15. Mario, Alvarez, tenor; 813-9145; Fay Fenster's operetia; 11:15-12. Ernic Golden and his Hotel Mealpin or-chestra; 12-7 a. m. Broadway Bright Hgans. MYG, New York, N. (252), 7-7-25 p. m. (8-16, 161); 8:15-10-15, center; 2004 Rectinent hand direc-from the Mall, Central Park; 10:15-10:39, popular songs.

somus.

WOO, Philadelphia, Pa. (598.2), 4.45 p. m., nrgan recitial, Mars G. Youl; 7:30, A. Cambelorf's orchevtra.

WO, Neward, C. Chief, P. Carlon, R. Car

#### Eastern Standard or Central Daylight

Eastern Standard or Central Daylight
Saving Time Stations

KDKA, Pittsburgh, Pa. (2001.), 23:26-5 p. m., hasebali;
Yossabali; 3-6, ronger,
Yossabali; 3-7, ronger,
Yossabali;

Cavanaugh.

WGK, Detrait, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert. Reak-Cadillac notet.

WEAR, Cleveland, Ohla (389.4), 7-8 p. m., novelty dinner concert; 12-2 a. m., "Wingfoot Gobilin."

WEBH, Chicago, III. (372.2), 7:30-8:39 p. m., Orlolo crehestra; Sunday sebool lesson, Dr. Herbort W. Virgin; Lency North, planks; 0:30-10-30, Orlole orchestra; Marle Kolly, 'reader: Kay Ronayne, Singer; Langdon Brotters; 1:30-2 a. m., Orlolo 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.

are winding up a week's visit at KOA. Denver.

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. WiBAF and the link of stations are broadcasting this event. In the afternoon WJZ and WGY are keeping fans, unable to attend the

Organ Grinder.

WORD, Batwia, III. (278), 8 p. m., Webster hotel orchestra, Fritz Benk and Otto Beyer.

WOJ, Chiengo, III. (447.5), 7.8 p. m., Ratph Williams
and his Balanho Gardens orderstar; Everett George
of the Color of

of the Week

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 Cheral club, Jefferson theater entertainers, and Harry Hunt's Imperial orchestra will more than satisfy the fan. Special features of a cool and refreshing nature are promised from WHAD's Wisconsin theater weekly revue. No one will become overheated with Intellectual effort while listenling in.

Marie Kelly, reader; Gelee Brothers; Langdon Brothers; Paul Small, Lose Brothers, WeSS, Oak Park, III. (230), 5-6:30 p. m., Frank Grief, tetor; Loretta Clisman, soprano; Luellie Mathews, rollnist; 5:30-1. Conrells Dompan; 3:20:14 b. m., As indirectly and the second of studio program; 10:30-11:30, Draice Hotel Terrace Garden Poterram; 10:30-11:30, Draice Hotel Terrace Garden Poterram; N. Y. (379.5), 8:30 p. m., dame with the program of t

FAB. Liocoln; Nebr. (240), 11-12:30 p. m., midnight

WOULD minnespendent raws, minn, versey, was the mean baseball; II, Orighual Genera Orborn's Nicolate those baseball; II, Orighual Genera Orborn's Nicolate those or the property of the proper WSMB, New Orleans, La. (319), 6:20-7:30 p. m., dinner musical; 8:30-10:30, Saturday night frolic.

WRC, Washington, D. C. (469), 6.45 p. m., "What KOA, Denver, Colo. (322.4), 0-12 midnight, Joe Mann Does the Farmer Want in Legislation." E. B. Reid; and his Rainbow-Lann orchestia.

7. Hotel Washington orchestrs: S. Bible balk: 10. Hotel Masilower orchestra; 10:30, Crandall's Saturdas Nighters.
WSAI, Cladmon!, Ohio (328), 7:40 p. m., children's stories, Mrs. Eilet Knopp Behrman; S. chines: 3:15. Bicycie Flaying Card sextet; 9, U. S. Playing Card Flaying Card sextet; 9, U. S. Playing Card Playing Card sextet; 12:30 p. 12:30, Bicycie Flaying Card sextet; 2, nonuter sames; 12:30 a. m., Frach Sapiter's Standstool orchestra except Sapiter's Cardstool orchestra except Sap

Central Standard Time Stations

KFAB, Liosofa, Nebr. (240), 11-12:30 p. m., mldnight rounders, the program, E. S. Doulds, director, 17:30 p. m., Soctobertogram, E. S. Doulds, director, 19:30 p. m., Soctobertogram, E. S. Doulds, director, 19:40 p. m., Radiocast review, Bonasine Pleiding, Orchestra Romaine, KSD, St. Louis, Me. (645-1), 7 p. m., music, Grand Central liteater; 3:30, dance music, City club, KTAS, 465 Serings National Park, Ark, (374-8), 9:10 KTAS, 465 Serings National Park, Ark, (374-8), 9:10 KTAS, 400 Serings National Park, Ark, 30, musicale; 9, Disk-Bang, Sanklin, edf. ernelestra; 8, musicale; 9, baseball; 10, Orighual George Osborn's Nicollet hotel orticatra.

Mountain Standard Time Stations



Rimo Kalohi's Moonlight Five is one of the most popular features at WSB, Atlanta. Kimo himsolf is scated on the left with Geoll 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

KFI, Los Angeles, Callf. (467), 5:30-6 p. m., Examiner's madines program; 6-6:15. McDanleis' nightly doings; 63-65-7, radiotestical laik; 7-7:35. California Seferanders, 63-65-7, radiotestical calls; 7-7:35. California Seferanders, 7-7:35. California Sef

Matton, one-act opera; 10-1 a. m., Henry Halstead's orthestra, one-act opera; 10-1 a. m., Henry Halstead's orthestra, 10-1 a. m., etc., et

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



travel in k. W. F. Adler; 6:30-7:30, dinner hour nuste; 7:30-8. Wurdteer pips organ studio; 8:0 RNX nuste; 7:30-8. Wurdteer pips organ studio; 8:0 RNX nuste; 10-11, Abe Lyman; Green for the formal company; 10-11, Abe Lyman; Green for the first from Ambassador hold; 11:2 a. m., Hellywood night presenting the velees of humons film faces. RO. San Francisco, Calif. (42.33, 5:30-0-15.5). m. Drugeram, Lock's Warfield theater; 6:15-8:30, baseball; 6:30-333, amassement information service; 6:33-7:30, Jahmy Bulek's Cabirlans; 8-13, Johnny Bulek's Cabirlans.

#### Sunday, June 21

Sunday, silent night for: CKAC, CHNC, CKAC, CNRT, KFAB, KFAE, KFAB, KFAB, KYBA, WAK, WAHG, WCAE, WCEE, WCX, WDAF, WDWF, WEAV, WEBI, WEBW, WGB, WGR, WHA, WHAD, WHAS, WHAZ, WIP, WIIT, WMAK, WMAQ, WMC, WOI, WRC, WSAI, WSMB, WTAM,

## Atlantic or Eastern Daylight Saving Time Stations

ettal.
WEEL, Boston, Mass. (475.9), 7:20 p. m., Roxy and his Gane, Capitol theater; 9:29, organ recital, Skinner organ studiobin, Pa. (304.5), 4:30 p. m. studio chand services, 7:20, services, Arch Street Preshy-terian church.

WFI, Philadelphia, P. (394.5), 4:30 p. m. sauso-chanal services, 7:408, services, Arch Street Presby-chanal services, 7:408, services, Arch Street Presby-chanal services, 10:408, 2:304-1:30 p. m. Pricardilly theater programs, 0-14, grand opera. WGR, Buffalo, N. Y. (319), 3-4 p. m., respect services, and rection Circuits in Enteron Scottery 4-5, 45 mm, with services william Wall Whildlit, oramist; Dr. Robert J. MacAlpine, speaker, 10:409, 2:309, p. m., sarroff-theater, 10:408, p. m., sarroff-theater, 10:40

side hotel Itlo, soloists; 11. organ recital, Strand theater, WHN, New York, N. Y. (350), 3-1 p. m. Queens tomaty Christian Endestor program; 3-1.30, Roseland tomaty Christian Endestor program; 3-1.30, Roseland; 10-10-10-15, Gem Rasor entertainers; 10-10-11-15, Janssens; Enforma ordiestra. WHP, Philadelphia, Pa. (508.2), 7-120-9-15 p. m., Boxrines, WHP, Strand, St

Eastern Standard or Central Daylight Saving Time Stations

KDKA. Pittsburgh, Pa. (309.)), 9:30 a. m., Point Breeze Presbyterian 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)

Heinrich organis: 3.15; Shadyade Preshyterian eluterh; 5.45; duards services.

KYW. Chicago, Ill. (358), 10 a. m., church service; 3.-4 p. m., studio concert.

WBON. Chicago, Ill. (268), 7.-8 p. m., classicat concert. Walther Lesgue, 5.11, Midway Danding Gwroch, 1998; Chicago, 1999; Carlon, 1999; C

gram.
WGES. Oak Park, III. (250), 5-7 p. m., John Stamford, temer; Howard Neumiller, plantst; Edwin Kemp, teuur; Biyec Talbut, haritome; 10:39-12. A. Cavallo and lis li Nataler Musicians; Balph Olson; Andre Challen, and Challe

emaders.

WGN, Chicago, III. (370.2), 3:30 p. m., faculty artists,
Chicago Musical college; 9-10, Druko concert ensemble, Ravenavood Methodist. Episcopat church choir.

WGV, Schenetady, N. Y. (370.3), 9:35 a. m., services,
First Church ul Chist' Scientist; 6:30 p. m., services,

WDAF, Kasasa City, Mo. (365.0), 4-5 p. m., classical music; 5-5-30, Sunday selectol lesson, Dr. Watter L. WFAAD Dallas, Texas (475.9), 6:20-7-30 p. m., Bible class, Dr. William M. Anderson, pastery Geopel Sungs; 8-9, First Methodist Episcopal church services, Dora Protect, organist; 9:36-11, Juck Gadaret's erchestern characteristic protects and control of the control address, Press. E. A. Blirze. H. S. M. Harris, Press. P. M. B. M. Harris, Press. P. M. S. Levier, Press. P. M. B. Levier, Press. P. W. S. M. M. S. Levier, Press. P. W. S. Levier, Press. P. M. M. S. Levier, Press. P. W. S. Levier, Press. P. M. M. S. Levier, Press. P. W. S. Levier, Press. P. M. M. M. Looults, Society of the Control of the Control of the Control of the Control of Christ, Pr. C. S. Metbury; 7:30, Ressaluches or chesters.



Senator Harold C. Kessinger of the Four-teenth Senatorial District will give a se-ries 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.

Hader Bernini, H. (588-6), 103-15 a. m., Edgewater Wilso, Chicago, Hl. (228), 103-15 a. m., Edgewater Previsyterian church; 2-4 p. m., Dorothy Davio Dillow, soprago, Vie Lehum, tenor; William, Madden, tenor; Dan Russo, vlolinist; Ted Florito, planist; 6-8, Hinshaw conservator; 10-12, Maria Dnaprova, Russian genrino; Nietor Young, violinist; Joe Allabough, Ruslein gelse, 202-20, 12 middle, planist; Lea Cinneron, Waltor Fest, Charley Straight's or-chestra.

bouch, ukulule soloist.

#110. Mosseheart. III. 302.8), 13 midnight, frolic.
Last Cameron, Walter Fett, Charley Straight's or#121. Mosseheart. III. 302.8), 13 midnight, frolic.
Last Cameron, Walter Fett, Charley Straight's or#122. Million Christian church; 10, classical program.
Wilk C. Gheinnatt, Ohio (422.3), 6:35 p. m., Kalpha Snoerson,
WI.S. Ohieago, III. (324.6), 7:30 p. m., Kalpha Snoerson,
WI.W. Cinsimant, Ohio (422.3), 9:30 n. m. eshodiEditorial Staff of Sinday Schule Dublications, Methodist Book concern; 11, services, Church of Covenant.
Dr. Prom. Section Walnut, Blils Dr. Frederick MeMillan, minister; 8:30, orchestra concert.
WHBC. Ohieago, III. (250.), 7-8:30 p. m., semi-classical
program, J. Bodewalt Lampe, director: Rita McFawn,
Hazel O'Nell, Armin F. Hand and Woodlawn theater
orchestra; 8:30-10-30, Dell Lampo and Trianno orthestar. Signe Power A many Legisland Control of the Covenant of

WSAI. Ginelmont, both (322), 3 p. m., sermonatie, sarred chimes concert.
WTAS, Elpin, III, (302.8), 2-5 p. m., Sunday afternoon popular connect, Joe Eudolph, and the Boss' Own or necessars; Frank Morris, Polly Wills, Famy and Eddic Caranaugh.
WWJ, Detroit, Mich. (352.7), 11 s. m., St. Paul's Episcopat cathedrai; 2. Detroit News crickers; 8:20, Rony and bils Gang.
Central Standard Time Stations
CKY, Winnipse, Can. (384.4), 7 p. m., Broadway Baptish, Charanaugh.
KAB, M., Charanaugh. (30), 4-5 p. m., clurch sarrice.
KFDM, Beaumont, Texas (315.6), 11-12 m; 8-9 p. m., sacred programs.

KFDM, Beaumont, Texas (219-19), 18-18 m. First M. Sarred programme, howe (988), 18-18 m. First M. KFMF, Shenandanh, 18-18 (1981), 18-18 m. Rev. and Miss. Hanley, S. men's Gospel team; 630, Golden Rull Circle's S. Christian church, Mc (545.1), 8:18 p. m., "Is it Law-thurch and the control of the control of



WSUI, Iowa City, Iowa (483.5), 9, p. m., faullier hymns.

Mountain Standard Time Stations

KFWA, Ogden, Utah. (261), 3-11 p. m., musical program, Chamber of Commerce.

KOA, Denver, Cole. (322.4), 11 a. m., Trinity Methodist

Episcopal church: 4 p. m., Trinity orchestra; 7:45.

Methodist Episcopal church.

Episopai entre 1 4 p. m. Trinity methodist Episopai entre 1 4 p. m. Trinity or chestra; 7:55. Methodist Epicopai church.

Pacific Standard Time Stations

KFI, Les Angeles, Calif. (467), 6:30 p. m. McDanlest rightly doing; 6:15, musted appreciation talk; 1-8. Methodist programmed and special control of the classics; 9:16, Ezaminer; Anton Lada and his Louislans Pive dance orchestra; 10:11, Packard Eight orchestra, Bill Hennessy and Chet KFWB, Heilyweed Calif. (252), 9:11 p. m., late news, Warners Sunday nicht movie frolle, music, fun and movie stars. Calif. (861-2), 11 a. m., St. Luke's KFWB, Heilyweed Calif. (252), 9:11 p. m., St. Luke's Calif. (861-2), 11 d. m., St. Luke's Calif. (861-2), 11 d. m., St. Luke's Orchestra S. Luke's Episoonal church.

KGW, Portland, Orr. (491-5), 10:30:12 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:12 m., First Presbyterian church.

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KGW, Portland, Orr. (491-5), 10:30:12 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:13 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:13 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:13 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:13 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:13 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:14 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:14 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:14 m., First Presbyterian church.

KGW, Portland, Orr. (491-5), 10:30:14 m., First Presbyterian church.

son. KNX, Hollywood, Calif. (336.9), 7-8 n. m., First Pres-byteriam Church of Rollywood, remuta control. Rev.

ewart P. MacLennan, pastor; 8-9, Amb neert orchestra, Josef Rosenfeld, direct desummer Night's Dream program, I

Transition of the states and the states of the states of the states and the states are states are states and the states are states and the states are states are states and the states are states are states and the states are states are states are states are states and the states are states a

#### Monday, June 22

Menday, slient night for: ATB, CKAC, CKY, CNRT KFAE, KFOM, KKW, KHJ, KLOS, KYW, PWX, WBBM, WBOM, WCAU, WDWF, WEAO, WEBH, WEBJ, WFI, WKN, WGBS, WGES, WHAS, WIBO, WIY, WKAQ, WLS, WMAQ, WMBB, WGC, WOAI, WQJ, WRC, WREO.

Atlantic or Eastern Daylight Saving
Time Stations
HNO, Toronte, Canada (357), 8:30 p. m., CHNC or-

CHNO. Torente, Canada (357), 8:30 p. m., CHNC orchestra.

WAHG, Richmond Hill, N. Y. (315.8), 7:30-7:45 p. m.

sports talk, Thornton Fisher; 7:45-8. Edward Kruse,
tenor; 8-8:15, Hornea J. Taylor, reader; 8:13-8:30.

Ruh Hagm, supramo; 8:30-9:16, Synchrophase string,
Ruh Hagm, supramo; 8:30-9:16, Synchrophase string,
9:45-10:15, Synchrophase string, trio; 10:15-10:55,
Kentucky Ramblers; 11:05-1:30, Kentucky Ramblers,
BBR, New York, N. Y. (27.5), 8 p. m., Irene-Kleinpater, sopramo; 8:10, vecal duct, items Kidningto, Fred
Brans, tenor; 8:45, Bible instruction from 'The
Ramp of God'; 8:50, vecal duct.

WGAE, Pittsburgh, Fa. (461.3), 6 p. m., dinner concert, William Fenn hotel; 8:30, conserv.; 9, Hamlton

WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Henry
Kohen, pinalt; 4:104-6:20, Jouquin Queredo, Lone;
4:20-4:30, William Brielofsky, violinist; 4:30-4:30,

WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Henry
Kohen, pinalt; 4:104-6:20, Jouquin Queredo, Lone;
4:20-4:30, William Brielofsky, violinist; 4:30-4:30,

Blas university; 3-7, dioner-music, Welderf-Asturia,
57:15, talk, Parks Conservation asgociation; 7:153:15, program, Mark Strand thester and statio, direction of Juseph Plunkett; 8:30-10, Bureau of Butget-

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

Meeting: Audresses, Statuon, R.F.W.B., HOllywood. No program is complete at this
studio without Miss Duum.

Meeting: Advesses, Scient Coolides, General Lord:
musile, Unade States Mirine Hill.
Cantent William
Santeiman, ditector: 16-10-30, Invisible Choir from
Washington, D. C., 10:30-11:30, Ben Bernie's Hotel
Roogewid orthestra.

Fre. Coolides. Marrino band's Hotel
Busser, address. Fres. Coolides. Marrino band's Loi
Busser, address. Fres. Coolides. Marrino band's Loi
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Fre. Coolides. Meeting of the Bureau of the
Busser, address.

Fre. Coolides. Marrino band's Roogewide

Fre. Philadelshia, Pa. (394.5), 3 p. in., Loretta Kerk,
planist, 6-35, Bellevous Sterikord roof garden orchestra.

WFI, Philadelshia, Pa. (394.5), 3 p. in., Loretta Kerk,
program, direction of Harper Brothers; talk, Anna
Steess Richardson, writer; Anna Berger, violinisi; 66-30, Unclo Geobee: 6-30-4, Aladdin dance orchestra.

Kerk, Arabibald.

WGR. Buffalo. N. Y. (319), 2:30-4-23 p. m., WIB's

Atternous program, A. J. & Fishana, director; 6-7, Ruis

Tatternous program, A. J. & Fishana, director; 6-7, Ruis

Tatternous program, A. J. & C730, 7-30 p. m., Saasido

band; 9-10, mixed program by Buffalo Shriners; 11-1

a. m., supper-dance music, Vincent Lone Botel Statler

dance orchestra, '8-25-5-23, Roseland dance orchestra;

WHM, New York, N. Y. (360), 8:30-7 p. m., Palais

D'Or orchestra; 8-25-5, Eak, 'Storage Batteley,

H. B. Shontz, S.95-5-23, Roseland dance orchestra;

11:41:30, organ recital, Loew's Leckniston theater;

11:41:30, organ recital, Loew's Leckniston theater;

11:41:130, organ recital, Loew's Leck

## FORD AND GLENN OF WLS VISIT KOA

#### Monday, June 22

(Continued from page 9)

Krickett's Cinderella orchestra; 7-15-7-25, sports talk by Bill Wathey; 8:15-8:30, "Learn to Swin," Frank E. Dallom; 8:310-230, Al Reid's bour; 93-99-945, Dr. Frank H. Vizetelly, loxicographer; 9:45-10:45, Dr. Sigmund Spaelt's hour; 10:45-11:15, two-man singing orchestra, Perry and Russell; 11:30-12, the Command-ers.

#### Eastern Standard or Central Daylight Saving Time Stations

morement, 111. (202.9), 19:30 p. m., Genera organ, Charles Straight's orchestra.

WKRG, Gincinasti, Ohio (422.3), 10 p. m., Benzol entertainers; 11. hopolar program; 12, regular midnight program, Rodel gam, 442.3), 7 p. m., dinner hour with the control of the c

WRC. Washington, D. C. (489), 6-6:30 p. m., United States Navy band.

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

#### Central Standard Time Stations

Central Standard Time Stations
FAB. Lineal. Nebr. (200). 7:30-30.30 p. m. Cirde
Bartis, cialitais; Arthur Rayfield, pianists; Gladys Spiler.
Bernler Rollway; Colonismo ornicetta.
RFMF, Shannolmin, Irwa (266). 7:30 p. m., concert.
RFMF, Shannolmin, Irwa (266). 7:30 p. m., concert.
RFUO, St. Louis, Mo. (545-1). S. p. m., "Honorzing
Our Parents," Rev. W. Dietze.
RFYE. University Gity, Mo. (545-1). S. p. m., "Honorzing
KFWE, University Gity, Mo. (545-1). S. p. m., "Rollecust
review, Romaino Fielding; 16, Orchestra Romains; Rig
KFWE, Ostonis, Mo. (545-1). D. m., programa.
KFMS, Hot Springs National Park, Ark. (374-3), 9:15
p. m., basebouli; 9:35. Gome hold: noct garden

Brother minutesh.

(SD. St. Louis, No. (348.1), 6 p. m., processm.

KTHS, Het Springs National Park, Ark. (374.3), 9:15

p. m., basebail; 9:25. Come heter roof garden or well of the process of the proc

Mountain Standard Time Stations

MOUNTAIN STANDARY I THE STATE OF THE STATE O

#### Pacific Standard Time Stations

FI. Les Augustes Calif. (48), 5-30-6 p. m. Examiner's matinee musicale, 6-15, McDander's nichtly doiner; 6-15, McDander's Nichtly do

#### 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

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;
7:45, WEEL; 7:26, WNYC;
7:46, WEEL
Thursday, June 24: 7:25, WNYC;
7:46, WEEL
Thursday, June 25: 7:25, WNYC;
7:46, WEEL
Thursday, June 25: 7:25, WNYC;
7:46, WEEL
Thursday, June 26: 7:15, WEEL

Eastern Standard or Central Day-light Saving Time Stations Saturday, June 20: 2, WGY; 2:30, KDKA; 2:45, KDKA, WMAQ; 2:30, KDKA; 3, KDKA; 3:15, KDKA; 3:30, KDKA; 3, KDKA; 3:15, KDKA; 4:15, 4:30, KYW; 4:55, 5, KDKA; 5:57, KDKA; 6, WCN; WSS; 6; KDKA; 10, WTC; 9:55, KDKA; 10,

WREO.

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

Monday, June 22: 2, WRC; 2:45, WMAQ; 3:30, KDKA, 3:45, WEAR; 3:55, WWI, 4:30, KYW, 5; KDKA, 5:55, WTC; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 8:50, WBZ; 9:55, KDKA; 10, WREO.

Taesday, June 23: 2, WRC; 2:45, WMAQ; 3:30, KDKA; 3:45, WRC; 2:45, WBZ; 9:55, KDKA; 10, WREO.

WEZ; 9:50, WBZ; 9:55, KDKA; 10, WREO.

Wednesday, June 24: 2, WRC; 2:45, WMAQ; 3; 3:00, KDKA; 3:45, WEAR; 3:55, WDI; 4:30, KYW; 5, WWJ; 6: WGN, WLS; 6:30, WTIC; 2:45, WREO.

10, WREO.
Thursday, June 25: 2, WRC; 2:45,
White 20, KDKA; 3:45, WEAR;
3:55, WWJ; 3:0, KDKA; 3:45, WEAR;
3:55, WWJ; 4:30, KDKA; 3:45, WEAR;
9:50, WREZ; 6:50, WHZ;
9:50, WREZ; 9:55, KDKA; 10, WREO.
Friday, June 26: 2:30, KDKA; 2:45,
WMAQ; 3:30, KDKA; 3:45, WEAR;
3:55, WWJ; WWMAC; 3:40, WEAR;
3:55, WWJ; WWMAC; 3:50, WEAR;
6:50, WWJ; WWMAC; 3:55, KDKA;
6:50, WRC; 8:50, WRZ, 9:55, KDKA;
10, WREO.

Central Standard Time Stations
Saturday, June 20: 3:15, WHAS:
3:30, WDAF; 4:30, WDAF, WFAA; 5, WDAF; 6. WCCO, WDAF, WOC;
6:20, WOAW, 6:30, WSMB; 9, KTHS, WCCO,
Sunday, June 21: 3:30, 5:5 WCS;
6:30, WFAA; 5: WDAF; 5:15, KTHS;
6: WOAW, 6:30, WSAB; 9:15, KTHS;
6: WOAW, 6:30, WDAF; 4:30, WFAA; 5: WOAF; 4:30, WFAA; 5: WCCO, WDAF; 4:30, WFAA; 5: WCCO, TUS, WSMB;
9:15, KTHS; 9, WCCO, TUS, WHAS;
3:30, WDAF; 4: WCCO, WDAF; 4:30, WSMB;
9:15, KTHS; 9, WCCO, WDAF; 4:30, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6: WCCO, WDAF; 4:30, WFAA; 4, WCCO, WDAF; 4:30, WFAA; 4, WCCO, WDAF; 4:30, WFAA; 5, WCOO, WDAF; 4:30, WFAA; 5, WCOO,

MYHS; 9, WCCO.

Mountain Standard Time Stations
Monday, June 22, 6, KOA.
Tuesday, June 23: 6, KOA.
Tuesday, June 23: 6, KOA.
Thiday, June 25: 6, KOA.
Triday, June 25: 6, KOA.
Triday, June 25: 6, KOA.
Pacific Standard Time Stations
Saturday, June 20: 2-5, KNX; 6,
KFOA; 6:15, KPO.
Monday, June 22: 6, KFOA; 6:30,
KPC; 6:45, KGO; 7:30, KGW.
Tuesday, June 23: 8, KFOA; 6:15,
KWodnosday, June 24: 2, 3, 4, KNX; 6,
KFOA; 6:15, KPO; 6:45, KGO; 7:30,
KGW.
Thursday, June 24: 2, 3, 4, KNX; 6,
KFOA; 6:15, KPO; 6:45, KGO; 7:30,
KGW.

KGW.

Thursday, June 25: 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.

Friday, June 26: 2, 3, 4, KNX; 6, KFOA; 6:16, KPO; 6:45, KGO; 7:30, KGW.

WEAF. New York, N. Y. (491.3), 4-1.15 p. m. Lefa Katly, sentranc; 4.154-4.30, Iris Torm, planist; 4:30-5, women's proteomic 6-7, dinner music, Valdarf-Astoria: 7-7:10, Rose Hass, soprano, accompanied by Bernice Raudeley 7, 10-10, and Carroll, planist; 7:67-750, 210-20,

M.Y. New York, N. Y. (dud), \$113-83-00 B. In. Antiancie Name Builders, N. Z. Dilmars of Zoological,
wilz, New York, N. Y. (455), 4:30-5:30, Bernhard
Levitous' Baiel Commonder tea orchestra; 5:30-6, daily
reports; 7:715, Frank Dole's dag talk; 7:15-8, Joseph
Street, Journal orders, 5:10-3:30, Wannamster Program;
9:30-10, A. Duques, clarinetist.
W.I.T. Philadelphia, Pa. (349-5), 20, Manamster Program;
9:30-10, A. Duques, clarinetist.
W.I.T. Philadelphia, Pa. (349-5), 20, Manamster Program;
1:0:30-10, A. Duques, clarinetist.
W.I.T. Philadelphia, Pa. (349-5), 20, Manamster Program;
1:1-12, Erole Galden and his Hotel McAlph orchestra.
WNYC, New York, N. Y. (350), 6:30-7, 0. m., market
high goods; 7:1-25, 2009, generatist; 7:25-7:20, basebail
S-115, talk; 8:15-8:30, 2007, recipilar; 3:30-10-30,
nocram by residents of Edgemere, L. I.
WOO, Philadelphia, Pa. (508-22, 4:15 p. m., opean recital, Mary & Vost; 7:30, A. Candelori's roof, garden
WOR, Newayk, N. J. (409), 6:15-5:30 p. m. Den.

Citat, Ann.; 2017. (403), 6:15-3:30 p. m. Hotel Ownerson. (403), 6:15-3:30 p. m. Hotel Lorraine orchestra (6:30-7, Man in Moon; 7-7:15, Hotel Lorraine orchestra (7:15-7:25, sports talk, Bill Wathey: 7:25-7:45, Hotel Lorraine orchestra.

The control of the co

Walk: \$10, program, Edward A. Rife, violinks; Gertrude Wennic Craic, reader: Mrs. Charles, A. Griffin, plants, from Wilk: 10, Meyer Davis orchestra from Standard Control of the Meyer Control of the

(Continued on page 11)

10-11, Evaminer: Ray West and his Alexandria hotel ordesizing crobestian cordesizing and the control of the con

#### Tuesday, June 23

Tuesday, silent night for: CFCA, CHNC, CNRT. KFAE, KFNF, KFUO, KOA, PWX, WAHG, WBBR, WCBB, WEAD, WHA, WHAZ, WKAQ, WLIT, WMAK, WOI, WOS, WRBC, WSUI, WTAM.

WGBI, WEAD, WHA, WHAD, WHAZ, WKAQ, WLIT, WMAK, WOI, WOS, WRIGC, WSUI, WTAM, AND LOWER AND LOWER



Ford Bush and Glenn Rowell, are known to both children and grownups who enjoy, the programs of WLS. Chloago. 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, KFO, KGW, KJB and WCCO.

## MARIMBA ARTIST FEATURE AT WLW

#### Tuesday, June 23

(Continued from page 10)

orchestra; special feature: Armand Le Brun

(Continued from page 10)

cor probestic succial feature: Arnand Le Brun,
marinaba satist

WMAQ, Chicago, III. (447.5), 6 p. m., Chicago theater
organi 6:30. Hotel LuSalle orchestra; 8, Jack Chapmaris orbestra; 8:30, Lak, Harry Hansen; 9:15, Chimaris orbestra; 8:30, Lak, Harry Hansen; 9:15, ChiwMBB, Chicago, III. (250), 7:8:30 p. m., semi-classical
program, J. Budewalt Lumpo, director; Bustice Tellerand Trianon encemble; Ambroce Wyrick; Rita Micprogram, J. Budewalt Lumpo, director; Bustice Tellerand Trianon encemble; Ambroce Wyrick; Rita MicBand and Woodlawn, theater orchestra; 8:30-19:30,
Doll Lampe and Trianon orchestra; Johnne Kenne,
Bob Duffy, Geraldine Duvic, Charles Agne and Triapon orchestra, Fisher and Smith, Florence Tempy,
Annie, Emils Schemider, Tour the Jantier's Boy, Clyde
Haere, Cop. Irist Woman, Pedro, the Organ GrinderWORD, Battwa, III. (227), 8:39 p. m., World NeesDicest G. La. Pyler, S.50, Woberts bottl orchester; 9:
Plorence E. Macmus, accompanist.

Wall, Chicago, III. (447.5), 7:3 p. m., Raph Williams
cold lis Raibho Gardens orchestra; Lou Byran Recil
Playette Miller, buritene; Mrs. Adelaide Steer, contraito; 10-1, Raiph Williams and his Raibho Gardens Skylarks; Everett Goorne Opte, reader; Frank
Macc, Sisternovilli, Once, Hancock, Esmonter Dispers,
Pravette Miller, buritene; Mrs. Adelaide Steer, contraito; 10-1, Raiph Williams and his Raibho Gardens Skylarks; Everett Goorne Opte, reader; Frank
Macc, Sisternovilli, Once, Hancock, Esmonter Dispers,
Pravette Miller, buritene; Mrs. Adelaide Steer, contraito; 10-1, Raiph Williams and his Raibho Gardens Skylarks; Everett Goorne Opte, reader; Frank
Macc, Sisternovilli, Once, Ger Williams, 10, C. (468), 7:10 p. m., Wanmaken program; 9:50 m., The Politicel Qualcon InPravette Miller, Buritene; Mrs. Adelaide
Steer, Company, 19:50 m., The Politicel Cavancum,
Mrs. Raiph, Hidst; Goorge Clifford Cook, bass.
Mrd. Lashington, D. C. (468), 6:50 p. m., boazeball;
F. Austein orpan commany; 7:40, E. K. Sierk, temp;
Mill Tashil

#### Central Standard Time Stations

Central Standard Time Stations
CKY, Winnipes, Can. (3844), 8:30 p. m., Manitoba
Aricultural cullence lecture; 8:45, concert, J. A. Banfield Huntleti. 9:45, popular souns of twenty years
KEG, Toy H. concert. (240), 5:6 p. m., Schmoller and
Muclier; 11:23:30, individit rounders.
KFDM, Benument, Tex. (315.5), 7:7-33 p. m., children's
brogram; 8:10:30, moustail armaton.
Frygram; 8:10:30, moustail armaton.
KFDM, Independence, Mo. (441), 8 p. m., Carolyn Elinor
Tkinies, planist, Thomas Holworth, reader.
KRC, Romania Fielding; 10:00, 10:00, 10:00, 10:00
KLDS, Independence, Mo. (441), 8 p. m., Carolyn Elinor
Tkinies, planist, Thomas Holworth, reader.
KRC, Armaton, violanist, Alvegh's concert ensemble; Arma Armaton, violanist.

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

Mountain Standard Time Stations

Mountain Standard Time Stations
Chiri, Regins, Can. (285), 8. D. m., bedtime travel tale, Julgles Kiddes; Grace Newsam Mandolin club.
Pacific Standard Time Stations
KFI, Les Aspeles, Calif. (467), 5:30-6 p. m., Estaminer's matinee musicaie; 6:6:15, McDamiels' nightly todings; 6:15, radiolorial talk; 7:8, procram, Hills Hros, presentine Hills Brothers ditaner-dance orders, Way Watts, bartone, and Starr Russell, blue Jean Jacques; 9:10, KFI Bucleiquers in a variety procram; 10:11, Prebard Ballard hour, Bully and Polly Hall, Ashley Sisters, Ednyl Talmadies, Bud KFWB, Hollywood, Calif. (222), 6:7 p. m., children's hour, Big Brother of KFWB; 3:9, late news, program by Western's super-service garage; 9:10, program by Western's super-service; program by Western'

dialogue, Emile Boucher, Emile Dosrosters; Universal Laurier dance orchestra. W. (318.63), 7:39-7:45 p. m., WA16, Richmond Hill, W. (318.63), 7:39-7:45 p. m., Walfer, W. (318.63), 7:39-7:45 p. m., Pister, 1:39-5, 7:39-7:45 p. m., Pister, 1:39-5, 7:39-7:45 p. m., Pister, 1:39-5, 7:39-7:45 p. m., Pister, 1:39-7:45 p. m.,

Pacific Standard Time Stations
Rft, Les Anaeles, Cailf. (467), 5:30-6 p. m., Examiner's natione musicaire; 6-6:15, McDaniels' nightly doings; 6:35, radiototul alli; 7-8, program, Hills
Brans, prosentine Hills Brothers dinner-dance or extended the state of the state

8.15, talk; 8:15-10-15, Shannon's Rand from the Mall, and the state of the state of



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,

tand ordestra.

WEBH. Chiego, III. (370.2), 7:39-8:30 p. m., Oriole orchestra; books of the day, Lewellyn Jones; Riviera becater, 9:30-10:30, Ortole orchestra: Kay Ronayne; Robert York, tenor; 11:30-4, Oriole orchestra: Kay Ronayne; Langdon Rrothers; Robert York, tenor; Or-Ronayne; Langdon Rrothers; Robert York, tenor; Or-Ronayne; Langdon Rrothers; Robert York, tenor; Or-

bedester 1923-1923, Orbolic probesters Kaw Konamer, Robert York, tenor; 11,393-1, Orbolic prochestra: Kaw Konamer, Robert York, tenor; 10,393-1, Orbolic prochestra: Kaw Konamer, Robert York, tenor; Gor-Welson, Welson, Wels

(Continued on page 12)



Mae Skogiund 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, Moyer Davis.

p. m., bascoaii; 9:25, aloyer Davis.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6 p. m.,
baschall; 6:05, Diley's St. Paul hotel orchestro; 7-9,
national program from WEAF; 9, baseball; Ohio Kiwanis band.

wants band.

WOAF, Kansas Clty, Mo. (355.9), 6-7 p. m., plano luming-in mumber on the Doc-Art; 781-Me-8-Story Lady; Mandellon Littlediol, planist 7 Bantation play-taition players; Charles Dornberger's Kansas City Athletic dibt orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7;30 p. m. Haunles School of Hawaiian missi; 1:1-12, Pattella Randle and sesting Dallas musicians.

music.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert,
Bible class orchestra; S. J. Cooper, director; talk,
WHO, Oes Moines, Ia. (526), 7:30-9 p. m., musical program.

Program Beach, Fig. (384.4), 8.39-7 p. m.

Phetweed Radio orchestra; 7-7:30, Pleetwood Radio orchestra; 10-12, dance music, Pleetwood Radio orchestra;

chostra.

MMC, Memphis, Tenn. (499.7), 7:30 p. m., health talk, Dr. E. E. Francis; 8:30, musicalo; 11, Harry O. Nichols, organist.

WOAN, Lawrencourg. Tenn. (282.8), 9 p. m., Vaughan Radio orthestra.

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.

cert, Herman Kenin's Multiomah hotel dance orcert. Hernan Kenin's Multromalı hotal dance orthesita.

KHJ, Lus Angeles, Calif. (405.2), 5:30-8 n. m. Leiphfon's Arracia cafteria orthesita, Jack Cronhaw, ender's,
6:5:30, Art. Hickman's Bilimore hotal concert orhestra, Edward Fitzpatrick, director; 6:30-7:30, Builtton, weekly visit of Queen Titania and Sandman from
Fairyland, Chas. Lesife Bill, readings. Uncle John;
7:30, Piggly Wiley 2rle string trop. 8-10, program,
7:30, Piggly Wiley 2rle string trop. 8-10, program,
7:30, Piggly Wiley 2rle string trop. 8-10, program,
7:30, January 10, 11, Art. Hickman's Rillmore
hotel dance orchestra, Earl Burtnett, leader.
KNX, Heltywood, Calif. (33-0), 5:00-6:15 p. m., Wirlliker pipe oran studio, Sid Zuff's shorts laki; 8:15,
music; 7:30, style talk, Myer Slegel, 1-7; 8-9, program by Bell Press; 9-10, program, Google Bray;
10-12, movie night at the Ambassador, Abb Lygan
and his Coccanut Grove dance orbestra.

Ammeement information service; 8:40-7, ValdemusLind and the States Restaurant orchestra; 7:5:0, Budy
Schiczt's Fairmont, hotel urchestra; 8:49, program,
service; Emite H. Rowerno, baritone; Mrs. Pelletler,
soprano; Mrs. Mark T. H. Shwayder, contraite; 10-11,
Johnny Bulck's Cabirians.

#### Wednesday, June 24

Wednesday, silent night for: CHNC, CKAC, CKY, RT, KFDM, KGB, KLDS, WBR, WCBD, WDWF, SBW, WFAA, WFI, WGBS, WGY, WHAR, WHAE, LY, WMAK, WMC, WGAW, WOI, WGRD, WPG, BBC, WRC, WREO, WSUI, WTIC.

#### Atlantic or Eastern Daylight Saving

Nichols, organists.

WOAN, Lawrencebury, Tenn. (282.8), 9 p. m., yaughin Radio orthestra.

WDAW, Omaha, Nebr. (\$25), 6 p. m., advice to loro-lon's 6:20, baseball sensers; 6:25, program; 9, DoLuze program; 18:20, orthestra, workers, 18:20, orthestra, workers, baseball sensers; 6:25, program; 9, DoLuze program; 18:20, orthestra, workers, concert; 6, baseball sensers; 6:30-7, Gold Dust Twins concert; 6, baseball sensers; 6:30-7, Gold Dust Twins

Legends," Marian Sutherland; 3:50-4, Fauna Gressier; 6-6:30, Uncle Geebee; 6:30-7, Pallsadians nrhestra; 7-7:10, "Ukwolint of Postmaster General Harry S. New." Captain Archibald; 7:20-7:39, series of straight-thicking talks, Charles Franklin, Jones.

of straight-thinking talks, Charles Franklin, Jones.

WGR, Buffalo, N. Y. (38) 9, 230-439 0, m., WGR's
afternoon program; 9-10, rectint by Ellipol Mchallen,
planist; 10-10-30, restlat, Cantur Benjamin Levite;
10-30-10-45, Jack Oskes, colored, singing popular
songs and playing the utuiele; 11-1 a. m., super-dame
music, Vincent Lopez Hotel Statler dance orchestra,
Harold Gleer, director.

Hatold Gleser, director.

MNN. New York, N. Y. (360), 2:15-2:45 p. m., Jimmy Clark and his White Way entertainers; 2:465-3:15, Carl White's archestra; 8:15-5:30. Rubey Cowan, tener; 9:16, Consolidated Dairly orchestra; 10:10:20, Roseland dance orchestra; 10:30:11, Pasisades Amusement Park orchestra; 10:30:1-11, Pasisades Amusement Park orchestra; 10:30:24, Silver Silper rove and orchestra; 12:12:30 z. m., Strand Roof orchestra.

one of the control of

WIAR, Providence, R. I. (305.8), 7:80 p. m., program from New York.

from New York. N. vess.09, 1309 p. fb., propram WIZ. New York. N. Y. (455), 14-139 p. m., program, Spanish songer 4:30-5:30, Hotel Rethnont on music: 1-3, tare Bouter at 10-5:30, MYI Air College; 8:45-5:15, S. S. Minnekabla orchestra; 9:30-10, Robert Armbruster, planist; 10:30-11:30, Billy Wynne's Greenwitch Village Inn orchestra. WKAQ, San Juan, P. R. (340-7), 8-10 p. m., municipal band.

WKAQ, San Juan, P. B. (346.7), 8-10 p. m., municipal band.

WLIT, Philadelphis, P. S. (384.5), 2 p. m., frondla cafe concert cornears; 1-30. "Care of milderen and care of the concert cornears; 1-30. "Care of milderen and care of the c

## 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.

Atlantic or Eastern Daylight Sav-

Atlantic or Eastern Daylight Saving Time Stations
Saturday, June 20: 7:30, WHAR;
8:15, WEAF; 8:30, WHN: 10:15,
WNYC; 10:30, WEAF; 12, WMCA.
Sunday, June 21: 7:20, WCAE,
WEAF, WEEE, WJAR; 10, WHN.
Monday, June 22: 7:30, WEDI,
WHAR; 8, WGR; 8:30, WAHG, WEZ,
WOR; 9, WEAF, WEEI, WJAR,
WOO: 9:45, WAHG; 10:15, WAHG;
10:45, WOH

WORE, 9, WEAF, WEEI, WJAR, WOO: 9:45, WAHG; 10:45, WAHG; 10:45, WAHG; 10:45, WAHG; 10:45, WAHG; 10:45, WAHG; 10:45, WAHG; 23: 7, WHN, 7:30, WHAR; 8:30, CKAC, WCAE, WEAF, WEEI, WFI; 8:45, WEZ; 12, WHN; 3:45, WWYC; 3:45, WAHG; 3:45, WYC; 3:45, WAHG; 3:45, WAHG

WHN.
Priday, June 26: 6:30, WGBS: 7,
WGR WHN: 7:30, WHAR: 7:46,
WAHG: 8, WAHG: WEAF: 8:15,
WAHG: 8:30, WEAF: 8:45, WAHG:
9:30, WEEL: 10:45, WEAF: 11:30,
WHN: 12, WHN.
Eastern Standard or Central Day-

Eastern Standard or Central Daylight Saving Time Stations
Saturday, June 20: 8, WIBO: 7,
WEAL, WIS: WBM. WBM.
WEAN, WIS: WMACI, SAVING, WIBO: 7,
WEAL, WIS: WMACI, SAVING, WIBO:
WTAS: 9, WEBM. WBCN, WIS.
WTAS: 9, WEBM. WBCN, WIS.
WTAS: 10, WEBH. WGN, WMBE,
WHT: 10, WEBH. WGN, WMBE,
WHT: 10, WEBH. WGN, WIS.
WEBH. WGDS, WIJD, WRC: 11,
WEBM. WHT, WKRC, WLS, WGI,
WTAM: 10, WKRC, WLS, WGI,
WTAM: WGD, WGBH. WGISS;
WJBM. WBCH, WGISS;
9, WBBM. WBCN, 91, 30, WTAS; 10,
WECN, WIBO, WHO, WJD,
WRCN, WIBO, WJD,
WRCN, WIBO, WJD,
WAGNS, WJBO, WJS,
WMORS, WJBO, WJS; 30,
WMBF, WGOS, WJBO, WJS; 30,
WMAS; 30, WJS,
WMORS, WJRO, WJS; 30,
WMORS, WJRO, WJS; 30,
WMOS, WJRO, WJS; 30,
WMOS, WJRO, WJS; 30,
WMOS, WJRO, WJS; 30,
WMOS, WJRO, WJRS; 30,
WMOS, WJRO, WJRS; 30,

WBBM, WBCN, W1AS, \$3.0, W1AS, \$10, W2CN, W1BC, WMEP; 10-30, W1AS, 10, WCCN, W1BC, WMEP; 10-30, WJDD, WBCN, W1BC, W

WEBH, WGES, WHT: 1, WIBO, WQJ.
Wednesday, June 23: 8, KYW, WBBM, WECN, WLS, 8:30, WBZ, S:15, WKRC, WLS, 8:30, WBZ, S:15, WKRC, WLS, 8:30, WBZ, WBBH, WMBB, 8:45, WHT, WKRC, 9: KYW, WBCH, WMBB, WGJ, WSAI, WTAS, 10:30, WEBH, WGBS, WGN, WTT, WJID; 11, KYW, WIBO, WLS, WQJ; 11:30, WEBH, 12, WGES, WQJ; 12:30, WEBH WHT; 1, WQJ.

Central Standard Time Stations

Central Standard Time Stations
Saturday, June 20: 6:30, WFAA; 8,
WSB; 10, KFVPS; 10:45, WSB; 11,
KFAB; 11:45, WDAB;
Sunday, June 21: 9:30, WFAA.
Monday, June 20: 6:30, WFAA.
WSAB; 10: 6:30, WFAB; 10: 6:30, WFAB; 10: 6:30, WFAB; 10: 6:30, WFAB; 10: 6:30, WSB; 10

WOAN, 6:45, WCCO: 7:36, KFAB; 8, WCCO: 8:30, KFAB; 9, KSD: 9:25, KTHS: 9:30, WSMB: 10, KFVE, WOI: 10:45, WSB: 11:45, WDAF, Tnesday, June 23: 6:30, WFAA; 9, WOAN, 9:25, KTHS: 9:30, WOAN, 10:45, WSB: 11, KFAB, WFAA; 11:45, WDAF, WSB: 11, KFAB, WFAA; 11:45, WDAF, WSB: 12:45, WBCO: 3, WOAN, 10; KFAB; WSB: 9:35, KTHS: 9:30, WOAN, WSMB: 9:25, KTHS: 9:30, WOAN, WSMB: 11, WFAA; 11:45, WDAF, Triday, June 26: 6:30, WFAA; 7:30, KFAB, KFNF: 8, WDAF, WSB: 8:30, KFAB; KFNF: 8, WDAF, WSB: 8:30, WOAN, 10; KFAB, WFAA; 11:45, WDAF, WSBB: 8:30, WOAN, WSMB: 11, WFAA; 11:45, WDAF, WSBB: 8:30, KFAB; WFAA; NOAF; 10; KFAB; WFAA; 10; KFAB; WFAA; 10; KFAB; WFAA; 10; KFAB; WFAB; WFAB;

Mountain Standard Time Stations

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,

# KNN: 12:30. KHJ: 1, KFI, KNN: 2. Sunday, June 21: 8, KEJ; 9, KFWB, 10, KFWB, June 22: 8, KEVE, KNX: 20, KFWB, 10, KFI, KFWB, KNX. Tuesday, June 23: 8, KFI, KHJ, KNX: 9, KFI, KFWB, KNJ, I, KGW, KNX. Jo, KFWB, KNX: 11, KNX: 4, KFWB, KGW, 9, KFI, KFWB; 10, KFWB, KGW, 11, KNX: 4, KFWB, KGW, 10, KFI, KFWB, KGW, 11, KNX: 4, KFWB, KGW, 10, KFI, KFWB, KHJ, KFWB, KHJ, KFWB, KHJ, KFWB, KHJ, KFWB, KHJ, KFWB, KHJ; 10, KFWB, KHJ; 10, KFWB, KHJ; 10, KFWB, KHJ; 10, KFWB, KNX; 10:30, KGW; 11:30, KGW.

#### Wednesday, June 24

(Continued from page 11)

(Continued from page 11)

WLW. Cincinnati., 0. (422.3), 7 D. m., dinner hour concert. Role Cibron orderstra, Robert. Viscondi, director; 8. The South Nos entertainers; Hawatian specialities; The Clmo Maie outret; Instrumental tric, violin, cello and planc; octan concert. Johanna Gross. Works, and the concert of the conc

Pestros. tenor.
TAS, Etein, III. (392.8), 8-10:30 n. m., Joe Rudolph and the Beas's Own orchostra: Frank Morris, Polly Willis, John Poat, Erdick Cavansuch, Will. Detroit, Mich. (392.7), 6 p. m., dinner concert; 8, Detroit News orchestra.

Central Standard Time Stations

L. Linesla. Neb. (248). 7.30-9.30 p. m., Waiklki LeLand Wood, violinist: Everett Dodds, Scottish Ruth Zimmerman, Geraftine Munderfor. Schenndenh. la. (266), 7:30 p. m., Young ple. Christian church. St. Louis, Mo. (545.1), 9:15 p. m., "The

KTHS. Het Springs National Fars. Co. Cardin er. D. M. Froils, Bay Molliuk Comp Root. Garden er. D. M. Froils, Bay Molliuk Comp Root. Garden er. W. Co. M. Honespoils, St. Paul, Mina. (416.4), 8 p. m. haseball, 7 First Methodist churrel; 8-30, musical program; 9, baseball; 19-30, Arnold Frank's St. Paul, Mold Greberts, M. and Acts, Burd Bein. address, Nocker, auspices Hasilt Conservation association; address, Meat Council of Geneter Kanas City; Tell-Marches, Meat Council of Geneter Kanas City; Tell-Marches, Meat Council of Geneter Kanas City Athletic chb orchestra. Meat Council of Council

"MAN. meanware Vection." Dr. M. E. Dlomer; Mucison murrier, WhAD, Milwaukee, Wis. (275), 6-7 p. m., Wisconsin theater organs; 8-18, Dester's Syncopators, Elear's entertainers; 11:30, organ rectual. WHAS. Louisville, Ky. (388-8), 7:30-9 p. m., conocct. String ordestra, baseball scores. 16:30 p. m. Reese-Hushes ordestra; 7:30-8, Earl Day. Lynn Brown, Hawaiian guitarists; Helen Birningham, pianist; Myrtie Williams, sobrano; Zola Carlesses, contrailer, Hazel Spencer, sofrano; 3-8-18, Das Moines Theater Symphomic ordestra; 6:36-12, dance program. P. M., Flestwood Radio orchestra; 7:7-39. Flestwood Radio orchestra, 10:10-12, dance music, Fleetwood Radio orchestra, 10:10-12, dance music, Fleetw

orchestra; 19-12, dance music, Ficocumo seculo chestra, WOAN, Lawrenceburg, Tenn. (282.9), 9 p. m., Yaughan Radio orchestra; Yaughan male quartet. WOC. Devenpert, 1a. (483.6), 5545-6 p. m., chimes consequence of the conseq

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

Mountain Standard Time Stations

KFWA, Ogden, Utah (281), 9-11 p. m., old time music, KFWA trln; 11-12. Whoopus etub. KOA, Denver, Colo. (322.4), 8 n. Fred Schwitt and his Rialio theater orchestra; 8:10. "The Child and



by Charlie Wellman.

Str. Charlie Wellman.

(S01.2), 6-7 p. m., Ben Black's KGW, Pertland, Orn. (491.5), 6-7 p. n., dance music, Jackie Soudier's ordenter, 7:30-3. baseball: 8-9. contact of the sound of the sound

#### Thursday June 25

Thursday, silent night for: CHNC, CHYC, CNTR, KFAB, KFAE, KFOM, KFOA, KFUO, KFVE, KOA, KSD, PWX, WAHA, WCEE, WEAO, WEBJ, WEBW, WHA, WHAD, WHA

Atlantic or Eastern Daylight Saving Time Stations
offices, Can. (410), 9 p. m., C. N. R. pro-

GAIG. Mentreal. Can. (440), 8 p. m., C. N. R. program. New York, N. Y. (272,5), 8 p. m., instrumental
trio, Carl Park, Brank Wood, Genge Twarsochik,
S.10, Lillian Haviin, soprano; Sunday school lesson,
S. M. Yan Shpana, S.50, instrumental Lid, inner concart, William Haviin, soprano; Sunday school lesson,
S. M. Yan Shpana, S.50, instrumental Lid, inner concart, William Penn, hotel; S. recital; S. Akwater Kent
Radio artists; 10, Goodrein Silvertzum, Cord orchestra,
WGAU, Philadelphia, Pa. (273), 6:30 p. m., Hatel
Pennsylvinta Interfraterally orchestra; 1:30, M. SnetZillesson; S.30, recital; 10:30, dance orchestra.
WDWF, Providence, R. I. (440,9), 6:30-8 p. m., Narregarestit Hotel orchestra.
(491,5), 4-315 p. m. Artregarestit Hotel orchestra.
(491,5), 4-315 p. m. Artregarestit Hotel orchestra.
(491,5), 5-30, "Nema, We Love," Marcaret Prendergata McLean; 4:30-4:35. Cameron Emaile, planist;
4:35-5, basel talk, Cameron Emaile, planist;
4:35-5, basel talk, Cameron Emaile, planist;
4:35-30, "Nema We Love," Marcaret Prendergata McLean; 4:30-4:35. Cameron Emaile, planist;
4:35-30, Mozart Vocal and Instrumental
ensemble; S.30-9, "Norming in a Packard Eicht",
Prof. Advator Kont Radio series; 10:11, Stiventown
Cameron Cameron Cameron Cameron Cameron
WEEF, Beston, Mass. (476), 6:30 p. m., Big Brother
club; 7:35, baseball; 8 muste from Wesfer 9, Atcourt Contract Cameron Family S. March Contract
WEEF, Beston, Mass. (476), 6:30 p. m., BogsContract Cameron Cameron, Planish Cameron
WEEF, Pathodelphia, Pa. (394,5), 3 p. m., FourContract Cameron Cameron, Planish Cameron
WEEF, Pathodelphia, Pa. (394,5), 3 p. m., FourCameron Cameron, Planish Cameron, Planish Cameron
WEEF, Pathodelphia, Pa. (394,5), 3 p. m., Four-

orchestra. Philadelphia, Pa. (394.5), 3 p. m., Houso-

Badin artists; 10. Gouldrich Silverteen Gord orcolors. New York, N. Y. (315.6), 3-1. pm., International proterna, aussires of Foreign Language Information service; 6-430. United Generic 5.30+T, Hebrew
Orphan Harmonica band; 7-7:19, falls on undarine,
William J. Carroll; 7:15-7:250, Marin Alorez Lenn;
7:30-8. Collfornia Bamblers; 8:30-4, "Footlights and
residentia; 9:20-1-30, Neverth Geoldes, supramo; 9:3010:30, Piccadilly theater program,
6-R, Buffalo, N. Y. (319), 2:30-4:20, pm., WGRS
aftermoon program, A. J. Drisman, director; 6:30-7:30,
free orbito testila, Ganad Sciolists; 8-1, Judnit's with
semble; Alwater Kent and Goodrich Silvertawn Condsemble; Alwater Kent and Goodrich Silvertawn Condsouchestra.

WEAF, including Mozart vucus and maximum. Seemble; Awster Kent and Goodrich Silvertown Crud with the seemble; Awster Kent and Goodrich Silvertown Crud wharf, Atlantic City, N. J. (275), 7:30 p. m., Seasida hotel trie, 9, studio program, vocal, instrumental; 9, Steburra hatel convert orthestra, 7:7:30 p. m., Silver Silper reverse; 8:8:30 v. Will Goidands, Chatheau Shanley; 9, 3:01-10, Pallisades, Anuscenent Park orrelestra; 10:10:30, 1-10.

Goodrich Silverians Cord archestes.

Wity, New York, N. Y. (485), 1:38-8 p. m., Conenharm quartet.

N. Y. (485), 1:38-8 p. m., Conenharm quartet.

N. Y. (485), 1:48-15 p. m., F. Gohlert, Green Goods, C. C. (185), 1:48-15 p. m., F. Gohlert, Green Goods, Reinhard Leetlow's Hotel Commodition or Contesters, 2:8-10. Wall Street, Journal reveleys, 8:14-8,39) NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:48-8,39) NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:48-8,39 NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:48-8,39 NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:48-8,39 NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:48-8,39 NYU Alt collercy, 3:10-2:30, U. S. Martine hand; 1:10-30, U.

## Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KDKA, Pittsboren, Pa. (309.1), 2:30-5 n. m., baseball;
7, baseball; 8, program, National Stockstam and
Farmer studie; 8:15, Teaberry time; 9:35, baseball;
10:39, Pittsborth Post studio.

KYW. Ohteape, III. (538), 6-9:30 n. m. Congress hotel;
School, School

#### DANCING

(Central Time) (Central Standard Time)

## IDAY ON WEAF, NEW YORK, AND LINK



(Contral Time) (Contral Standard Time)

Keeni, Vees, Oak Park, III. (250), 5-6:30 p. m. Edgar Scott, tenor; Edm Wallace, sourana; Lucille Matthews, volunts; G.30-7. beditime slocies, Cornella Dungan; 10:30-1, A. Cavallo and nis 11 Master Musidame; Reich Large, Louis Sudler; Coyne Ellectrical School

10:30-1, A. Cavallo and 51s 11 Master Mosidians; Robert Bustler Course Bieterleal School Williams (2014). A Cavallo and 51s 11 Master Mosidians; Robert Bustler Course Bieterleal School Williams (2014). Carpet Course Consert consumble, Blackstone string quintels: 8309-393, studio proxima organ receital; 10:30-11:30. Drake Workstone Consert Conserts (2014). The Course of Cour

prano.

WMAK, Lockport, N. Y. (265.5), 11 p. m., Murray
Whitenam, Buffalo, N. Y.
WMAG, Cheege, 111, (447.5), 6 n. m., Chicago theater
organ rectal; 6:30, Hotel LaSalie orchestra; 8, "Hunting Poesils in Patugonia," Prof. E. R. Riggs; 8:30,
Bay Scott talk; 8:10, Jane Fritch, soprano; 9:15,
Ukratinan choir,

Bay Scout talk; S:10, Jane Fritch, soprame; 9:15. (Krainian choi III. (230), 7-8:50 n. m. semi-classical programs. J. Budewalt Lampe; Beatlet Teller and programs. J. Budewalt Lampe; Beatlet Teller and Hazel O'Neil, John S. Everett, Armin F. Hand end Woodlawn theater orchestra; Florence Tenny, Eisher and Kwane, Bob. Duff., Gerattine 20:00-10, Delt Lampe and Frianon orchestra; Florence Tenny, Eisher and Kwane, Bob. Duff., Gerattine Doyle, Little O'Dhan Annie presentation.

WARD. Battwarta, III. (275), 8:30 p. m., International Sundar school, Iesseo, W. S. Fase; S. concert, Or-WO, Chicago, III. (4475), 7-8 p. m., Reph Williams and his Kainbu Gardens orchestra; Kenneth Sterling, tenor: Mrs. B. H. Sachs, reader; E-Sterl Trostrad, sopramo; Alice Hessner, pinnist; 10-1, Italph Williams and his Kainbu Gardens SStylarks; Charuce Thelers, and Dis Kainbu Gardens SStylarks; Charuce Thelers, prano; Jueus Slisters; Low Ruther; Marie Wight, prano; Jueus Slisters; Low Ruther; Marie Wight,

Anna Hagmaier Woesthoff, contraité, is an attractive feature of the programs at RDKA Perry V. Buring broadcasts the results of the WIS agricultural investigations. Mr. Ewing is an anthority on livestock and has written many state, federal and scientific reports.

Washington, O. C. (469), 7 p. m., Lee House 7:30, U. S. Marine band; 10, Hotel Mayflower tetij 7:300. U. S. Marlne, bandl, 10, Hotel Alaphover ordvestis.
WRED, Lansing, Mich. (285.93, 18.15-9:15 p. m., Reu ordvestis.
WRED, Lansing, Mich. (285.93, 18.15-9:15 p. m., Reu ordvestis.) (19.15-9) (19. C. Detroit, Mich. (352.7), 6 p. or., dinner concert

Central Standard Time Stations

CRY. Winnipsp. Can. (384.4), 8 in m., C. N. L. Putternin, State of the Control of

KCOS. Australia de Califlus.

KCOS. Australia de Califlus.

KCOS. Australia de Califlus.

Landra Music club, suest artist; "Independence Industria Music club, suest artist; "Independence Industria.

KTHS. Het Springs National Park, ARK. (374-8), 91:56

KTHS. Het Springs National Park, ARK. (374-8), 91:57

KTHS. Louis National Park, ARK. (374-8), 91:57

HAD. Milmarke, Wis. (375-9), 92:39, Webme-Carl D. (374-8), 91:39, 92:39, 93:3

chestra: 10-12, dance music, Fleetwood Radio orWill, Henophis, Tenn. (489-7), 7:30 p. m., selence
Will, Brother Joseph, 8:30, musical,
Usah, Brother Joseph, 8:30, musical,
Radio orchestra; male quartet.

Brother Joseph, 8:30, musical,
Radio orchestra; male quartet.

Brother Street Research
Radio orchestra; male quartet.

Radio orchestra; male qua

chestra.

70 C. Davenport, la. (483.6), 5:35-6 p. m., chimes concert; 6. basebull scores; 6:30-6:50, Sandman's claim of the concert; 6. basebull scores; 6:30-6:50, Sandman's claim of the concert; 6. WEAP program; 8-0, 11:12, 1-1

FI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee hour; 6, McDanicles' nightly doling; 6:45, raidlotrali talk; 7, "Knee Deep in June." music, poetry and foolishness; 7:30-9, Parker's Great American's hand of 60 pieces; 9:10, Southern California Music company; 10-11, Examiner's pupular song hoor.

fornia Music company; 10-11, Examiner's pupular song hour was a constant of the company; 10-11, Examiner's pupular song hour was a constant of the company; 10-10,

#### Friday, June 26

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

#### Time Stations

CNRA, Moncion. Cam. (2012). A Sill p. m., choir, First Bardist chercel; Mr., G. Armerone, counting, oparates; 1. Refuth, planist; 1. McKendrick, country at dress, B. H. Meisson; UNRA, preparts, popular sones, black Joel and Fred Button; 78-93, popular sones, black Joel and Fred Button; 78-93, popular sones, B. Margarat Mayer and Aspas Greuble; 8.13-8.15, James T. Grotto band; 345-9, Long "1" Grotto Bund; 345-9, Long "1" Grott

WCAU, Philadelphia, Pa. (278), 6 p. m., Hutel Panners, WCAU, Philadelphia, Pa. (278), 6 p. m., Hutel Panners, WCAU, Philadelphia, Pa. (278), 8 p. m., Hutel Panners, WCAU, Philadelphia, Panners, Panners

WH. Philadelphia, Pa. (394.5), J. n. m. Caroline Boffman, plantist; 0:47. Neillowe Stratford runt garden with the control of t

dance vi HAR, Atlante botel tric; 9, Shilburgetta).

WHAR, Atlante botel tric; 9, Shilburgetta).

WHN, New York, N. Y. (560), 10:30-1, Land. dance orchestra; 11:30-12. Club labban, obserta; 12:12:300 a. in., Parody club revie and orchestra; 12:12:300 a. in., Parody club revie and orchestra; 12:12:300 a. in., Parody club revie and orchestra; 7, Uncle Wip's bedtime stories; Ruth Philharmonic orchestra; 6:05. Renjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; Ruth WAR, Frovience, D. in., mostel program; 8, Maine Creamory hour; 11, Providence Billimore hold orchestra. B. m., mostel program; 8, Maine Creamory hour; 11, Providence Billimore hold orchestra. With Story and School orchestra. 20:15, 2000. "Six Years in the Malay Juuzale," Carreto With Story Constitution of the Story Constitution of the Story Carreto With Story Constitution of the Story Carreto With Story Carreto With Story Carreto Ward Carr

WIY. New York, N. Y. (405), 7:30-8:30 p. m., Preduite Mily Bunde of the Conference 2-9:115, Seath 131 b. Bunde of the Conference 2-9:15, Seath 2-9:28, Seath

Eastern Standard or Central Daylight

Saving Time Stations
KDKA, Pitthurph P. (2018), 1,239-5, p. m. buseball;
7. bascball; 8-46, concert; 9:55, bascball;
KWW, Chicago, III. (336), 6-430 p. m. (congress hotel;
7-7:39, Evening American strult; 9-11:39, Paul Whitemark Collegans, Albert Hy Maiotia, organiza.
Whitemark Collegans, Albert Hy Maiotia, organiza, vorGeorge Clevaland, Dr. F. Wall, per lee correlian;
George Clevaland, Dr. F. Wall, per lee correlian;
Charles Richards; Hubby dult; 10-12, request program, Midway Danching Gardens orchestra; Johnny
WBZ, Sarindfeld, Mass. (333.3), 9, p. m. Hotel Klinball telo; 6:39, baschall; 7:45, "Foultry Plock Management," Prof. William C. Monalan; 8, Hagor trio,
Soprano; Cedilla Riust, eccolopalits; Dorothy Kraeuser,

plantst; Goldie Shour, violinist; 9:40, "At the Twee Care A. L. S. Wood; 9:50, bazeball. The United States and the Care A. L. S. Wood; 9:50, bazeball. The Care A. L. S. Wood; 9:50, bazeball. The Care A. L. S. Wood; 9:50, bazeball. The Care A. Car

Hess: Sandy McTavish; Coyne Electricat Senson seriousless; WGR, Chicago, III. (570.2), 0.304-7.39 p. m. Drake communication of the Control of

menon openessis, sittus pomanti, concourted, emoci property of the control of the

Williams and Art. 1990. S. Bergy; 10-10-30, Williams and his Rainbo Garden orchestra. Albert M. Tilliams and his Rainbo Garden orchestra. Albert M. Tilliams and his Rainbo Garden orchestra. Albert M. Tilliams render; 10-1. Rainb Williams and his Middle depolitions of the state of the state

Mercura Cutes, soprano; Paul Small, tenor; 1-2, WRO, WRO, Lamison, Mish, (285.5), 10 n. n., baselgall, WTAS, Elpin, 111, (302.8), 8-10.30 n. n., Jon Kulshish and the Joseph Con ordered Frank Mortis, Fully WTIG, Hartford, Conn. (248.6), 8-30 p. un, baselsall; 7, George Wright, tenor; Benjumler M. Knox, bartions, Control Contr

#### Central Standard Time Stations

band. Shenandoah, Ia. (266), 7:30 p. 16., Prather

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

KHS. Hot Sorings National Park, Ark, (374.8), 91.15. p. m., baseball; 9.25. orean rectiant, Lawson Reid WCO, Minneapile-St. Paul, Minn. (48.4), 0 p. m., baseball; 9.25. orean rectiant, Lawson Reid WCO, Minneapile-St. Paul, Minn. (48.4), 0 p. m., baseball; 9.25, Original George Gaborn's Nicolled Remoppin County Medical Seciety: 8. Gention Cooks ensemble; 9, baseball; 9.25, Gentrude Stewart, supranse, Toolma Statety, soprano; Lury Sariouste, contradio: America Garbon, terror; Mrs. Chara Hoom, muritatus Martines, accompaniet; 10, Nicolae Botel or headers.

Mardon Burges, accombanist; 10, Atomiet note inchastra,
WDAF, Kanasa City, Mo. (365.9), e-7 p. n., library
talk, R. Clay Harrey; address, speaker, Kanasa City
Children's interact Tell-Mes-Story Lady; Plantation
Children's interactive and property control of the concompany of the control of the control of the control
Children's Plantation player; Checkes Dormberger's
Edmass City Athletic club urchestra Control
Francisco Control
Francisco

chestra; 19-12, dance music, recovered hadro orchestra.

WMC, Memphis, Tenn. (499.7) 7.20 p. m., Radio falli;
Soll, Drittling Cafetoin Novelly metestra, Frank

Soll, Drittling Cafetoin Novelly metestra, Frank

Soll, Drittling Cafetoin Novelly metestra, Prank

John Cambridge, Soll, Soll, Soll, Soll, Soll, Soll, Soll, Soll,

John Cambridge, Soll, Soll, Soll, Soll, Soll, Soll, Soll,

John Cambridge, Soll, Soll, Soll, Soll, Soll, Soll,

John Cambridge, Soll, Soll, Soll, Soll, Soll, Soll, Soll,

John Cambridge, Soll, Soll,

Mountain Standard Time Stations KFWA, Ogden, Utah (261), 9-11 p. m., KFWA Radio Buys dance oxelectra. KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmidt and his Bildio theater orrebastra: 8:10. Loreland Chamber of Commerce program.

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:39-6 lt. m., Ex-anilner's mathree masteate: 6, McDandels' nightig clothes; 6:46, raddoordal lsik: 7, community program by the Examiner; S. Acolian residence pipe organ (Continued on page 14)

## An Evening at Home with the Listener In

STATIONS	IN	ORDER	OF	WAVE	LENGTHS	USED

1001 G-12	Oxfohone Coll	1 Mahaum Call	Massan Call	158-11-11	. M
Meters Call		Meters Call			Meters Call
226 WBBM	275 WHAD	315.6 KFDM	361.2 K.GO	405.2 WJY	468.5 WCAP
226 WIBO	275 WHAR	315.6 WAHG	361.2 WHN	405.2 WOR	468.5 WRC
233 WEBJ	275 WORD	315.6 WGBS	365.6 WDAF	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		322.4 KOA			480 CYL
250 - WCES	278 WLBL 278 WRBC	325.9 WSAI		421 KIAF	
250 WMBB		330 CYX		422.3 WLW	
252 KFWB	280.2 WNAC	333.3 WBZ	379.5 WGY	428.3 WSB	483.6 WSU1
261 KFWA	282.8 WOAN	336.9 KFMX	379.5 WHAZ	428.3 KPO	491.5 KGW
261 KSL	285.5 WKAR	336,9 WCAL		434.5 CNRO	491.5 WEAF
	285.5 WREO	336.9 WSAC		434.5 NAA	499.7 WMC
265.5 WMAK	288.3 KFKX	336.9 KNX		435 AT9	508.2 KLX
266 KFNF	293.9 KIS	340.7 WKAQ		434.5 CFCN	508.2 WIP
266 WBCN	293.9 WBAV	340.7 WMCA		440.9 WDWF	508.2 WOO
268 WEBW	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					526 WHO
272.6 WFBH	299.8 WPG	348.6 KFAE	394.5 WLIT	447.5 WQJ	526 WNYC
273 WRW	302.8 WJJD	348.6 KOB	394.5 WOAI	454.3 KFOA	526 WOAW
	302.8 WTAS	348.6 WTIC		454.3 WJZ	
275 KFAU	305.9 WJAR	352.7 WWJ	399.8 WHT	455 KTW	535.4 KYW
275 KFKU	309.1 KDKA	356.9 CFCA	400 PWX	461.3 WCAE	545.1 KFUO
275 WABL	313 CNRA	356.9 CHNC	405.2 KHI	467 KFI	545.1 KSD

#### 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.

Listeners using Eastern daylight saving, or Atlantic time: Use Eastern time table by subtracting one hour from every figure given.

Listeners using Eastern daylight saving it is available for Atlantic time: Use Eastern time table by subtracting one hour from every figure given.

Listeners using Gentral daylight saving of the control of the work of the tables are rentirely original with Radio Digest and are protected by copyright. Reproduction of whole or part without permission is

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

ous program, the table cannot show this.
Above is given a list of all stations in the "Evening at Home" tables, arranged in order of the wave lengths used (or supposed to be used) by the stations. This arrangement provides a handy index for the other tables.

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

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## Friday, June 26

(Continued from page 13)

Dan McFarland, organist; 0, play with music, Kentucky Mountaineer," by George Frenger; 10-tist-publis of Myra Belle Vickers in all vocal

artia-publis of Alyra Belle Victora in all vocal.

[Mollywood, Calif. (252), 6.7 p. m. chliston's,

T. Hig Brother of KPVE: 8-9, program, Frinder's,

Tristin park and fisheren, Frinder's orderlers. Melba
ising, popular sincer: Frances St. George, the

William of the Company o

stra. Portland, Orc. (491.5), 7:30-8 p. m., baseball; 30, concert, Sherman Clay Co. studio; 10:30-12,

hestra, Fordand, Ore. (49), 5), 7:30s. p. m., 1. Fordand, Ore. (49), 5), 7:30s. p. m., 1. Fordander, Sherman Clay Co. studie; 10:30s.12. p. 6. Original Constant Cons

#### Dreams of Radio Joy for Convicts

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

**DESCRIBE AIR SHAM** 

MAJOR VAUGHN RECOUNTS MOVEMENTS OF FIGHT

Fans Hear Reports of Scrimmage a Planes Attack and Defend New York

NEWARK, N. J.—One of the most novel Radio events was the recent broadcasting through WOR of the sham hattle in mid air over Times Square, New York, by fliers of the National Guard from Miller Field, Staten Island.

Field, Staten Island.

Major George C. Väughn, 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 par of New York in plain sight of ground observers, and preliminary to the openin of the sham battle the air fleet circle over the WOR New York studio, locate in Chickering hall. According to WOI this was the first aerial combat ever described from the air.

#### Educational Radio Work Tried in Wes

OSSINING, N. Y.—"Stone walks 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 the heater to keep them happy and the ve 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 twelve receiving sets privately owned. Each of these have seventh 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 other parts of the institution.

1	(FOR PACIFIC TIME)													
	Call			Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	M et.	Call			
.	AT9 CFCA	435 356.9	Stlent	3:00- 4:00 4:00- 5:00	Silent Silent	Stlent 5:13- 6:15	Stlent 5:15- 6:15	5:00- 7:55 5:15- 6:15	Silent	435 356.9	CFC			
П	CFCN	434.5 356.9	9:00-11:00 Silent	Silent	Silent 5:30- 6:30	Silent . Silent	Silent	7:00- 8:00 Silent	Silent Silent	484.5 356.9	CFC			
Ш	CKAC	516.9 410.7	8:00-10:00 4:30- 9:30	6:30- 7:30 1:30- 2:30	6:30- 8:30 Silent	6:30- 7:00 4:30- 9:80	5:00- 7:00 Silent	8:00-10:00 4:30-9:30	7:00-11:00 Silent	516.9 410.7	CKA			
ш	CKY	384.4	Silent	5:00- 6:45 Silent	Silent Silent	5:30- 8:00 4:30- 5:30	Silent. Silent	0:00- 7:00 Silent	5:30- 8:00	384.4	CK			
H	CNRO	434.5	4:80- 0:30 8:15- 9:45	Silent	Silent	Silent	4:30- 9:30	Silent	4:30- 5:30 Silent	434.5	CNR			
	CYL	480	Silent	Silent	Silent	7:15- 8:15 8:00- 9:30	Silent	Stlent	8:00- 9:30	480	CY			
ш	KDKA	330 309.1	Silent . 5:45- 8:55	Silent 12:00- 4:80	7:15- 8:30 5:45- 6:55	Silent 5:45- 8:80	Silent 5:45- 0:55	Silent 5:00- 8:30	7:15- 8:45	530	KDK			
Ш	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	5:45- 6:55 5:30- 8:00	309.1 240	KFA			
Ш	KFAU	275	Silent	Silent	7:00- 8:00	Stlent	Silent	Stlent	Silent 7:00- 8:00	348.6 275	KFA			
Н	KFDM KFI	315.6 467	Silent 6:45-12:00	Silent 4:00-11:00	Silent 6:45-11:00	6:00- 7:00 6:45-11:00	Silent 6:45-11:00	Silent 6:45-11:00	6:00- 7:00 6:45-11:00	315.6 467	KFD			
Ш	KFKU KFKX	275 · 288.3	Silent	Silent	4:50- 6:00 7:30- 9:00	Silent	Silent	4:50- 6:00 7:30- 9:00	Silent	275 288.3	KFK			
Ш	KEMA	299.8	Silent	Silent	Silent	7:00- 8:00 8:00- 9:00	Silent	5:30 - 6:30 Silent	Silent	299.8	KFM			
Ш	KENE	266	5:30- 6:30	5:00- 6:00 4:30- 3:00	5:30- 6:30	Silent	7:00- 5:00 5:30- 6:30	5:30- 6:80	Silent 5:30- 6:30	336.9 266	KFM:			
٦	KF0A KFRU	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 8:80-10:00	6:00-10:00 6:00-8:30	Silent 8:30- 9:30	8:00-11:30 9:00-11:00	454.3 394.5	KFO.			
	KFUO KFVE.	545.1 240	8:0n-10:00	7:15- 8:15 Sflent	Silent 8:00-10:00	Silent 8:00-10:00	7:15- 8:15 8:60-10:06	Silent	Stlent 8:00-10:00	545.1 240	KFU			
f	KFWA KFWB	261 252	Silent 7:00-11:00	8:00- 9:00 9:00-II:00	8:00- 9:00 6:30-11:00	8:00- 9:00 7:45-11:00	8:00- A:00 7:00-11:00	Stient 7:00-11:00	8:00-10:00 7:00-11:00	261	KFW			
-	KGO KOW	361.2 491.5	8:00-1:00 6:00-12:00	8:30-9:00 7:30-10:00	8:00- 1:00- 6:00- 7:00	8:00- 1:00	Stient	8:00-1:00 8:00-12:00	Silent	252 361.2	KG			
n	KHI	405.2	5:30-11:00	6:00-11:00	7:00- 1:30	9:00-12:00 5:30-11:00	8:00-11:00 5:30-11:00	5:30-11:00	9:00-12:00 5:30-11:00	491.5 405.2	KH			
ı- 3.	KIAF	421 384.4	SUent Stient	2:00- 3:00 7:00- 8:00	7:00-8:00 6:00-10:00	Silent	7:00- 8:00 8:30-10:00	Silent 10:30-12:00	7:00-8:00 8:30-10:00	421 384.4	KIA			
n	KJS KLX	293.9 508.2	Silent	7:15- 9:30 Silent	Silent 6:00-11:00	8:00- 9:00	Silent	8:00 - 9:00 Silent	Silent	293.9	KJ KL			
d	KNX	336.9 322.4	6:30- 2:00 8:00-11:00	6:00-11:00	6:30-12:00	Silent 6:30-12:00	6:00-11:30 7:00-12:00	6:30-12:00	0:00-10:30 6:36- 2:00	508.2 336.9	KN			
r s.	KOB	348.6	Silent	3:30- 7:30 Silont	7:00- 8:00 6:30- 7:30	Silent	7:00-11:00 Silent	Stlent	7:00- 8:00 6:30- 7:30	322.4 348.6	KO KO			
x	KP0 KSD	428.3 545.1	6:25-12:00 5:00- 7:30	6:30-10:00 Silent	6:30-11:00 7:00- 0:00	4:30-11:00 4:30-6:30	6:80-11:00 5:30- 6:30	6:30-11:00 Silent	7:00-11:00 5:80- 7:00	428.3 545.1	KP			
e.	KSL KTHS	261 374.8	7:00-10:00 6:30- 8:00	8:00-10:00 6:30- 9:30	7:00-10:00 0:30- 8:00	8:00-10:00 6:30- 8:00	7:00-10:00 6:30- 8:00	7:00-10:00 8:30- 8:00	8:00-10:00 6:30- 8:15	261 374.8	KS			
f.	KTW	455	Silent	7:00- 9:30	Silent	Stient	Silent	Stlent	Silent	455	KT			
t	NAA	535.4 434.5	4:00-10:00 Silent	1:00- 5:06 Silent	Silent 4:45- 5:00	4:00 - 8:30 4:45 - 5:00	4:00-10:30 4:25-5:40	4:00- 8:30 4:45- 5:00	4:00-10:30 4:45- 5:00	535.4 434.5	KYV NA			
.t	PWX WABL	400 275	5:30- 8:00 Silent	Stlent	Silent 4:00- 0:00	Silent	5:30- 8:00 4:00- 6:00	Silent	Silent 4:00- 6:00	400 275	PW)			
e	WAHG	315.6 243.8	9:00-11:00 8:00- 9:00	Silent 12:00- 8:00	4:00-10:00 Silent	811ent 8:00- 9:00	3:30 - 8:00 8:00 - 9:30	Silent 8:00- 9:30	4:00- 7:30	315.6	WAH			
d n	WBAP WBAR	475.9 406	5:00- 6:00 Silent	0:01-10:00 8:01- 0:00	5:30-10:00	5:30- 8:45 Silent	5:30- 8:45	5:30- 8:45 5:30- 6:30	8:00- 9:00 5:30- 8:45	243.8 475.9	WAMI			
s	WBAV	293.9	Silent	Silent	7:00- 8:00 5:00- 7:00	Silent	6:00- 7:00 Silent	Silent	Silent. 5:00- 6:00	406 293.9	WBA			
e	WBBM	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 Stient	226 272.6	WBB			
=	WBCN	266 333.3	6:00-10:00 3:30- 5:55	2:00- 9:00 4:00- 5:30	Silent 4:00- 5:55	8:00-12:00	5:00- 9:00	6:00-11:00 3:30- 5:55	6:00-10:00	265	WBB			
	WCAE	461.3 336.9	4:00- 5:30	12:00- 4:30	4:00- 8:00	5:15- 5:55 4:00- 7:00 Stlent	4:00~ 5:55 4:30- 7:00	4:00 - 7:00 7:00 - 8:00	8:45 - 5:55 4:80 - 5:30	333.3 461.3	WCA			
	WCAP	468.5	10:00-11:00 Silent	6:30- 8:00 1:00- 7:00	9:00-10:00 4:00- 8:30	Silent	Silent. 3:00- 9:00	Silent	6:30- 7:00 4:30- 9:00	336.9 468.5	WCA			
١.	MOBD	276 344.6	2:30- 8:00 Silent	1:00- 4:00 6:09- 7:00	Silent 5:00- 7:80	2:30- 8:00 Silent	Silent	2:39 - 4:00 5:00 - 7:30	2:30 - 4:30 Silent	278 344.6	WCAL			
•	WCCD	416.4 516.9	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 Sitent	4:00-11:00	416.4	WCC			
	WDAF	365.6	4:00-11:00	2:00- 3:30	4:00-11:00	4:00-11:00	4:00-11:00	4:00-11:00	3:00- 8:00 4:00-11:00	516.9 365.6	WDA			
S	WEAF WEA0	491.5	Silent 2:00- 8:00	1:00 - 2:45 3:20 - 6:15	Silent 2:00- 7:30	4:30- 5:30 2:00- 8:00	2:00- 8:00	Silent 2:00- 8:00	2:00- 8:30 2:00- 8:00	491.5	WEA			
	WEAR		Silent 4:00- 5:00	Silent 12:30-7:00	Silent 4:00- 5:00	Silent 4:00- 8:00	5:00- 6:00 4:00- 5:00	5:00~ 6:00 4:00- 8:00	Silent 4:00- 8:00 4:30- 9:30	293.9 389.4	WEA			
s	MEB1 MEBH	233	4:30- 9:30 Silent	1:00- 6:00 Silent	Silent	4:30- 9:30 4:00- 5:00	4:80- 9:30 3:00- 5:00	4:30- 9:30 Silent	4:30- 9:30 4:00- 5:00	370.2 233	WEB			
	WEBW	268 475.9	Silent	2:25- 3:30	6:30- 7:45 4:00- 7:00	6:30- 7:45 4:00- 7:00	Silent	Silent	Silent	268	WEBV			
	WFAA WFBH	475.9	Silent 6:30-10:00	3:20 - 6:20 4:30 - 9:00	4:30- 7:30	4:30-t0:00	4:00- 7:00 Stlent	4:00-7:nn 4:30-10:00	4:00- 7:00 4:30- 7:30	475.9 475.9	WEE			
al	WFI	394.5	7:30-10:00 4:00- 7:00	1:00- 4:00- Silent	7:36-10:00 Silent	7:30-10:00 4:00-6:00	7:30-10:00 Silent	7:30-10:00 4:00- 7:00	7:50-10:00 Silent	272.6 394.5	WFBI			
ď	WRES	815.6 250	2:00-8:00 7:30-11:00	7:30-11:00	Silent Silent	2:00 - 8:00 7:30-11:00	Silent 7:30-11:00	2:00- 9:00 7:30-11:00	Silent 7:30-11:00	315.6 250	WGB			
у	WGN	370.2 319	3:30- 8:30 Silent	6:00- 7:00 12:00- 0:00	Silent 6:00- 0:00	3:80- 8:80 5:00- 8:00	3:30- 8:30 6:00- 9:00	3:30- 8:30 5:00- 8:00	3:30- 8:30 4:00- 9:00	370.2 319	WGE			
r	WGY	379.5	6:00- 9:00	8:30-8:00	3:30- 5:30	4:10- 8:00	Silent	3:45- 8:30	4:15- 7:30	379.5	WG			
٠,	WHAD WHAR	275 275	4:00 - 5:00 3:30 - 6:00	Silent 5:00 - 8:00	4:00- 8:00 3:30- 6:30	4:00- 5:00 3:30- 8:00	4:00-10:30 Silent	4:00- 5:0n 3:30-6:00	4:00 - 6:30	275 275	WHA			
h e	WHAS	379.5	5:30- 7:00 Stlent	2:00- 3:00 Silent	Silent 6:00- 8:00	5:30- 7:30 Silent	5:30- 7:00 Slient	5:30- 7:00 Stlent	5:30 - 7:00	399.8 379.5	WHA			
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	6:00- 8:30 3:30- 8:00	5:00- 6:00 3:30- 8:00	365.6	WHA			
n t	WHO	526 399.4	Silent 4:00-11:00	2:00- 7:00 4:00- 6:30	5:30-10:00 4:00-11:00	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	361.2 526 399.4	WH			
d -	WIBO	226 508.2	3:00- 5:00	3:00- 9:00	Silent		3:00- 9:00	3:00-12:00	4:00-11:00 3:n0-11:00	226 508 2	MIB			
0	WJAR	305.9	Silent	Silent 3:20- 6:15	Silent 4:00- 6:00	4:00- 0:00 4:30- 7:00	Silent 3:30- 4:30	4:00- 9:00 4:00- 7:00	Silent 4:00- 8:00	508.2 305.9	IW ALW			
rt.	MIVE	275.3 302.8	3:45-10:00	Silent 5:45- 7:00	5:30- 8:00 3:45-10:00	5:30-8:00 3:45-10:00	5:30- 8:00 3:45- 7:00	4:30 - 7:00 Sitent	4:30- 7:00 3:30- 7:00	275.3	WJA			
)-	WJY	405.2 454.3		4:15- 5:15 4:00- 7:00	Silent 4:15- 5:15	4:30- 7:15 4:10- 7:30	Silent 5:30- 7:30	4:30- 8:00 4:30- 7:30	4:45- 5:45	405.2	M)			
g d	WKAR	340.7	Silent 9:30-11:00	4:00- 6:00	Silent	Silent	4:00-6:00	4:30- 6:00	4:15- 6:45 Stlent	454.3 340.7	W KA			
d	WKRC	422.3	7:00- 9:00	Silent 3:45- 8:00	7:00- 9:00	7:00-10:00	5:00- 6:15 5:00- 9:00	Silent	Silent	285.5 422.3				
R 3-	WLIT	278 394.5	9:59-10:59 Silent	Silent Silent	Silent Silent	6:00-7:00 3:45-7:00	Silent	6:00 - 7:00 Silent	Silent 3:45- 7:45	278 394.5	WLB			
	WLS WLW	344.6 422.3	4:45-10:00 3:00- 5:00	4:30- 5:55 3:30- 5:30	Silent 6:00 - 7:30	4:00-10:00 4:00-7:00	4:00- 8:30 4:00- 8:00	4:00- 5:55 4:00- 9:13	4:00- 8:30 Silent	344.6 422.3	WL			
	WMAK	265.5	Silent	Silent	5:00- 6:00 Silent	Silent	Silent	7:00- 8:30	Stlent	265.5	WMA			
	WMBB	250	5:00- 7:00 4:00- 7:30	Silent 4:00- 7:80 3:30- 9:00	Silent	5:00- 7:15 4:00- 7:30	5:00- 6:45 4:00- 7:30	5:00-7:15 4:00-7:30	5:00- 7:15 4:00- 7:30	447.5 250	WMA			
t	WMC	499.7	3:30- 9:00 5:30- 7:30	Stlent	3:30- 9:00 5:80- 7:30	3:30-9:00 5:30-10:00	3:30- 9:00 Stlent	3:30- 9:00 5:30- 7:30	3:50-9:00 5:30-10:00	384.4 499.7	WMB			
	WMCA	280.2	5:00 - 8:00 6:00 - 7:00	2:30- 4:00 4:30- 6:30	6:30- 7:30 5:00- 8:00	5:00- 8:00 5:00- 7:00	5:00- 8:00 3:00- 7:00	5:00- 8:00 5:00- 7:00	5:00- 8:00 3:00- 7:00	340.7 280.2	WMC			
S	WNYC	394.5	2:30- 6:20 Silent	5:00- 7:00 5:30- 8:30	3:00- 7:00 3:00- 6:20	3:20- 6:20 6:30- 8:30	3:30- 6:30 Silent	Silent 7:30- 8:30	3:30- 6:20 Silent	526 394.5	WNY			
	WOAN		Silent 4:00-10:15	7:00-8:00 7:00-8:00	7:00 - 8:00 4:00 - 2:30	7:00- 8:06 -4:00- 0:30	7:00- 8:00 Silent	7:00 - 5:00 4:00 - 9:30	7:00 - 8:00		WOA			
ıs	WOC WOI	483.6 270	4:30-10:00 Silent	6:00- 9:30 Silent	Sllent 8:00-11:00	4:30- 6:00	4:30- 8:00	4:30-10:00	4:00- 9:30 4:30- 8:00	483.6	WDAY			
le	WOD	508.2	Silent	2:05- 4:30	4:00-7:30	Silent	1:00- 7:30	6:15- 7:15 Silent	Silent 4:15- 7:30	508.2	WO			
r-	WOR WORD	405.2 275	2:15- 8:00 5:30- 6:30	Silent 3:45- 5:00	2:15- 8:00 5:00- 6:30	2:15- 3:30 5:30- 6:30	2:15- 8:00 5:30- 6:30	2:15- 3:30 5:30- 6:30	2:15- 2:30 5:30- 6:30	405.2 275	WOR			
es	WOS	440.9 299.8	Silent	5:80- 6:30 5:00- 7:00	6:00- 8:00 3:00- 7:30	Silent 4:00- 7:00	6:00 - 8:00 Slight	Silent 3:00- 8:15	6:00 - 8:00 3:00 - 7:00	440.9 299.8	. Wo			
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1-	WRC	468.5	4:00-8:30	Silent	Silent	Silent 4:00- 9:00 5:15- 6:45	Silent	\$11ent 4:00- 8:00	Silent Silent	278 468.5	WRB WR			
e	WRW	273	Stlent 6:00- 8:30	4:30- 5:30 5:00- 8:80	8ilent 6:00-8:30	5:15- 6:45 6:00- 8:30	Silent 6:00- 8:30	5:15- 6:45 6:00- 8:30	Silent 6:00- 8:30	285.5 273	WRE			
n	WSAC	336.9 325.9	Silent 5:00-10:30	Silent	Silent 7:00- 9:00	Silent	5:00- 6:00 4:00- 9:00	Silent	Silent	336.9	WSA			
10	WSB WSMB	428.3	6:00-10:00	Silent 5:30-7:15	6:00-10:00	4:00- 7:00 6:00-10:00	8:45-10:00	4:00-7:00 6:00-10:00	Silent 6:00-10:00		WSA			
11	WSUL		6:30- 8:30 Silent	Stlent 5:00- 8:00	6:30 - 8:30 5:30 - 7:00	Silent	6:30- 8:30 Silent	6:30 - 8:30 Silent	Silent Silent	319 483.6	WSM.			
e- ie	WTAS	302.8	3:00- 9:00 5:00- 7:30	Silent 5:00- 9:00	8:00- 9:00 5:00- 7:30	Silent 5:00-7:30	3:00-10:00 5:00- 7:30	Silent 5:00-10:00	Silent 5:08- 7:30	389.4	WTA			

## An Evening at Home with the Listener In

			(FOI	R CENT					rm end listings copy- production is farbidden.)	T (m)	(FOR	EASTE	RN TIM	IE Or Cit	ies Usin ht Savi	Central ng Time	)	
AT9 CFCA	Saturday Stlent Silent	5:00- 6:00 6:00- 7:00	Monday Silent Silent	Silent 7:15~ 8:15	Silent 7:15- 8:15	7:00- 8:56 7:15- 8:15	Friday Silent Silent	AT9 CFCA	Fort Bragg, N. C Toronto, Ont	Met. 435 356.9	Saturday Silent Silent	Sunday 6:00- 7:00 7:00- 8:00	Menday Silent Silent	Silent 8:15- 9:15	Silent 8:15- 9:15	8:00- 9:55 8:15- 9:15	Silent Silent	AT9
CFCN CHNC CJCA	11:00- 1:00 Silent 10:00-12:00 5:30- 9:30	Silent Silent 8:30- 9:30 Silent	Silent 7:30- 8:30 8:30-10:30 Silent	Silent Silent 8:39~ 9:00 5:30- 9:30	Silent Silent 7:00- 9:00 Silent	9:00-10:00 Silent 10:90-12:00 6:30-7:30	Silent 9:30-12:00	CFCN CHNC CJCA CKAC	Calgary, Alta	434.5 356.9 516.9	12:00- 2:00 Silent 11:00- 1:00	Silent Silent 9:30-10:30	Silent 8:30- 9:30 9:30-11:30	Silent Silent 9:30-10:00	Silent Silent 8:00-10:00	10:00-11:00 Silent 11:00- 1:00	Silent Silent 10:30- 1:00	CFCA CFCN CHNC CJCA
CKAC CKY CNRA CNRO	Silent Silent 6:30-11:30	7:00- 8:45 Silent Silent	Silent Silent Silent	7:30-10:00 6:30-:7:30 Silent	Silent Silent 6:30-11:30	8:00- 9:00 Silent Silent	7:30-10:00	CKY CNRA CNRO	Winning, Man	410.7 384.4 313 434.5	6:30-10:30 Silent Silent 7:30-12:30	Silent 8:00- 9:45 Silent Silent	Silent Silent Silent Silent	6:30-10:30 8:30-11:00 7:30- 8:30 Silent	Silent Silent Silent 7:30-12:30	7:308:30 9:00-10:00 Silent Silent	Silent 8:30-11:00 7:30- 8:30 Silent	CKAC
CYE CYL CYX	10:30-11:45 Silent Silent	Silent Silent Silent	811ent 811ent 9:15-10:30	0:15- 10:15 10:00-11:30 Silent	Silent Silent Silent	Silent Silent Silent	Silent 10:00-11:30 9:15-10:45	CYL CYX	Mexico City, Mex Mexico City, Mex Mexico City, Mex	370 480 330	Silent Silent	Silent Silent Silent	Silent Silent 10:15:11:30	10:15-11:15 11:00-12:30 Silent	Silent Silent Silent	Silent Silent Silent	Silent 11:00-12:30	CYE CYL CYX
KOKA KFAB KFAE	7:45- 8:55 11:00-12:30 Stlent Silent	2:00- 6:80 1:00- 5:00 Silent Stient	7:45- 8:55 7:30-10:00 Silent 9:00-10:00	7:45-10:30 Silent Silent Silent	7:45- 8:55 7:30-10:00 9:30-11:00 Silent	7:00-10:30 Silent Silent Silent	7:15-8:55 7:30-9:30 Silent	KFAB.	Pittsburgh, Pa Lincoln, Nebr Puliman, Wash	309.1 240 348.6	8:45- 9:55 12:00- 1:80 Silent	8:00- 7:30 5:00- 6:00 Silent	8:45- 9:55 8:80-11:00 Silent	8:45- 9:30 Silent Silent	8:45- 9:55 8:30-11:00 10:30-12:00	8:00-11:30 Silent Silent	10:15-11:45 8:45-9:55 8:30-10:30 Silent	KDKA KFAB KFAE
KFAU KFDM KFI KFKU	Silent S: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		KFDM KFI KFKU	Beise, Idaho Beaumont, Texas Los Angeles, Calif Lewrence, Kan	275 315.6 467 275	Silent Silent 9:45~ 3:00 Silent	Silent Silent 7:00- 2:00 Silent	10:00-11:00 81lent 9:45- 2:00 7:50- 0:00	Silent 9:00-10:00 9:45- 2:00 Silent	Silent Silent 9:45 - 2:00	Silent Silent 9:45- 2:00	10:00-11:00 9:00-10:00 9:45- 2:00	KFAU KFDM KFI
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 3:00-10:00	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	Sitent Sitent 8:00-9:00	10:30-12:00 Silent Silent	Silent 10:00-11:00 11:00-12:00	Silent Silent Silent 10:00-11:00	7:50- 9:00 10:30-12:00 8:30- 9:30 Silent	Silent Silent	KFKU KFKX KFMQ
KFNF KFOA KFRU KFUO	7:30- 8:30 8:00- 1:30 7:30-12:00 Silent	6:30-10:00 Silent 5:00- 7:00 9:15-10:15	7:30 - 8:80 8:00-12:00 7:00-10:30 Silent	Silent 8:00- 1:30 10:30-12:00 Silent	7:30-8:30 8:00-12:00 8:00-10:30 9:15-10:15	7:30- 8:30 Silent 10:30-11:30 Silent	7:30- 8:30 8:30- 1:30 II:00- 1:00 Silent	KFNF KFOA KFRU KFUO	Shenandosh, is	266 454.3 394.5 545.1	8:30- 9:30 9:00- 2:30 8:30- 1:00	7:30-11:00 Silent 6:00- 8:00	8:30-9:30 9:00-2:00 8:00-11:30	Silent 9:00- 2:80 11:30-1:00	8:80- 9:30 9:00- 2:00 9:00-11:30	8:30- 9:80 Silent 11:30-12:30	Silent 8:30- 9:30 9:00- 2:30 12:00- 2:00	KFNF KFOA: KFRU
KFVE KFWA KFWB	10:00-12:00 Silent 9:00- 1:00	Silent 10:00-11:00 11:00- 1:00	10:00-12:00 10:00-11:00 8:30- 1:00	10:00-12:00 10:00-11:00 9:45- 1:00 10:00- 3:00	10:00-12:00 10:00-11:00 9:00- 1:00	Silent Silent 9:00- 1:00	10:00-12:00 10:00-12:00 9:00- 1:00	KFVE KFWA KFWB	St. Louis, Mo University City, Mo Ogden, Utah Hollywood, Calif	240 261 252	Silent 11:00- 1:00 Silent 10:00- 2:00	10:15-11:15 Silent 11:00-12:00 12:00- 2:00	Silent 11:00- 1:00 11:00-12:00 9:30- 2:00	11:00-12:00	10:15-11:15 11:00-1:00 11:00-12:00 10:00-2:00	Silent Silent Silent 10:00- 2:00	Silent 11:00- 1:00 11:00- 1:00 10:00- 2:00	KFUB KFVE KFWA KFWB
KGW KHJ	10:00- 8:00 8:00- 2:00 7:30- 1:00	9:30-12:00 8:00- 1:00	10:00- 3:00 8:00- 9:00 9:00- 3:30	11:00- 2:00 1:30- 1:00 Silent	Silent 10:00- 1:00 7:30- 1:00 9:00-10:00	10:00- 3:00 10:00- 2:00 7:30- 1:00 Silent		KHJ .	Oakland, Calif Portland, Ore Los Angeles, Calif	361.2 491.5 405.2	8:30- 2:00	6:30-12:00 10:30- 1:00 9:00- 2:00	11:00- 4:00 9:00-10:00 10:00- 4:30	11:00- 4:00	Silent 11:00 - 2:00 8:30 - 2:00	11:00- 4:00 11:00- 3:00 8:30- 2:00	Silent 12:00- 3:00 8:30- 2:00	K00 KGW KHJ
KIAF KIR KJS	Silent Silent Silent Silent	4:00- 5:00 9:00-10:00 9:15-11:30 Silent	9:00-10:00 8:00-12:00 Silent 8:00- 1:00	Silent 10:00-11:00 Silent	10:30-12:00	12:30- 2:00 10:00-11:00 Silent	10:30-12:00	KIS	Sintipok, Minn Seattle, Wash Los Angeles, Calif	421 384.4 293.9	Silent Silent Silent Silent	3:00- 4:00 10:00-11:00 10:15-12:30	8:00- 9:00 0:00- 1:00 Silent	Silent Silent 11:00-12:00	3:00- 9:00 11:30- 1:00 Silent	Silent 1:30 - 3:00 11:00-12:00	8:00-9:00 11:30-1:00 Silent	KIAF KJR KJS
KLX KNX KOA KOB	8:30- 4:00 10:00- 1:00 Silent	7:00- 1:00 5:30- 9:30 Silent	8:30-2:00 0:00-10:00 8:30-9:30	8:30- 2:00 Silent Silent	9:00- 3:00 9:00- 1:00 Silent	8:30- 2:00 Silent Silent 8:30- 1:00	8:80 - 4:00 9:00-10:00 8:30- 9:30	KNX KOA KOB	Oakland, Calif	508.2 836.9 322.4 348.6	9:80- 5:00 11:00- 2:00 Silent	Silent 8:00- 2:00 6:30-10:30 Silent	0:00 - 2:00 9:30 - 3:00 10:00 - 11:00 9:30 - 10:30	Silent 0:30- 8:00 Silent Silent	9:00- 2:30 10:00- 8:00 10:00- 2:00 Silent	Silent 9:30- 3:00 Silent Silent	9:00 - 1:30 9:30 - 5:00 10:00 - 11:00	KLX KNX KOA
KPO KSD KSL KTHS	8:25- 2:00 7:00- 9:30 9:00-12:00 8:30-10:00	8:30-12:00 Silent 10:00-12:00 8:30-11:30	8:30-1:00 0:00-11:00 9:00-12:00 8:30-10:00	8:30-1:00 -6:30-8:30 10:00-12:00 8:30-10:00	8:30-1:00 7:30-8:30 9:00-12:00 8:30-10:00	Silent: 9:00-12:00 8:30-10:00			San Francisco, Calif St. Louis, Mo Salt Lake City, Utah	428.3 545.1 261 374.8	9:25- 3:00 8:00-10:80 10:00- 1:00 9:30-11:00	9:30- 1:00 Silent 11:00- 1:00	9:30 - 2:00 10:00-12:00 10:00- 1:00	9:30- 2:00 7:30- 9:30 11:00- 1:00	0:30- 2:00 8:30- 9:30 10:00- 1:00	9:30- 2:00 Silent 10:00- 1:00	9:30-10:30 16:00- 2:00 8:30-10:00 11:00- 1:00	KPO KSD KSL
KTW KYW NAA	Silent 6:00-12:30 Silent	9:00-11:30 3:00- 7:00 Silent	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	Hot Springs, Ark	455 535.4 434.5	Bilent 7:00- 1:30 Silent	9:30-12:30 10:00-12:30 4:00- 8:00 Silent	9:30-11:00 Silent Silent	9:30-11:00 Silent 7:00- 11:80 7:45- 3:00	9:30-11:00 Silent 7:00- 1:30	9:30:11:00 Silent 7:00:11:80	9:30-11:15 Silent 7:00- 1:30	KTHS KTW
PWX WABL	7:30-10:00 Silent 11:00- 1:00	Silent Silent Silent	Silent 6:00- 8:00 6:00-12:00	Silent Silent Silent	7:30-10:00 6:00- 8:00 5:30-10:00 10:00-11:30	Silent Silent Silent 10:00-11:30	Silent 6:00- 3:00 6:00- 9:30	PWX WABL WAH6	Havann, Cuba Storrs, Conn. Richmond, N. Y	400 275 315.6	8:30-11:00 Stlent 12:00- 2:00	Silent Silent Silent	7:45- 8:00 Silent 7:00- 9:00 7:00- 1:00	Silent Silent Silent	7:25- 8:40 8:30-11:00 7:00- 9:00 6:30-11:00	7:45- 8:00 Silent Silent Silent	7:45-8:00 Silent 7:00-9:00 7:00-10:30	NAA PWX WABL WAHG
WAMD WBAP WBAR WBAV	10:00-11:00 7:00- 8:00 Silent Silent	2:00-10:00 11:00-12:00 10:00-11:00 Silent	Silent 7:30-12:00 0:00-10:00 7:00- 9:00	10:00-11:00 7:30-10:45 Silent Silent	7:30-10:45 3:00-0:00 Stlent	7:30-10:45 7:30- 8:80 Silent		WAMD WBAP WBAR WBAV	Minneapolis, Minn Fort Worth, Tex Sisiht, Wis Columbus, O	243.8 475.9 406 293.9	11:00-12:00 8:00- 9:00 Silent Silent	3:00-11:00 12:00- 1:00 11:00-12:00 Silent	Silent 8:30 - 2:00 10:00-11:00	11:00-12:00 8:80-11:45 Silent Silent	11:00-12:30 8:30-11:45 9:00-10:00	11:00-12:80 3:30-11:45 8:30- 9:30	11:00-12:00 8:80-11:45 Sijant	WAMD- WBAP- WBAR-
WBBM- WBBR WBCN	7:00-11:00 6:00- 6:45 8:00-12:00	3:00- 9:00 7:00- 8:05 4:00-11:00	Silent 0:00 - 6:50 Silent	7:00-11:00 Silent 8:00- 2:00	7:00- 9:00 Silent 7:00-11:00	7:00-11:00 6:00- 6:50 8:00- 1:00	7:00- 9:00 Sitent 8:00-12:00	WBBM	Chicago, III	226 272.6 266	8:00-12:00: 7:00- 7:45 9:00- 1:00	4:00-10:00 8:00- 9:05 5:00-12:00	8:00-10:00 Silent 7:00- 7:50 Silent	8:00-12:00 Silent 9:00- 3:00	8:00-10:00 Silent	Silent 8:00-12:00 7:00- 7:58	8:00- 9:00 8:00-10:00 Silent	WBBM WBBR
WBZ WCAE WCAL	5:30- 7:55 6:00- 7:30 12:00- 1:00 Silent	6:00- 7:30 2:00- 6:30 8:30-10:00	6:00-7:55 6:00-10:00 11:00-12:00	7:15- 7:55 6:00- 9:00 Silent Silent	6:00 - 7:55 6:30 - 9:00 Silent 5:00-11:00	5:39- 7:55 6:00- 9:00 9:00-10:00 Silent	5:45- 7:55 6:80- 7:30 8:30- 9:00 6:30-11:00	WCAE	Springfield, Mass	333.3 481.3 336.9	6:30- 8:55 7:00- 8:30 1:00- 2:00	7:00- 8:30 3:00- 7:30 9:30-11:00	7:00-8:55 7:00-11:00 12:00-1:00	8:15- 8:55 7:00-10:00 Silent	8:00-12:00 7:00- 3:55 7:30-10:00 Silent	9:00- 2:00 6:30- 8:55 7:00-10:00 10:00-11:00	9:00-1:00 6:45-8:55 7:30-8:30 9:30-10:00	WBCN WBZ WCAE WCAL
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## Radio Digest

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Vol. XIII

Saturday, June 20, 1925

"Silent" Night in Name Only

WITH the erection of a number of high power stations close to Chicago, which even have studios in Chicago, the plan of Monday night being silent for DX listeners, has been lost to the greed of

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 hir. while those stations with transmitters removed some ten, twenty or sixty miles shoot everything they can to the great Chicago andience, 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 dower 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, WJID 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 shans it has a big investment and must sell time Monday nights. WTAS duplicates WHT's statement. WJJD refers to the 20,000 members of the Loval Order of Moose who financed the station, saying that these men want to hear WJJD every night. We wonder if they live in Chicago?

Most of the nearby Monday operating broadcasters daim that the poor crystal fans have six days a week to 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 of the nearby Monday operating broadcasters them their unselective sets would perhaps get a change of diet.

The expensive, or average se

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—inight 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

followed products: tans of the American stations 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

#### 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

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 ef 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 Shoo 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 shoulds 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 hull 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 Revollver a Radio set. "With this set," said Julius, "you can always cut out that consarred local station." Noteworthy was the florat 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 halt of Milwaukee Soft Drink Parlor Dispensers proved a sensation. Wher Florence Gushley sang, "Tell Mother I'll Yote Dry, many an eye which had never looked softer than a tensitute egg shed coplous 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 cornet music would undoubtedly see the point.

#### The Ear-Lap

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

You're only nail oad.
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. share
Condensed in my speaker
From ariel air.

From ariel air.
They rear and they loar,
And they lenp 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.

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"

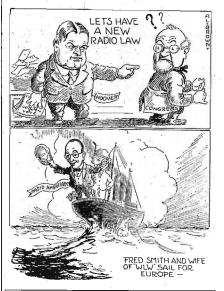
(Send in Your Pet Peeve)

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

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 telegram readers.......and the long-winded mayors and chairman of the Society for the Uplift of Such-and-Such.......and other pseudo orators.

#### 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 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. Several of the broadcasting stations have facilities

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 ofter. WBZ, Springfield, has been generous in the manner of such concerts it has included in the programs. The Huntington music clubs appeared in the stdo of WBZ to spend a large part of one evening having a royal good time while we lans listened in. This is but another sign of musical growth in America. fans listened in. T growth in America.

Dialing down into the land of Georgia, WSB was 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 clinics 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

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 that the confully with investigation and interesting administration. their work carefully with increasing admiration for their balanced playing and studious attention to the intent of each selection rendered. This is truly an

After hunting around to find a violinist capable of impressing a Radio audience, I finally found Miss Magce 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.

## Various Uses of Filament Control Jacks

By Harry C. Lodge

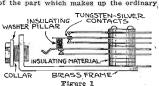
OMPARATIVELY few fans use filament control jacks because the majority of the Radio public does not know how. Most home constructors feel that these jacks are too complicated, hence they resort to the plain variety. There is another reason for not employing these jacks, that is a theory, started by no 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 automatically the filaments light up. When one is through for the evening puil 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.

Types of Filament Control Jacks OMPARATIVELY few fans use fil-

Types of Filament 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,



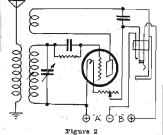
insulation such as bakelite or hard rub-ber. The phone circuit part of the jack is connected in the ordinary way that a jack is connected and is not affected by the presence of the filament control springs.

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 pilar 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 BRASSFRAME

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 ment. This part is insulated from the ends of the springs project a short way rest of the jack usually by a pillar of



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

the single filament control jack is all that is necessary. All that it does is make and break the filament circuit. When the plug is pushed in the bulb lights and when it is withdrawn the filament goes out. This arrangement may be used for any one tube circuit, whether the single circuit, the three circuit, a super-regenerative or a reflex. The phone control part is connected as usual and the filament connected as usual and the filament connected. In figure 2 we have the filament, con-

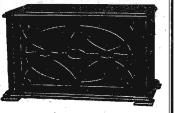
leads.

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 reflex as in this case both tubes are used at once and at all times. In the circuit shown one double filament control and one single filament control jacks are used. 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 oseond jack both tubes are on and ready for use. Fulling out the plug disconnects both tubes.

In figure 4 we have filament control

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.

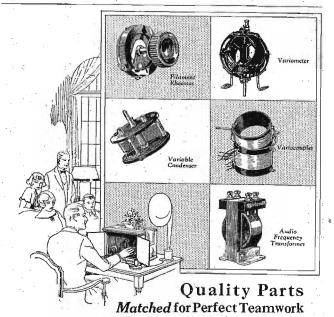
Coming through a Bristol Speaker, all the tones are evenly in tune. The result is an arresting sweetness that "invites" you to stay through a concert to the end.

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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 car. such a delight to the ear,

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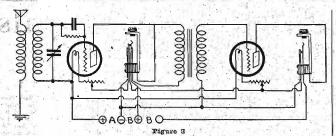


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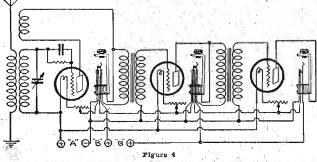


USE OF CONTROL JACKS

(Continued from page 17)

namely, the detector with two stages of quido 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 the twis. 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 the twist 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 in figure 5 filament control jacks are resented 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 199'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 lack. With these, the most common arrangements, one can work out all sorts of combinations for filament control lacks such as detector and four stage, detector with a stage of transformer and two stages of resistance coupled, or detector and three stages of resistance coupled.

Sooret of Correct Wiring

The whole secret of connecting filament control lacks correctly can now be seen, it depends upon remembering that the

The whole secret of connecting filament drop of solder may he centrol jacks correctly can now be seen, contact between the lt depends upon remembering that the phone circuit spring.

#### The Reader's View

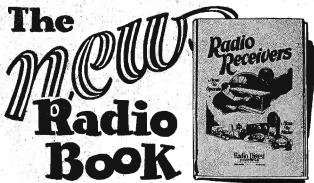
Superstations

Superstations

Being a subscriber of your good magazine and an ardent Radio fan I wish to say that I believe Mr. Kinther 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 deelde 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 sta-tions, but a solution to the problem on how to prevent interference from so many closely alloted wave lengths, which sub-ject goes back to our Mr. Kintner's plan. In closing allow me to thank you for such a splendid magnaine at so reasonable a price.—W. A. Ault, chief engineer, Rich-mond, Ky.



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

VERY phase of Radio reception gathered into one book at 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 agencies.

Subscription Department

### Radio Digest

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Enclosed is \$5.00 in ( ) M. O. ( ) Currency, for which enter to Radio Digest for one year and book, "Radio Receivers."	my subscription
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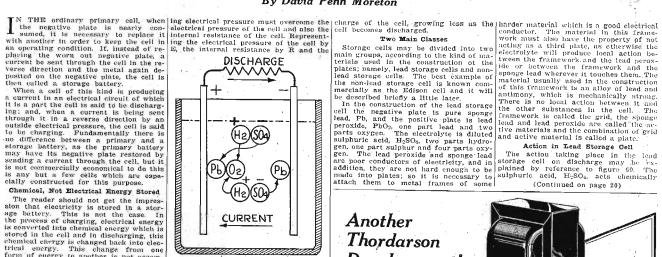
## A. B. C. Course in Radio Fundamentals

#### Chapter XIII—Storage Batteries

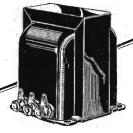
By David Penn Moreton

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 is changed hack into electrical energy. This change from one form of onergy 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 dischurging, 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 in overcoming the internal resistance of the cell. As a result only a part of the electrical pressure in the cell is not a conwhen the cell is being charged, the charg-



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

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THE Thordarson Autoformer System of All Frequency Amplifica-It ten 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.

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.

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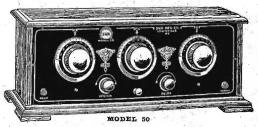


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#### Sun Manufacturing Co. INCORPORATED

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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 bydrogen, H2, and negatively charged SQ4. The SQ4 part of the acid unites with the lead plate, forming lead sulphate; PbSQ4, and gives up its negative charge. The hydrogen carries its positive 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 forming water, H2Q. The sulphuric acid in contact with the positive plate of lead peroxide, PbQ5, is also broken up into H2 ind SQ4. The H2 part of the acid combines with some of the oxygen of the lead peroxide and forms more water. The SQ5 part of the acid unites with the lead, Pb, of the lond peroxide plate and forms lead sulphate on the positive plate. During the process of discharge both plates are being reduced to lead sulphate. During the process of discharge both plates are being reduced to lead sulphate PbSQ4, and the cell will continue to deliver current until the surface of the plates are covered with the sulphate, when of course, all action will cease as there is only one leind 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 acid continually growing weaker. The acid continually growing weaker. The sulphate causes an increase in he acid resultance and it is more bulky than the acid resultance and it is more bulky than the acid resultance in the acid continually bends than the active materials which it replaces there will be an expanding action due to the formation of the sulphate which usually bends the plates out of shape or "buckles" them, as it is commonly called.

Lead Coll Charging Action

#### Lead Cell Charging Action

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, PbSO<sub>4</sub>. When a charging current is sent through a cell, it breaks up the water which was formed during the discharge into positively charged hydrogen, H<sub>3</sub>. and negatively charged saygen, O. Part of the positively charged hydrogen is now attracted to the negative plate

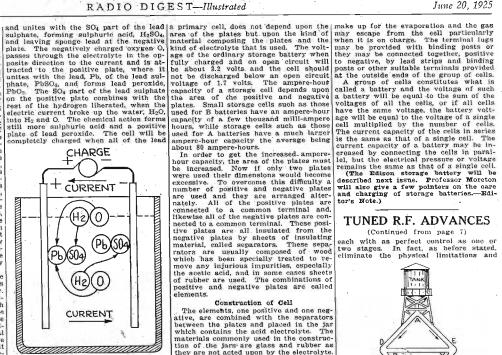


Figure 61

Figure 61
sulphate has been changed over to lead
peroxide and pure lead, and the cell is
then in such a chemical condition that it
can produce a current in a closed electrical circuit.

During the charging process the acid
grows denser and the electrical pressure
increases. The internal resistance of the
cell decreases as the charge is increased
due to the removal of the sulphate from
the surface of the plates.

Simplest Lead Cell; Ampere-Hours
The simplest form of lead cell consists
of two plates immersed in sulphuric acid
placed in a suitable container. The voltage of a storage cell, as in the case of

positive and negative plates are called elements.

Construction of Cell

The elements, one positive and one negative, 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 ease 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

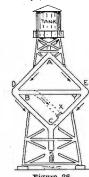
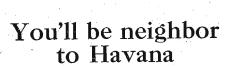


Figure 26

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 (fexo-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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THE THE TAX SEE

Also Ask to See THE IMPROVED

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The Wonder Set

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## The "Goode" Two-o-One

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RADIO TUBE

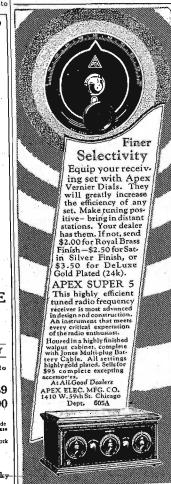
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The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampère. Sve volts, standard base silvered tube.

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## 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 new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much Interested in obtaining such material. Send them in with full details, including stamped envelope, so rejected copy may be returned. The work must be entirely original, not copied.

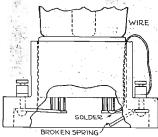
RADIO KINKS DEPARTMENT Radio Digest,
510 North Dearborn St., Chicago

latter station is just 100 yards away I received WHT, Chicago; WQJ, Chicago; WTAY, Onk Park; WDAF, Kansas City: WOAW, Omaha, and KYW, on a loy: Woaw, Omaha, and KYW, on a loy: Solutely no interference from cither 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 L2 is very critical. L2 and C1 log practically the same in picking up a station. If L2 is advanced to 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.

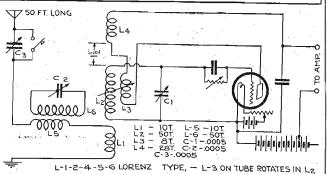
#### Repair for Socket Spring

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 with-



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 cornect binding post on the socket. This will make a permanent repair.—A. H. will make a permanent repair.—A. H. Sime, Somerville, Mass.

#### DIAGRAM AND CIRCUIT CONSTANTS

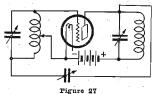


#### TUNED R.F. ADVANCES

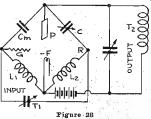
(Continued from page 20

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



Pigure 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-

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

clear, while figure 28 shows hoth 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. Each pair is at opposite points of the bridge. This bridge thus contains two arms which are capacitive and two which are inductive, the inductive arms representing the tuned input circuit Li and L2.

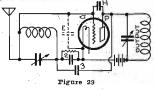


Figure 29

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 clreuit 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, better state in the same of the signal officer of the U. S. army, better state is more pronounced and whore the state is more pronounced and state in the state is more processed in the state is state in the state is state in the state in the state is state in the state in the state is state in the state in the state is state in the state is state in the state is state in the state in the state is state in the state in the state is state in the state in the state is the state in the state in the state is the state in the state in the state is the state in the state in the state is the state in the state in the state in the state is the state in the state in the state in the state is state in the state in the state in

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

Experimenters following kiese 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 the apacity CM are neutralized in TI by currents of opposite phase through the capacity C while the compensation, in theory, 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 eliminate radio frequency loops and foreign capacity coupling in the design and wring 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. Electricity is very largely used during the summer months for cooking purposes, and frequently this throws an overload on the power lines. This causes bad electrical interference with radio reception, and then "Static" gets all the blame.

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 squaels 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:

Ventuemen:— 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
evenings, we sitting on the lawn and the radio running, and my neighbors,
can get nothing except one big roar.

Can you, too, sit on the lawn and enjoy your radio set? Or do you, like Mr.
Bowles neighbors, "get nothing except one big roar"? With the Kane Antennae
you, like Mr. Bowles, will get just as much pleasure and enjoyment from your
radio set during the summer months as you did during the winter.

See for Yourself How the Roar Is Overcome

A dollar bill brings you the working drawing of the Rane 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 buck 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 Working Drawing with Instructions for Freeting, \$1.00

(STAMPS NOT ACCEPTED)

Pestpaid to any part of the United States, or sart 6.0. 0. when 25% of purchase price accompanies order.

Canadian Orders filled by The Kane Antennae Company of Canadia, 1220 Seymour Street, Vancouver, B. G. "HEAR AS YOU HAVE NEVER HEARD BEFORE"

THE KANE ANTENNAE COMPANY, (Dept. C), Hoquiam, Washington



OR the portable set-or for any set that Fis 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 minia ture base) and the Magnatron DC-201A sell for only \$3 each at your dealer's.

CONNEWEY ELECTRIC LABORATORIES

#### Questions and **Answers**

Neutroformer Spacing
(13361) 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 ou a 30-inch panel. My main trouble is that I fall 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 a trible 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-troformers are properly spaced as men-tioned above.

Super Regeneration
(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 colls or variometers if possible. I would like to use only one variable condenses, an elevan plate and able to work a loop fair. I have a Federal No. 35 variocoupler that 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 nieighborhood 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

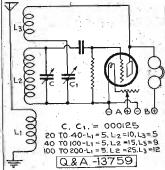
Balesmen calling on radio dealers wanted to handle Radio Tubes as a side line. Thorin Tube Company, Dept "D." Middle-town, Ohio.

#### 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. Frompt, careful, efficient service. Clarence 10.58 O'Erien, Registered Fatent of Security Bank Bilg. (directly across street from Fatent office), Washington, D. C.



S OUT—Complete everlasting ready to run inn-neid.
utilphuting 224-celt rechtercable "P" storage but\$3.55. Includes chemical. Does not look its charge
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A.—As requested, we are showing here-with the Weagant circuit. On it we have noted the values of the various units ne-essary. No one cell can be used to enver 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)

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 per-manently at their center, and as these 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. stadily increasing income. Write today. Tanners Shoe Mtg. Co., 6-431 C Street, Eoston, Mass.





24 Volte Lasts Indefinitely—Pays for Itself Economy and performance unheard of before. Rocharged it a negligible cost. Approving the Approximation of the Ap rugged plates, or other rount of the property of the property

World FOR STORAGE BATTERIES 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 become much easier to construct as a production product. However, a variance module to product as a production product. However, a variance module 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 unusual 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 Rice circuit is that of removing entirely the center tap grid return, and in its place inscring 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 in PATENT'ATTORNEYS

#### PATENT ATTORNEYS

PATENTS. Booklet free. Highest references. Best results. WATSON E. COLEMAN, Patent Lawyer, 644 G Street, Washington, D. C.

SEND IN YOUR Paralyzed Tubes
to be Restored to Health in Our Laboratory

98 % of your worn-out tubes can
We gan REACTIVATE UV-201A. C-801A.
UV-199, C-299 and any other thoristed Blament
seeh as Atlas, Magnaturu Dr. Servet.
WD-12 tubes, nor can we reactivate burned out
tubes.

to Costs You Only \$1.00

If we can rectors your tube so that It operates satitartority of we are not successful, our charge

Willy pay the price for new tubes when we can
make yours as good as new or ooly \$1.00.

MAIL IN YOUR TUBES TO US FOR
PROMPT RETURN, Parel Past, C. O. D.

O'CONNOR & COMPANY Look the name

Radiotron

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

Short Wave Weagant Hoop-Up (13759) JRF, N. Braddock, Pa.

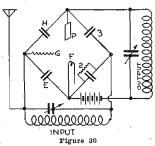
I wish to use the Weagant X circuit for my short wave receiver which is to cover a range of 20 meters to 200 meters. What I wish is a sketch of said circuit siving the condenser capacities, grid leak capacity, number of turns on coils and capacity, number of turns on coils and capacity, number of turns on coils and size of wire. This is wanted for the primary, secondary and tickler coils. I plan using a VT-1 or DV-2 tube.

The turn also the plate battery return in either the of method used in compounding it into a wheatsone bridge circuit. While it is moment to note that two of the arms comprise capacities existent as inherent swill 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 halve the condenser capacities, grid leak capacity, number of turns on coils and capacity, number of turns on coils and the plate and filament. This surely is a ment, of even greater interest is the fact that the remaining two arms are also the capacity and impedence existant between grid and such circuits you should never permit other than common returns for the grid and must be a desirable to the filament, the grid return and halve the plate and filament. This surely is a filament in order to secure desired electron emission.

But it is not permissible and in such circuits you should never permit other than of the pridge 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 order to s



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 39 keeps them on the iob.

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

Securing Wire Ends
To secure ends of the wire on narrow coils, 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 Batterics. Operates Speaker. Clarity, Distance. Write Elicite Radio Co., Box 193, Buffalo, New York.





## Radiophone Broadcasting Stations

#### Corrected Every Week-Part I

Arny, Tues, Thurs, Sai, 8-265 pm, dance music, taiks bands, flabits. Sun, 8-265 pm, dance music, taiks to shoot, flabits. Sun, 8-265 pm, dence music, taiks to shoot, flabits. Sun, 8-265 pm, gerical Enacted at Central.

AVS, Sun, Minn, 400 meters, 6th his Minn, Avrilla, Sun, Sun, 121 pm, 121 pm, 122 pm, 123 pm, 124 pm, 124 pm, 125 pm, 124 pm, 125 pm, 125 pm, 126 pm

Radio Supply Co. Anneancer, E. A. Nielson. Stopan, "When It's Winterline in Michigan It's Summer Time Down Here." Dully 77-130 pm, bedine stories. FCG. Helena. Mont. 241.8 meters. 10 watts. The Eirst Congregational church. Anneancer. Googa C. Stecking. Sun, 10-51 pm, church service: 6:30. Stecking. Sun, 10-51 pm, church service: 6:30. FCF. Walla Walls. Wash. 256 meters. 160 wetts. Frank A. Moore. Slogan. "The Valley They Liked So. FCF. Walla Walls. Wash. 256 meters. 160 wetts. Frank A. Moore. Slogan. "The Valley They Liked So. FCF. Walla Walls. Wash. 256 meters. 160 meters. 170 meters. 171, 3-12 midnight. Pacific. Mon. 8-10 nm. Thrs. FCF. La Mars. 10. 252 meters. 160 watts. Wastern Union College. Announcer. D. O. Kinne. Slogan. "Cat-FCP. La Mars. 10. 252 mm. 230-215. Mountains. St. Michael's Episcopal Cathefreil. Announcer. E. Mark Hanford. Sun, 11:51-230 mm. 230-215. Mountain. Univ. of Arta. Announcer, Mar Voss Kuehler. Irregular srieduids.

Aria. Announcer, Max Voss Kuchier. Arregusar sprincials.

Regretation of the state of the state

i, 12:30-12:55 1m, name concert, 1. m, 8-9 pm. urt; S-10:30, concerts. Sun, 11-12 m, 8-9 pm. urt; S-10:30, concerts. Sun, 10-12 m, 12-12 m, 12-1

D'Alema." Men, Wed, Sat, Sun, 7:30-8:39 pm.
KFF, Moherby Mo. 265 meters. 50 watta. Pirat KFF, Menterby Mo. 265 meters. 50 watta. Pirat 'Bapitat Church. Annumer. Granville Ray. Boots Sionan: "The Gospel Mossenger of the Alt." Sun, 2:45 am, 11, 5 pm. Central. KFFV, Lancell, Ja. 250 meters. 100 watts. Grace-band Collego. Chica for the summer. 100 watts. Chould Collego. Chica for the summer. 100 watts. Louisiana State University. Thurs. 8-9 pm. Central. Louisiana State University. Thurs. 8-9 pm. Central. KFGD. Chickasha, Okla. 252 meters. 200 watta. Okla. College for Women. Tues. Thurs. 8 pm. snetclal KFGH. Stanford Univ. Callf. 270. Indexts. 500 watts. Leland Stanford Junior University. No regular schedule.

Leland Stanford Junior University. No regular schoolKFGL Boone, Ia, 228 meters. 10 watts. Cray
Hardware Co. Announcer, Harvold E. Wilcox. Stogan:
"Daniel Boone Station." Wed. 10-11 pm. Sun, 3-4
KF, Commission, Colo.

KF, Commission, Colo.

KFHA, Gumisson, Colo.

KFHA, Gumisson, Colo.

Where the Sun Shines Every Day."
There, Fri, 6-30 pm, beatine story: S no. mustaler,
KFHA, Owaklosa, Jowa. 240 meters. 10 waits. Penn
College.

Krille Sanceles, Callf. 467 metors 2060 walts. Eurle Krilles Angeles, Callf. 467 metors 2060 walts. Eurle C. Anthony, inc. Announces, Paul W. Reese. Slogan; "The Radia Central Suno-Station." Dally ex Sai, Sun. 3:39-6:10 pm. 6:45-11. Sat. 5:39-6:10 pm. 6:35-11. Sai. 5:39-6:30-11. Sai. 5:39-6

United States

AG6, Canone, O., 25 meters. Rode, 150th Field

AG7, Seve Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg.

AG7, Seve Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg., N. C. 435 meters. 700 watts. P. 1. M. Hirsg., N. C. 435 meters. 100 watts. Rosen.

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AG7, Sev. Hirsg., N. C. 435 meters. 100 watts. Rosen.

AG7, Sev. Hirsg., Sev. And Sev. And Watts. And

11 am, 7:30 pm. Mountain.
KFUO, St. Lunis, Mo. 545.7 meters. 500 walts. Canrecordia Theological Seminary (Lauberan). Announcer,
Pluf. Walter A. Maier. Rom. 5 pm. Wed, 2:15 pm.
Suo, 6 pin, 8:15. Central,
KFUP, Denver, Colo. 234 moters. 50 walts. Fitzsimons

KFUR, Okden, Ulnh. 224 meters. 50 watts. Peery Budding Co. Tace, Thurs, Sat, 9:26-11:59 nm, dance Research Soundain. KFUS, Okland, Calif. 254 meters. 50 watts. Louis Extension, M. D.

KFUT, Suit Lake City, Utah. 261 meters. 100 watts. University of Utah. Tues, Thurs, 12:10 pm. Mountain. Conversity of Cent. Theo, Thurs, 12:10 pm. Mountain.

KFUU, San Leandro, Callf. 224 meters, 50 watts.

Collumn Radio Laboratorics. Announcer, H. C. Collumn.

Slogan, Vuire of the Cherry City. Daily ex Sun.

10-11 am. Wed, Fri, 8-9 pm. Sun, 2-3-30 pm.

Pacific.

KFUV, Springfield, Mo. 252 meters, 10 watts, G. Pear-son Ward. KFUY, Butte, Mont. 254 meters, 5 watts. Irvine H.

son Ward.

KFUY, Rutte, Mont. 254 meters. 5 watts. Irrine H. Bouchard.

FUZ, Virghia Minn. 245 meters. 10 watts. Butten H. Bouchard.

FUZ, Virghia Minn. 245 meters. 10 watts. Butten Minn. 245 meters. 10 watts. Butten Minn. 245 meters. 10 watts. Brozansen. 10 watts. Annother Minn. 10 watts. 10 wa

church. beramentu, Calif. 248 meters. 500 watts. to Chamber of Commerce. neouver, Wash. 231 meters. 10 watts. Army \*RADIO Station.

\*KFVL, Vancouver, Wash. 231 meters. 10 waits. Army

\*Radio Station.

KFYN, Welcome, Minn. 227 meters. 10 watts. Carl igley. Kirksville, Mo. 226 meters. 5 watts. F. M.

Henry.
KFVR, Denver, Colo. 240 meters. 50 watts. Mounlight Branch Bracksting Station.
KFVS, Cape Girardenu, Mo. 224 meters. 60 watts.
"Gone Girardenu Battury Station.
KFVU. Eureks. Cailf. 207. meters. 5 watts. The
Thoric Shop. Diego. Cailf. 246 meters. 509 watts.
KFVX. Bentonville, Ark. 236 meters. 10 watts. Radio
KFVX. Bentonville, Ark. 236 meters. 10 watts. Radio

The Wares of Green Bay." Iwes, Fri. 8-10 pm music. Contral.

RPF. Colar Rapids, Ia. 256 meters. 20 watts. Everet RPF. Colar Rapids, Ia. 256 meters. 20 watts. Everet RPF. Colar Rapids, Ia. 256 meters. 20 watts. Signan. "Annual RPF. Colar Rapids, Ia. 256 meters. 100 watts. U. & N. M. Announcer, Philip S. Donnell. Signan, State Part Rev. M. S. M. Announcer, Philip S. Donnell. Signan, S. M. S. M. M. S. M. S.

#### CHALLENGE!

NE DOLLAR will be paid to the Radiophan submitting the most errors in any one station's listing in this directory. Letters must reach Radio Digest office not later than one week from date of issue corrected. Readers are not limited to correcting one station, but such corrections must be certified by the stations themselves, and NOT by comparison to other so-called accurate Radiocast directories and lists. Station verifications must accompany corrections.

Radiocast directories and lists. Station verifications must accompany corrections.

That's just how sure Radio Digest is that this Radiophone station directory is correct! To make the challenge fair for everyone, Radiocast stations and their employes are barred from this offer. Why? Because the Radiocasters are the source of all the data given herein. They are (or should be) interested enough to answer the inquiry sent them every time data on their station appears. This inquiry contains a proof of their last listing and must either be corrected or O Kd as correct and returned to the Digest. Nevertheless, sometimes the stations are careless

and mistakes are made. But Radio Digest is so sure of the exactness of this directory that this challenge is made unconditionally.

With reference to the directory: It appears in five parts, serially continuously: the first four parts are station data listings, arranged alphabetically: the fifth part is a state, city index of stations. The information contained in each station data listing is given in the following order: Call letters, city, state, wave length used, watts antenna input, owner's name, announcer's name, slogan used if any, name of listener in "club," schedule of operating hours, and kind of time used, as "Central," "Mountain," etc. Asterlsks 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 com-

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.

"Weatinghouse Blee & Mfr. Co. Sloxans. The Em-press of hea Art". "The Funeer Re-Brondensing Sig-tion of the World." Mon. Tons. 820-1 12:30-1 pm, markets, weather. Mon. Thurs, 98:00-1 pm, broadcasts own program. Re-broadcasts KDKA's proprams. Central.

DE CONTAIN CON

Slogan. The New Furniture Co., the Home of Good Furniture, Located at Greenville, Teas. Where You Find "The Blackest Land, the Whitest People." Daily es Sun, 2 pm, mosic. Tues, Wed, Thurs, Fri. 3 gentle Central, I am, services; 7:139 pm, irregularly. Central, I am, services; 7:139 pm, irregularly. KFPR, Los Angeles, Calif. 231 meters. 500 watts. Les Angeles, Christy Mens, Irregular schedule, with Christy Company, I am Company, I am

# Now Hear Radio Music Better Than Ever Before

By the end of this year, we expect to see the beautiful new Crosley Musicone replace at least half a million of the best of present-day radio reproducing devices.

For the Crosley Musicone, designed and built on entirely new principles, covered by basic patents issued and pending, reproduces music and the speaking voice true to life-

> Without distortion, extraneous overtones, resonance vibrations or other horn noises; Over the entire musical scale, from lowest to highest notes, on any instrument;

> Without overloading; and without chattering, because its diaphragm is a floating cone; Without adjustments or additional batteries; Without directional properties or a horn; And at a price that is revolutionary.

Sound from it fills the entire room, the notes clear and round and mellow. No need to cluster round. Every note comes in at its true musical value-in solo, duet, chorus, orchestra and drums.

Your own radio set—no matter what circuit nor how many tubes - needs the Crosley Musicone; and until it has this instrument, it can never give you the best that its maker built into it.

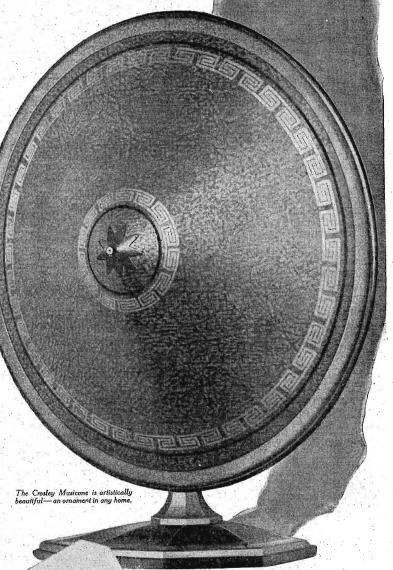
Ten thousand radio dealers are now displaying and demonstrating the beautiful Crosley Musicone.

By all means hear it, and know for the first time what real radio music is. Then equip your set with this beautiful, compact reproducer and no other. Write for complete description.

ERUSICONE The Crosley Radio Corporation, Cincinnati Powel Crosley, Jr., President 6493 Sassafras St.

#### Guarantee

Dealers are authorized to sell the Crosley Musicone on five days' trial in your home. Satisfaction guaranteed or money refunded upon return.



Add 10% West of Rocky Mountains.

Crosley owns and operates station WLW, Cincinnati, the first remotely controlled super-power broadcasting station.