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

Radio

EVERY WEEK PROGRESS

REG. U. S. PAT. OFF.

Vol. XIII SATURDAY,

KDKA TO HUNT EXPLORERS

COOLIDGE IN BUDGET TALK ON WEAF LINK

WILL BE HEARD MONDAY FROM SIX STATIONS

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

NEW YORK.—Fans will have an opportunity to hear addresses of importance to every taxpayer by Calvin Coolidge, president of the United States, and General Lord, director of the bureau of the budget. The addresses will be broadcast during the regular meeting of the budget bureau from 7:30 to 9:00 p. m., 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; WJAR, Providence, R. I.; and WSAI, Cincinnati. Incidental music will be furnished by the U. S. Marine band, Capt. William Santelmann, director.

An opportunity was offered Radio listeners to hear the last session of this bureau, known as the Business Organization of the Government, when it also was broadcast by a chain of stations.

Kathryn Reece Haun, whose lovely voice has won her the title, "Songbird of the Air" at Station WLW.

Above, Kathaline Carr, contralto, who is frequently heard from WEBJ. Right, Eleanor Woodford, soprano, who graces the program at Station KNX in Hollywood.

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

LONDON.—The recent achievement of successful two-way working between England and Australia in broad daylight is a striking indication of the possibilities of short-wave transmission. Senatore Marconi is of the opinion, as a result of exhaustive tests, that a coinbination 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.

CONSENSUS OF OPINION VOTE

Send to Radio Digest, 510 N. Dearborn Street, Chicago

To be forwarded by Radio Digest to the Department of Commerce for the attention of members of Congress.

Scratch off whichever does not apply.

1. Do you want less class B (500 watts or more power) stations?.....Yes No
2. Shall B stations be reduced to 94 in number, so that they can be accommodated satisfactorily in the "other roadways" now available for the use of broadcasting stations?.....Yes No
3. How far away, approximately, is the nearest class B station?.....mi.
4. Are you troubled by B stations heterodyning and interfering with one another? .....Yes No
5. Have you read a description of the Kintner plan?.....Yes No
6. Are you in favor of it or some similar plan which will help clear the air of the present "traffic" congestion?.....Yes No
7. Do you favor the appointment of an unbiased, non-partisan broadcasting control board for the settlement of all differences pertaining to broadcasting and the interpretation of present or future Radio legislation? .....Yes No
8. Include separately a list of five stations you like most and five you dislike most.

How many members in your family?.....

Are all of the same mind as yourself?.....

Name .....

Address .....

City, County, State.....

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

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

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

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

Barnett and Brokenshire Advance

Stanley W. Barnett of WOC, gained two places, while Charles Erbstein, WTAS, and Jerry Sullivan, WQJ, dropped one and two positions respectively.

Another surprise this week is the reappearance in the leaders of Norman Brokenshire, WJZ, who comes up again from oblivion and is now in twelfth place. In the constantly changing and interchanging of positions, Fred Smith, WLW, dropped from thirteenth to sixteenth place, and incidentally forced Frank D. Lane, KFRU, out of the published standing.

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:

1.	George D. Hay, WLS	10,369
2.	Graham McNamee, WEAF	8,738
3.	Gene Rouse, WOAW	5,591
4.	The Hired Hand, WBAP	4,970
5.	H. W. Arlin, KDKA	4,496
6.	Henry Field, KFNF	4,325
7.	W. G. "Bill" Hay, KFKX	3,882
8.	Lambdin Kay, WSB	3,258
9.	N. Dean Cole, WHO	2,905
10.	S. W. Barnett, WOC	2,627
11.	Charles Erbstein, WTAS	2,324
12.	Norman Brokenshire, WJZ	2,186
13.	Jerry Sullivan, WQJ	2,174
14.	Robert Emery, WSKC	1,990
15.	Lee Fitzpatrick, WDAF	1,981
16.	Fred Smith, WLW	1,889

Seems as if the nomination business would continue. This week brought three new names into the contest. They are KFVE, David Franklin; KPRC, Alfred Daniel; and KSD, William Ludgate.

How to Vote and Get Bonus

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

The ballots, top of page two, numbered consecutively, will appear in each issue of the Radio Digest until the close of the contest, with the August 22 number.

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

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

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

Don't connect your receiver to the electric light wire unless you use some approved form of condenser adaptor.

Give Unusual Memorial Day Program at Station WJAG

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

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

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Radio Digest, Illustrated, Volume XIII, Number 11, published Chicago, Illinois, June 20, 1925. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Foreign Postage One Dollar additional; single copies Ten Cents. Entered as second class matter at the post office at Chicago, Illinois, under the Act of March 3, 1879.

Looking Ahead

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 fans 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 McNamee come to the top again, or will Gene Rouse put on another sprint and pass the "Solemn Old Judge"? So far the 1925 Gold Cup Award for the world's most popular Radio announcer is any man's race. Follow the weekly standing.

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

WILL HUNT EXPLORERS

(Continued from page 1)

of members of the expedition tidings of its fate.

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

Arctic Established Record

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-Foot Yacht

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

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

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

Famous Figures to Speak to War Vets from WOAW

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

Records Artists' Voices

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

STATION GLEANINGS AND NEWSY BRIEFS

WEAF INAUGURATES "HUMOROUS HALF HOUR"

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

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

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

* *

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

* *

A full reading course is being given from Station WKRC, Cincinnati, every Wednesday night at 7 o'clock Central time. The reading course and book review 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 Tuesday programs broadcast through WJZ, New York, WRC, Washington, D. C., and WGY, Schenectady, from 7:10 to 8:10 p. m. Eastern time. Three have been given; June 2, 9 and 16. Two remain, June 23 and 30.

* *

Even Radio singers take vacations. Virginia Flohri, the "Radio Nightingale" of KFI, will make a tour of the United States which will take her as far east as New York. She has been asked to sing at important stations in the various cities she will visit. Her vacation is reminiscent of the postman who went out for a hike on his day off.

* *

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

Give Weekly Road Talks

CINCINNATI.—Road service information is broadcast every week from Station WKRC, the new 1,000-watt station operated by the Kodel Radio corporation here, by Ralph D. Metzger, touring manager of the Cincinnati Automobile club. Road logs are avoided as much as possible and the talk is based on descriptive features of national parks and vacation spots to attract motorists during the summer season.

PLAN EXPERIMENT IN COLOSSAL THINKING

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

PLAY AT "ROLLING STONES" ON AIR

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

Ford and Glenn Start Long Tour

"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 kiddies and their parents throughout the nation, started on a transcontinental tour of the United States, June 2. The WLS favorites will broadcast their most popular features over nineteen of the principal stations clear to the Pacific coast.

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

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

"BOTTLED" CONCERT LATEST RADIO STEP

IMPRESS RECORD ON WIRE BY NEWEST INVENTION

Use Magnetic Principle in the Making of "Canned" Music for 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 jazz.

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

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

Words Magnetized Into Wire

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

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

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

Corrections can be made in a wire record by passing a part of it through an intense magnetic field. This completely wipes out the recorded vibrations, and the passage can be remade.

Fans Hear Real Newspaper Interview Through WAMD

MINNAPOLIS.—Radio listeners of the country had a new experience recently when they tuned in on WAMD, broadcasting a telephone interview.

Editor Earle Buell called Frank Burke a Minneapolis newspaper man covering the Lopez-Frazier case, and asked him for the "side lights" of the trial. The entire telephone conversation that followed was heard very plain, over the microphone and carried out over the air. This, is the first time that a Radio audience has heard a genuine newspaper interview.

Inherently Selective

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

Doctor Mu

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

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

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

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

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

The GREBE SYNCHROPHASE

TRADE MARK

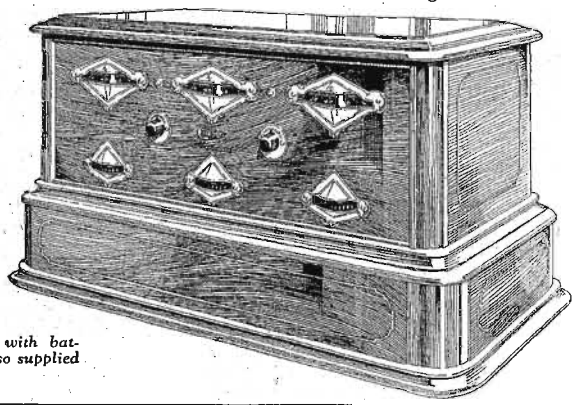
GREBE RADIO

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

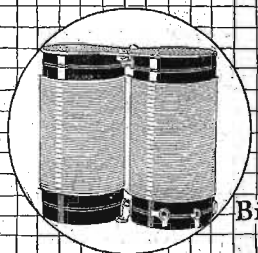
See our product at the PACIFIC RADIO EXPOSITION Civic Auditorium San Francisco AUG 22-28 1925

All Grebe apparatus is covered by patents granted and pending.

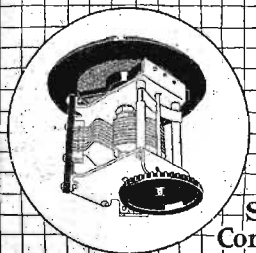
This Company owns and operates stations WAHG, WBOQ; also mobile and marine low wave rebroadcasting stations



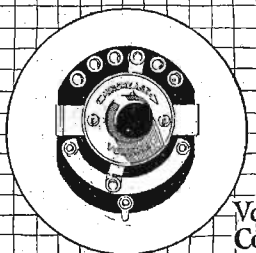
Synchrophase with battery base. Also supplied without base.



Binocular Coils



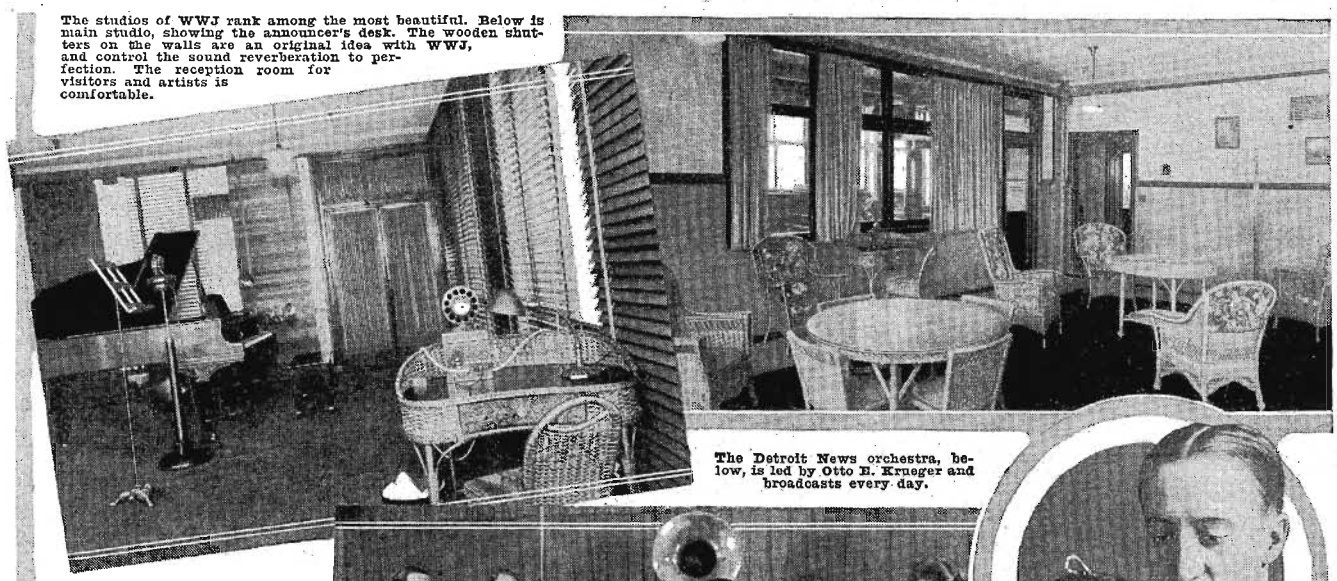
S-L-F Condenser



Volume Control

WWJ—Pioneer of Newspaper Broadcasters

The studios of WWJ rank among the most beautiful. Below is main studio, showing the announcer's desk. The wooden shutters on the walls are an original idea with WWJ, and control the sound reverberation to perfection. The reception room for visitors and artists is comfortable.



The Detroit News orchestra, below, is led by Otto E. Krueger and broadcasts every day.

E. L. Tyson, above, known as "Ty," is director and announcer.

STATION WWJ boasts one of the most venerable records in the history of Radio. This well-known plant, owned and operated by the Detroit News, will celebrate its fifth birthday on August 30 of this year. It was the first newspaper owned station in the United States and therefore the world. It has been broadcasting continuously since it was erected and has expanded in size and power along with the growth of Radio. And now it announces it will soon install a new transmitter of 1000-2500-watt capacity.

A real record of service!

In August of 1920 the Detroit News purchased a 250-watt transmitter. That was even before call letters were used as station designations. The station used the call 8MK. These letters were used for a few months and then WBL was assigned the small broadcaster which was considered large then.

Early in 1922 the first type 1A 500-watt transmitter ever sold was purchased by the News and installed to take the place of the smaller one. With the new station came new call letters. They were WWJ, the ones that are now so well known to a legion of listeners.

The arrival of the more powerful set stirred things up considerably. Just a few weeks after the plant had been installed a sixteen-piece orchestra was organized for the sole purpose of playing for the Radio audience. Regular schedules were made out and the station stepped out of the experimental stage into that of an institution. In passing we might say that to this day the same orchestra is a regular feature of WWJ programs.

About a year ago one of the later types of 500-watt transmitters was installed and Radio broadcasting service moved another notch ahead. Now comes the big new 1000-2500-watter, and with it, the distinction of being the only station outside of WSB at Atlanta, that is so equipped. This will make WWJ one of the most easily heard stations in the country.

As to the personnel of the station, the chief announcer is E. L. Tyson, better known to the great Radio audience as "Ty" Tyson, was with WWJ when it was still 8MK. He is rated by many as one of the best announcers in the country because of his clear and concise method of handling the work. Ty is also program director of the station and through his hands passes all the material that goes to make up the entertainment.

Assisting Tyson is Robert Kelly, who acts as relief announcer and Radio editor of the Detroit News. Kelly is one of the best known Radio men in Michigan.

The Detroit News orchestra, before mentioned, is with WWJ listeners every day including Sundays. It is under the direction of Otto E. Krueger, and all its members play in the Detroit Symphony orchestra.

Walter R. Hoffman is chief engineer at WWJ and handles the operating end of the plant. WWJ's well-known purity of wave is his pride.

Robert Kelly, above to the right, is assistant announcer and Radio editor of the News.

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

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

(*Turn to page 6*)

The operating room. Speech amplifier and remote control board are on desk; transmitter in back.

Two motor generator sets supply WWJ's type 1B 500-watt set. One is for emergencies.

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

MILWAUKEE.—Department editors and special writers on the staff of the Milwaukee 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 now has 750 watts available power and is arranged so that 1,000 watts can easily be radiated.

HERE IS THE RADIO POLICEMAN OF WGR

BUFFALO, N. Y.—Ladies and gentlemen! We introduce to you "The Radio Policeman," Frank R. Clabeaux, of Buffalo's finest. Clabeaux is called The Radio Policeman because he has become of more than passing interest to the WGR staff. Since WGR was established on the roof of the Hotel Statler, Clabeaux has been assigned to duty at the hotel. His official specialty is traffic. His unofficial specialty is Radio.

Frank R. Clabeaux

Probably the average policeman doesn't know any more about Radio than a lot of other people, but that is not the case with Clabeaux. He 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.

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

"Roxy" to Build New Theater of His Own

Vast Auditorium to Be Devoted to Features and Radio

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

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

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

Mr. Rothafel is now in charge of the presentations at the Capitol theater. His contract with them has still some time to run, but the new theater is expected to be completed late in the Fall of 1926.

New Stations and Recent Changes

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

* *

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

* *

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

WWJ—DETROIT NEWS

(Continued from page 5)

One of the latest improvements was the linking of WWJ with WEAF in New York so that Detroit listeners might hear the best offerings from the East.

These things have advanced WWJ until today it stands out as one of the most up-to-date and complete stations in the Middle West.

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

* *

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

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

WILL USE RADIO TO FIGHT FOREST FIRES

KOA TO SEND OUT REPORTS FOR RANGERS IN FIELD

Enlist 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.

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.

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 of this coming season's receiving sets, it seems important to point out that the employment of this well-known principle is not revolutionary within itself.

The Wheatstone bridge plan for the measurement of unknown resistances, capacities and inductances or their combination, has been practiced for a great number of years in the electrical industry. Nearly one hundred circuit combinations covering methods of electrical measurement using this theory have been published and are available at many public libraries. However, it is only of recent date that three, or possibly four, prominent engineers have appreciated its practical oscillation control value, particularly in tuned radio frequency circuits. Therefore, in these circuit marvels one must not be confused into believing that they are untried experiments because to the contrary they represent a practical advancement in the art of science of Radio receptors.

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

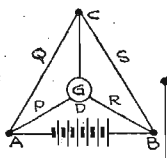


Figure 19

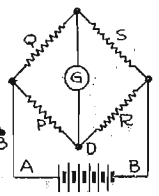


Figure 20

The Wheatstone bridge is usually defined as a network of six conductors and is usually represented as an arrangement of trilateral symmetry about the point D as shown in figure 19.

With this arrangement, a battery is inserted in the branch AB while a galvometer is in series with CD. In practice, adjustments are made of one or more of the several branches until the current through the galvometer G is zero. The circuit is then said to be balanced and

$$\frac{P}{Q} = \frac{R}{S}$$

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 understanding, experimental work will prove but a maze of mysteries. An additional help is figure 20, which is identical with the schematic shown in figure 19, but which has also the resistances inserted.

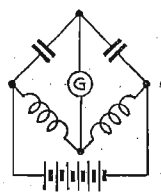


Figure 21

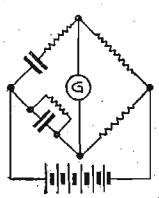


Figure 22

To further aid the experimenter, and not to confuse it with the text, figures 21, 22, 23, 24 and 25 indicate five forms of well-known bridge circuits for the determination of resistance, inductance and capacity, or two or the three in combination both with fixed and variable inductances. Another reason for giving these is that because all three factors enter into the design of input and output circuits of any type, samples of bridge theory modifications are furnished in the hope that they may serve as an inspiration to some of my readers. Often an analogy is helpful in studying causes and effects, and more often it is the one assistance most required by those who have not had the opportunity to make playmates of inductances, resistors and capacities. Hence, in order that I may not be accused of a lack of consideration for those so penalized, in figure 26 I am giving an analogy covering the theory of Wheatstone bridges using the familiar tank of water with connected drain pipes as the illustration indicates.

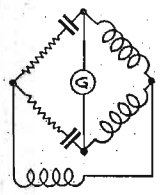


Figure 23

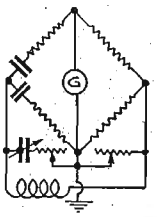


Figure 24

Assuming that AD, AE, DC and EC are interconnected as shown and cross-connected from D to E with equal size discharge piping, then, as the four arms AD, AE, DC and EC are of equal size, the four arms permit water to drain at equal ratio. In this process the cross-connected pipe DE will fill up until the pressure at D and E are equal from A, but water from DE will not flow, as a balance from AE to AD as been established. However, if we open DE at B and connect it at X of CY, then our balance is destroyed and water will flow in BX.

Let us now have it clearly understood in our mind that a bridge circuit in order to be balanced must comprise (so far as Radio receiving circuits are concerned) two points electrically isolated from two other points, and for our further consideration we must consider these isolations as two points of the input or grid filament circuit and the two points of the output or plate filament circuit. Thus it is these two which must be balanced, neutralized or compensated, and it holds that sustained oscillations in the degree of "howling" obviously spell an unbalance between the input and output circuits. Then if it is possible to balance them, through hooking them np Wheatstone, we have obviously solved our problem for the positive control of regeneration and there is no reason, other than a physical one, why we could not hook up fifty or a hundred stages of tuned radio frequency

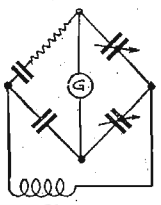


Figure 25

(Continued on page 20)

WINGFOOT GOBLIN HEARD AT WEAR

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.

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

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

The Metropolitan Music Makers from Sedalia 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. Diemer, director of the University Photographic laboratory at the University of Wisconsin will talk on "The Camera in Your Vacation." This talk will give hints on taking photographs in different parts of the country and will be well worth hearing.

WFAA's program for Thursday, lists a series of headliners. Carl D. Green and orchestra (a violin choir), Wednesday Morning Choral club, Jefferson theater entertainers, and Harry Hunt's Imperial orchestra will more than satisfy the fan.

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 listening in.

Saturday, June 20

Saturday, silent night for: AT9, CHNC, CNRT, CKY, KFAE, KFDM, KFUO, KLDS, KLX, WBAP, WBZ, WCAU, WCBD, WCX, WDWF, WEAO, WEBJ, WEEI, WGR, WHA, WHAD, WHAZ, WHB, WHO, WJY, WKAQ, WLIT, WMAK, WOAN, WOI, WOS, WSUI, WTIC, WWJ.

Atlantic or Eastern Daylight Saving Time Stations

CKAC, Montreal, Can. (410), 7:30 p. m., Windsor hotel dinner concert ensemble; 8:30, studio variety program; talks, Province of Quebec; 10:30, Windsor hotel Cascades room dance orchestra.

CNRO, Ottawa, Can. (435), 8 p. m., Chateau Laurier concert orchestra; Irene Miller, pianist; violin duets, Mr. and Mrs. Donald Heins; Maria Ricardi, soprano; Alexander Fraser, reader; trio; Helen Langdon, cellist; string quartet; Chateau Laurier dance orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 12-2 a. m., Ascitto Brothers' dance orchestra.

WBBR, New York, N. Y. (272.6), 8 p. m., Hans Haag, violinist; Fred Twaroschk, tenor; 8:20, Bible questions and answers; 8:40, Fred Twaroschk, tenor; Hans Haag, violinist.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., William Penn hotel; 8, address, Current Motor topics; 8:15, Prof. Otto Kalteis, pianist; 8:30, concert.

WEAF, New York, N. Y. (491.5), 6-7 p. m., dinner music from Waldorf-Astoria; 7-7:15, Mystery quartet; Lotta Madden, Genevieve McKenna, Jane Miller and Jean MacNeill; 7:15-7:30, Moses Levine, violinist; 7:30-7:50, "Trips and Adventures," Fred Turner; 7:50-8, Mystery quartet; 8-8:15, Cecil Brooks, pianist;

Thelma Combes, pianist, is a Chicago artist who will contribute her services this week to the programs given by the Disabled American Veterans' national convention committee at WOAW, Omaha. This committee will have charge of the programs from June 22 through 27.

8:15-8:45, Huyler's Foremost four; 8:45-10:15, U. S. Marine band, direction of Captain William Santelmann; 10:15-10:30, Fenwick Newell, tenor; 10:30-11, "Humorous Half Hour"; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WFI, Philadelphia, Pa. (394.5), 6 p. m., Rey Elrae and his dance orchestra; 6:45, Bellevue Stratford roof garden orchestra.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview with Flora Le Breton, "English Mary Pickford," by Terese Rose Nagel; 3:10-3:20, Solomon Pimsler, pianist; 3:30-3:40, Solomon Pimsler; 3:40-3:50, Emily Mansfield, soprano; 3:50-4, Solomon Pimsler; 6-6:30, Uncle Geebee; 6:30-7, the Criterions; 7-7:10, sports talk, John Regan; 7:10-7:30, the Criterions; 7:30-8:30, Armand Vecsey's orchestra; 8:30-8:40, "Viewpoint of L. F. Loree, President of the D. and H. R. R.," Captain James Archibald; 8:40-9, Edward Morris, composer, and Erva Giles, soprano; 10-10:15, Warren Scofield, baritone; 10:30-11:30, California Ramblers.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program, A. J. Erisman, director.

WHAR, Atlantic City, N. J. (275), 7:30 p. m., Seaside hotel trio; 9, Shelburne hotel concert orchestra.

WHN, New York, N. Y. (360), 8:30-9 p. m., Strand roof orchestra.

WIP, Philadelphia, Pa. (508.2), 3:30 p. m., Comfort's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's philharmonic orchestra; 8:45, "Song of the Surf"; 8:50, Veselli's band; 10:05, Howard Lanin's dance orchestra.

WJAR, Providence, R. I. (305.9), 7:05 p. m., studio program.

WJZ, New York, N. Y. (455), 4-4:02 p. m., baseball scores; 4:30-4:32, baseball scores; 4:32-5:30, tea music; 5:30-5:32, baseball scores; 7-8, Hotel St. Regis' dinner concert; 8-8:02, baseball scores; 8:02-8:30, Phoenix quartet; 8:30-9, William J. Mais, violinist; 9:15-10:30, U. S. Navy program; 10:30-11:30, Joseph Knecht's Waldorf-Astoria dance orchestra.

WLIT, Philadelphia, Pa. (394.5), 2:30 p. m., J. Russell Moore, tenor; Mirian Cohen, violinist; Ester M. Cohen, pianist; 4:30, dance orchestra; 7:30, Arcadia cafe concert orchestra.

WMCA, New York, N. Y. (341), 4-4:15 p. m., Helen Muller, soprano; 4:30-4:45, Helen Muller; 8-8:15, Mario Alvarez, tenor; 8:15-9:15, Fay Foster's operetta; 11:15-12, Ernie Golden and his Hotel McAlpin orchestra; 12-1 a. m., Broadway Bright lights.

WNYC, New York, N. Y. (526), 7-7:25 p. m., dance music, baseball results; 7:35-8, dance program; 8-8:15, talk; 8:15-10:15, concert, 22nd Regiment band direct from the Mall, Central Park; 10:15-10:30, popular songs.

WOO, Philadelphia, Pa. (508.2), 4:15 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's orchestra.

WOR, Newark, N. J. (405), 7:30-8 p. m., the Commanders; 11-12, Ciro's orchestra.

WPG, Atlantic City, N. J. (299.8), 6:40 p. m., baseball; 6:45, organ recital, Arthur Scott Brook; 7, Knickerbocker hotel dinner dance music; 8, baseball; 8:30, special program, Vernon Room, Chalfonte-Haddon hall; 10, Hotel Ambassador dance orchestra; 11, Knickerbocker hotel dance orchestra.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, concert.

KYW, Chicago, Ill. (536), 7-7:30 p. m., Congress hotel dinner concert; 8-9, Mary June McGann, soprano; Lucille Manker, pianist; William Lester, pianist; 9:35-11:30, Congress classic.

PWX, Havana, Cuba (400), 8:30-11 p. m., studio program, Prof. Jose Campos Julian.

WBBM, Chicago, Ill. (226), 8-12 midnight, Harold Winston, Corinne Jordon, Vera Gilbert, Cort Banks, Crillon orchestra; Charlie Garland, William Molnaire, Dave Nudelman, Ned Santry.

WBCN, Chicago, Ill. (266), 8-11:10 p. m., Johnny Special, the Harmonica Acrobat; Marie Wright, soprano; Midway Dancing Gardens orchestra; Ed Dempsey; Albert Blaha; Big Boy Yagle; 11:10-12, Judge Statie's short circuit court.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Charleno dance program, Joe Rudolph and the Boss' Own orchestra; Frank Morris, Polly Willis, John Poat, Eddie Cavanaugh.

WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., novelty dinner concert; 12-3 a. m., "Wingfoot Goblin."

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Sunday school lesson, Dr. Herbert W. Virgin; Leroy North, pianist; 9:30-10:30, Oriole orchestra; Marie Kelly, reader; Kay Ronayne, singer; Langdon Brothers; 11:30-2 a. m., Oriole orchestra; Marie Kelly, reader; Geise Brothers; Langdon Brothers; Paul Small, Loos Brothers.

WGES, Oak Park, Ill. (250), 5-6:30 p. m., Frank Grief, tenor; Loretta Clusman, soprano; Lucille Mathews, violinist; 6:30-7, Cornelia Dungan; 10:30-1 a. m., A. Cavallo and his 11 Master Musicians; Ralph Olson and Hal Cowles; Coyne Electrical School serenaders.

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

WGY, Schenectady, N. Y. (379.5), 8:30 p. m., dance music.

WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., Frank A. Runatz, baritone; Eleanor Kaplin, violinist; Lottie Friedman, soprano; 8:45-10:05, (238), Elmer Kaiser's Riverview Park ballroom orchestra; Al Carney, organist; (399.8), 10:30-12:30 a. m., Si Berg, ukulele; Gus Bing, baritone; Harold R. Morava, tenor; 12:30-1, Al Carney, organist.

WIBO, Chicago, Ill. (226), 6-8 p. m., Agatha Karlen, reader; Hannah Jacobs, pianist; Evelyn Linner, violinist; Carl Linner, accompanist.

WJJD, Mooseheart, Ill. (302.8), 10:30 p. m., entertainment; Geneva organ, Charley Straight's orchestra.

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

WLS, Chicago, Ill. (344.6), 7:45 p. m., lullaby time, Aunt Martha, Uncle George; 8-1 a. m., national barn dance program; Cornhuskers orchestra; Tony Corcoran, Irish baritone; Margaret Garrity, pianist; Williamson Brothers; Walter Peterson; WLS Harmony trio; Nubs Allan, contralto; Grace Wilson, contralto.

WLW, Cincinnati, Ohio (422.3), 7 p. m., WLW dinner hour concert; organ selections, Johanna Grosse.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Tilden high school orchestra; 8, Fred Daw, Russell Pratt; 8:30, Radio photologue, "Glimpses of Brazil," Dr. O. C. Farrington; 9, Chicago theater revue.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., semi-classical program, J. Bodewalt Lampe, director; Beatrice Teller and Trianon ensemble; Ambrose Wyrick, John S. Everett, Rebecca Aguinick, Rita McFawn, Hazel O'Neil, Armin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Walter Ford's Inter-Collegiate orchestra; Fisher and Smith; Harold Stokes; Charles Agna and Trianon syncopators; Florence Tenny; Johnnie Keane; Bob Duffy; Little Orphan Annie presentation, Phyllis Harries as Annie; Emily Schneider, Tony the Janitor's boy; Clyde Hager, Cop, Irish Woman, Pedro the Organ Grinder.

WORD, Batavia, Ill. (275), 8 p. m., Webster hotel orchestra, Fritz Renk and Otto Beyer.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Everett George Opie, reader; Doris Wall, soprano; Edwina Borchelt, alto; Otto A. Moore, baritone; LaVerne Hanson, pianist; 10-3 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan, song writer; Rose Vanderbosch, pianist; Melodians; Hickey and Johnson; Clarence Theders, tenor; Everett George Opie, reader.

WRC, Washington, D. C. (469), 6:45 p. m., "What Does the Farmer Want in Legislation," E. B. Reid; 7, Hotel Washington orchestra; 8, Bible talk; 10, Hotel Mayflower orchestra; 10:30, Crandall's Saturday Nighters.

WSAI, Cincinnati, Ohio (326), 7:40 p. m., children's stories, Mrs. Ethel Knapp Behrman; 8, chimes; 8:15, Bicycle Playing Card sextet; 9, U. S. Playing Card weekly news review, Allison F. Stanley; 9:15, Bicycle Playing Card sextet; 12, popular songs; 12:30 a. m., Freda Sanker's Toadstool orchestra.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Villa Olivia Radio concert; Joe Rudolph and Boss' Own orchestra; Frank Morris, Polly Willis, John Poat, Cavanaughs.

WTIC, Hartford, Conn. (348.6), 6:50 p. m., baseball; 7, team standing.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (240), 11-12:30 p. m., midnight rounders.

KFNF, Shenandoah, Iowa (266), 7:30 p. m., Scotch program, E. S. Dodds, director.

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

KSD, St. Louis, Mo. (545.1), 7 p. m., music, Grand Central theater; 8:30, dance music, City club.

KTHS, Hot Springs National Park, Ark. (374.8), 9:10 p. m., Ray Mullins and his Whittington Park orchestra.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:05 p. m., Dick Long's Nankin cafe orchestra; 8, musicale; 9, baseball; 10, Original George Osborn's Nicollet hotel orchestra.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., address, Rogar W. Babson; Plantation players; 11:45-1 a. m., Merry Old Chief, Plantation players; Johnnie Campbell's Kansas City club orchestra; Charles Dornberger's Kansas City Athletic club orchestra.

WFAA, Dallas, Texas (475.9), 6:30-7:30 p. m., Joy Spreaders orchestra; 8:30-9:30, Dr. Richard Mandell and assisting musicians; 11-12, Adolphus hotel orchestra.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Wisconsin theater organs.

WHAS, Louisville, Ky. (399.8), 3:15 p. m., baseball; 7:30-9, Wayne W. Lowd and his orchestra; fifteen-minute specialty, Clem A. Ellert; baseball.

WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra, specialties.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., musical program, Harry Kohn, director.

WOAW, Omaha, Nebr. (526), 6 p. m., Rialto theater organ recital, George Haupt; 6:20, baseball scores; 6:25, Rialto theater symphony orchestra; Harry Brader, conductor; 7, Brandeis tea room orchestra; 7:30, address; 9, program; 11:15, Arthur Hays and his organ jubilee, World theater; Dr. Applesauce announcing.

WOC, Davenport, Iowa (484), 6:30 p. m., Sandman's visit; 9-10, Rex's band; 11-12, Louis Connor and his LeClaire hotel orchestra; Peter MacArthur, baritone.

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

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 9-12 midnight, Joe Mann and his Rainbow-Lane orchestra.

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

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee program; 6-6:15, McDaniels' nightly doings; 6:45-7, radiotorial talk; 7-7:45, California Serenaders dance orchestra, George Cronk, leader, Sigmund Sachs, violin soloist; 7:45, bookshelf by Miss Nancy; 8-9, program from Examiner by community artists; 9-10, hour of literature and music of the old south; 10-11, Packard Radio club, Way Watts and his ukulele, Ruth and Lilah Carlson, Dorothy Cleveland, Jack Kurtz and others; 11-3 a. m., KFI midnight frolic, stars of stage and screen presented by Don Meany.

KFWB, Hollywood, Calif. (252), 8-9 p. m., news, program, Monte Mar Vista subdividers; Monte Mar Vista dance orchestra, Ron Wilson, leader; Dorothy Dodd, popular songs; Great Western male quartet; 9-10, Warner Brothers syncopators, Charles Beauchamp, tenor; Miller's International Hawaiian trio; 10-11, Warner Brothers frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361.2), 8-10 p. m., Arthur Garcia, violinist; Grace Le Page, soprano; Erwin Holton, tenor; Eva Garcia, pianist; "The Portrait of Manon," one-act opera; 10-1 a. m., Henry Halstead's orchestra.

KGW, Portland, Ore. (491.5), 6-8 p. m., Jackie Souder's orchestra; 10-12, Portland hotel orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog; Helene Pirie, Geo. Ezra Crane, screen juveniles; Henrietta Poland, readings; Uncle John; 8-10, de luxe KHJ program, arranged and presented by J. Howard Johnson; 10-11:30, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader; 12-2 a. m., Lost Angels of KHJ, Majestic Six orchestra.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Sid Ziff's sports talk; 6:15,

Annabel Rucker, although only a student at the Columbia university, has been heard a number of times and will be heard again this week at WMCA, New York. Miss Rucker gives her own original musical readings.

travel talk, W. F. Adler; 6:30-7:30, dinner hour music; 7:30-8, Wurlitzer pipe organ studio; 8-9 KNX feature program; 9-10, program, Brent Furniture company; 10-11, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel; 11-2 a. m., Hollywood night presenting the voices of famous film faces.

KPO, San Francisco, Calif. (428.3), 5:30-6:15 p. m., program, Loew's Warfield theater; 6:15-6:30, baseball; 6:30-6:35, amusement information service; 6:35-7:30, Johnny Buick's Cabirians; 8-12, Johnny Buick's Cabirians.

Sunday, June 21

Sunday, silent night for: CKAC, CHNC, CKAC, CNRT, KFAB, KFAE, KFOA, KSD, KYW, PWX, WAHG, WCAE, WCEE, WCX, WDAF, WDWF, WEAO, WEBJ, WEBW, WGBS, WGR, WHA, WHAD, WHAS, WHAZ, WIP, WLIT, WMAK, WMAQ, WMC, WOI, WOR, WRC, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

WBBR, New York, N. Y. (272.6), 9 p. m., Watchtower string quartet; 9:10, I. B. S. A. choral singers; 9:20, instrumental selections; 9:30, choral singers; 9:35, Bible lecture; 10:05, choral singers; 10:15, Watchtower string quartet; 10:25, choral singers.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., People's Radio church services; 4, John Wesley quartet; 6:30, dinner concert, William Penn hotel.

WCAU, Philadelphia, Pa. (278), 5 p. m., recital; 5:10, undenominational church services; sermon, Rev. John W. Stockwell; Maude Hanson Pettit, musical director; 5:45, short message, Rev. John W. Stockwell; 6:05, Hotel Pennsylvania Interfraternity orchestra; 6:40, recital; 7, Hotel Pennsylvania Interfraternity orchestra.

WDWF, Providence, R. I. (440.9), 10 a. m., chimes; 5 p. m., Venetian serenaders; pipe organ recital.

WEAF, New York, N. Y. (491.5), 3-5 p. m., "Sunday Hymn Sing," Federation of Churches; 7:20-9:15, Roxy and his Gang, Capitol theater; 9:15-10:15, organ recital.

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

WFI, Philadelphia, Pa. (394.5), 4:30 p. m., studio chapel services; 7:30, services, Arch Street Presbyterian church.

WGBS, New York, N. Y. (315.5), 3:30-4:30 p. m., Piccadilly theater program; 9-10, grand opera.

WGR, Buffalo, N. Y. (319), 3-4 p. m., vesper service, direction Christian Endeavor society; 4-5, John W. Newton, organist; 7:45, Central Presbyterian church service, William Wall Whiddit, organist; Dr. Robert J. MacAlpine, speaker.

WHAR, Atlantic City, N. J. (275), 2:30 p. m., sacred recital, Seaside hotel trio; 2:45, sermon, Rev. James Lord, Chelsea-Ventnor M. E. church; 9, concert, Seaside hotel trio, soloists; 11, organ recital, Strand theater.

WHN, New York, N. Y. (360), 3-4 p. m., Queens County Christian Endeavor program; 5-5:30, Roseland dance orchestra; 5:30-6, Olcott Vail and his string trio; 10-10:45, Gem Razor entertainers; 10:45-11:15, Janssen's Hofbrau orchestra.

WIP, Philadelphia, Pa. (508.2), 7:15 p. m., services, Holy trinity church.

WJAR, Providence, R. I. (305.9), 7:20-9:15 p. m., Roxy and his Gang; 9:15-10:15, piano recital.

WJY, New York, N. Y. (405), 8:15-9:15 p. m., Bernhard Levitow's Hotel Commodore orchestra.

WJZ, New York, N. Y. (455), 3:30-4 p. m., Lillian Seckendorf Popper, pianist; 4:30-5, Sarah Borni, soprano; Mario Caitati, cellist; 9-9:30 Lakewood Farm Inn ensemble; Jan Weber, conductor.

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

WMCA, New York, N. Y. (341), 11-12:15 p. m., services, First Church of Christ; 3-4, Letz ensemble; 7-7:30, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 9-11 p. m., Brooklyn Mark Strand theater program.

WOO, Philadelphia, Pa. (508.2), 10:30 a. m., services, Bethany temple; 2:30 p. m., Sunday school exercises, Bethany temple; 6, organ recital, Clarence K. Bawden.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 9:30 a. m., Point Breeze Presbyterian church; 3 p. m., Dr. Charles

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METROPOLITAN MUSIC MAKERS AT WOS

Sunday, June 21

(Continued from page 8)

Heinroth, organist; 3:45, Shadyside Presbyterian church; 6:45, church services.
KYW, Chicago, Ill. (536), 10 a. m., church service; 3-4 p. m., studio concert.
WBCN, Chicago, Ill. (266), 7-8 p. m., classical concert, Walther League; 8-11, Midway Dancing Gardens orchestra; Jack Parker; Casey & Gervias; Big Boy Yagle.
WBZ, Springfield, Mass. (333.3), 9:55 a. m., Church of the Unity, Rev. Charles A. Wing; 8, Ernest Makeshide, director of program; 8:30, Florence Owen, contralto; Howard S. Layman, pianist; Jack Battle, violinist; William S. Self, organist.
WCX, Detroit, Mich. (516.9), 7:15 p. m., services, Central Methodist Episcopal church.
WEAR, Cleveland, Ohio (389.4), 3:30-5 p. m., Hotel Cleveland orchestra; 7-8, Park theater orchestra; 8-9, Vincent H. Percy, organist; 9-10, evening program.
WEBH Chicago, Ill. (370.2), 7-9 p. m., artist's program.
WGES, Oak Park, Ill. (250), 5-7 p. m., John Stamford, tenor; Howard Neumiller, pianist; Edwin Kemp, tenor; Bryce Talbut, baritone; 10:30-12, A. Cavallo and his 11 Master Musicians; Ralph Olson; Andre Scarlotti; Rudolph Hess; Coyne Electrical School serenaders.
WGN, Chicago, Ill. (370.2), 3:30 p. m., faculty artists, Chicago Musical college; 9-10, Drake concert ensemble, Ravenswood Methodist Episcopal church choir.
WGY, Schenectady, N. Y. (379.5), 9:15 a. m., services, First Church of Christ Scientist; 6:30 p. m., service
KLDS, Independence, Mo. (441), 11 a. m., Stone church; Robert Miller, organist; chorus choir; Verlyn Webb, violinist; 6:30 p. m., vesper service; Emma Snead, violinist; Lilabell Allen, soprano; S. A. Burgess, contralto; George Anway, tenor; Frank Russell, bass; sermon, U. W. Greene; 9, KLDS orchestra; Ina Hattie, soprano; sermon, Ralph W. Farrell.
KTHS, Hot Springs National Park, Ark. (374.8), 11-12:15 p. m., First Presbyterian church; Frances Hardin, organist; 9:15, baseball; 9:25, classical recital, New Arlington hotel ensemble.
WCBD, Zion, Ill. (344.6), 8 p. m., trombone quartet; quartet on Celestial Bells; J. D. Thomas, baritone; Mrs. Ruth Pihl, soprano; Edith Carey, contralto; Carey Sisters; John Mehaffey, pianist; Lois Wiedman, reader.
WCCO, Minneapolis-St. Paul, Minn. (416.4), 10:20 a. m., Plymouth Congregational church; 4:10, House of Hope Presbyterian church; 7:15, Hennepin Avenue M. E. church; 9:15, classical concert.
WDAF, Kansas City, Mo. (365.6), 4-5 p. m., classical music; 5-5:30, Sunday school lesson, Dr. Walter L. Wilson.
WFAA, Dallas, Texas (475.9), 6:30-7:30 p. m., Bible class, Dr. William M. Anderson, pastor; Gospel songs; 8-9, First Methodist Episcopal church services; Dora Poteet, organist; 9:30-11, Jack Gardner's orchestra.
WHA, Madison, Wis. (535.4), 4 p. m., baccalaureate address, Pres. E. A. Birge.
WHAS, Louisville Ky. (399.8), 9:57 a. m., organ music; 10, Broadway Christian church services; Rev. Dr. W. N. Briney, pastor; Mrs. Harry Long, organist; 4-5 p. m., vesper song services; Mrs. Neal Loomis, soprano; Caroline Gauld, contralto; Reginald W. Billin, baritone and accompanist.
WHO, Des Moines, Iowa (526), 11 a. m., University Church of Christ, Dr. C. S. Medbury; 7:30, Reese-Hughes orchestra.
WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra, specialties.

Ruth R. Petrotta, (below) soprano, will be the soloist on the Sunday afternoon program at KPO, the Hale Brothers' station at San Francisco.

Senator Harold C. Kessinger of the Fourteenth Senatorial District will give a series of talks at WJJD, Mooseheart, on events at Springfield, so that the Illinois taxpayer may have an unbiased idea of the bills up before the legislature.

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

of First Baptist church; 9:30, grand opera, from WGBS.
WHT, Deerfield, Ill. (399.8), 0:30 a. m.-9 p. m., Paul Rader.
WIBO, Chicago, Ill. (226), 10:15 a. m., Edgewater Presbyterian church; 2-4 p. m., Dorothy Davis Dillow, soprano; Vic Lehman, tenor; William Madden, tenor; Dan Russo, violinist; Ted Fiorito, pianist; 6-8, Hinshaw conservatory; 10-12, Maria Dnaprova, Russian soprano; Victor Young, violinist; Joe Allabough, ukulele soloist.
WJJD, Mooseheart, Ill. (302.8), 12 midnight, frolic, Les Cameron, Walter Fett, Charley Straight's orchestra.
WKRC, Cincinnati, Ohio (422.3), 6:45 p. m., Walnut Hills Christian church; 10, classical program.
WLS, Chicago, Ill. (344.6), 7:30 p. m., Ralph Emerson, organist; 8-8:55, WLS Little Brown Church.
WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, Editorial Staff of Sunday School Publications, Methodist Book concern; 11, services, Church of Covenant, Dr. Frank Stevenson; 7:30 p. m., services, First Presbyterian Church of Walnut Hills; Dr. Frederick McMillan, minister; 8:30, orchestra concert.
WMBB, Chicago, Ill. (250), 7-8:30 p. m., semi-classical program, J. Bedewalt Lampe, director; Beatrice Teller and Trianon ensemble; Marie Caruso, Rita McFawn, Hazel O'Neil, Armin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Walter Ford's Inter-Collegiate orchestra; Geraldine Doyle; Morey Alswang, Cecil Ward, Armin F. Hand and Woodlawn theater orchestra.
WORD, Batavia, Ill. (275), 10 a. m., hymns, sacred songs; address, L. M. Smith; 6:45 p. m., sacred music, address; I. B. S. A. choral singers; Merrie Boyd Mitchell, soprano; James W. Mitchell, baritone; address, G. A. Hall.
WQJ, Chicago, Ill. (447.5), 8-10 p. m., Ralph Williams and his Rainbo Gardens orchestra; Jeanette Van Lennep, soprano; Mary Van Lennep, accompanist; Lucille Mathews, violinist; Gertrude Mathews, accompanist; Ira Hamilton, pianist; Henshaw conservatory.
WREO, Lansing, Mich. (285.5), 10 p. m., baseball.
WSAI, Cincinnati, Ohio (326), 3 p. m., sermonette, sacred chimes concert.
WTAS, Elgin, Ill. (302.8), 2-5 p. m., Sunday afternoon popular concert, Joe Rudolph and the Boss' Own orchestra; 8-12, Villa Olivia Radio concert, Joe Rudolph and the Boss' Own orchestra; Frank Morris, Polly Willis, Fanny and Eddie Cavanaugh.
WWJ, Detroit, Mich. (352.7), 11 a. m., St. Paul's Episcopal cathedral; 2, Detroit News orchestra; 6:20, Roxy and his Gang.

Central Standard Time Stations

CKY, Winnipeg, Can. (384.4), 7 p. m., Broadway Baptist church.
KFAB, Lincoln, Nebr. (240), 4-5 p. m., church service.
KFDM, Beaumont, Texas (315.6), 11-12 m; 8-9 p. m., sacred programs.
KFNF, Shenandoah, Iowa (266), 10:45 a. m., First M. E. church; 2:30 p. m., Rev. and Mrs. Hanley; 3, men's Gospel team; 6:30, Golden Rule Circle; 8, Christian church.
KFUO, St. Louis, Mo. (545.1), 8:15 p. m., "Is it Lawful to Give Tribute unto Caesar?" Rev. P. Koenig; Lutheran noonday quartet.
KFVE, University City, Mo. (240), 6-7 p. m., Radiocast review, Romaine Fielding; 10, sacred recital.
WMC, Memphis, Tenn. (499.7), 11 a. m., Second Presbyterian church, Rev. A. B. Curry.
WOAN, Lawrenceburg, Tenn. (282.8), 9 p. m., Vaughan Radio orchestra.
WOAW, Omaha, Nebr. (526), 9 a. m., chapel service, Rev. R. R. Brown; 9, First Memorial Methodist church, Rev. E. A. Knight.
WOC, Davenport, Iowa (483.6), 1-2 p. m., orchestra, concert, Palmer Little symphony, Erwin Swindell, conductor; 6:45, baseball scores; 8-8:30, services, Rev. Emil F. Bergren; 9:30-11:30, Palmer Little symphony, Erwin Swindell, conductor.
WOS, Jefferson City, Mo. (440.9), 8 p. m., Union religious services.
WSUI, Iowa City, Iowa (483.6), 9 p. m., familiar hymns.

Mountain Standard Time Stations

KFWA, Ogden, Utah (261), 8-11 p. m., musical program, Chamber of Commerce.
KOA, Denver, Colo. (322.4), 11 a. m., Trinity Methodist Episcopal church; 4 p. m., Trinity orchestra; 7:45, Methodist Episcopal church.

Pacific Standard Time Stationc

KFI, Los Angeles, Calif. (467), 6:30 p. m., McDaniels' nightly doings; 6:45, musical appreciation talk; 7-8, from stage and studio of Metropolitan theater; 8-9, KFI's hour of the classics; 9-10, Examiner; Anton Lada and his Louisiana Five dance orchestra; 10-11, Packard Eight orchestra, Bill Hennessy and Chet Mittendorf, co-directors.
KFWB, Hollywood, Calif. (252), 9-11 p. m., late news, Warners Sunday night movie frolic, music, fun and movie stars.
KGO, Oakland, Calif. (361.2), 11 a. m., St. Luke's Episcopal church 3:30 p. m., KGO Little Symphony orchestra 8 St Luke's Episcopal church.
KGW, Portland, Ore. (491.5), 10:30-12 m., First Presbyterian church; Dr. Harold Leonard Bowman, pastor; 7:45-9 p. m., services, First Presbyterian church.
KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 7-7:30, organ recital by remote control from First Methodist Episcopal church, Arthur Blakely, organist; 8-10, program, Martin Music company, arranged by J. Howard Johnson.
KNX, Hollywood, Calif. (336.9), 7-8 p. m., First Presbyterian Church of Hollywood, remote control, Rev. Stewart P. MacLennan, pastor; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, Midsummer Night's Dream program, Beverly Hills nurseries.
KPO, San Francisco, Calif. (428.3), 6-6:30 p. m., Waldemar Lind, States Restaurant orchestra; 6:35-7:30, Palace hotel concert orchestra; 8-8:30, Palace hotel concert orchestra; 8:30-10, Rudy Seiger's Fairmont hotel orchestra.

Monday, June 22

Monday, silent night for: AT9, CKAC, CKY, CNRT, KFAE, KFOM, KGW, KHJ, KLDS, KYW, PWX, WBBM, WBCN, WCAU, WDWF, WEAO, WEBH, WEBJ, WFI, WGN, WGBS, WGES, WHAS, WIBO, WJY, WKAQ, WLS, WMAQ, WMBB, WOC, WOAI, WQJ, WRC, WREO.

Atlantic or Eastern Daylight Saving Time Stations

CHNC, Toronto, Canada (357), 8:30 p. m., CHNC orchestra.
WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m., sports talk, Thornton Fisher; 7:45-8, Edward Kruse, tenor; 8-8:15, Horace J. Taylor, reader; 8:15-8:30, Ruth Haym, soprano; 8:30-9:15, Synchrophase string trio; 9:15-9:30, Edward Kruse; 9:30-9:45, Ruth Haym; 9:45-10:15, Synchrophase string trio; 10:15-10:55, Kentucky Ramblers; 11:05-11:30, Kentucky Ramblers.
WBBR, New York, N. Y. (272.6), 8 p. m., Irene Kleinpeter, soprano; 8:10, vocal duet, Irene Kleinpeter, Fred Franz; 8:20, "Public Safety," C. E. Spayd; 8:40, Fred Franz, tenor; 8:45, Bible instruction from "The Harp of God"; 8:55, vocal duet.
WCAE, Pittsburgh, Pa. (461.3), 6 p. m., dinner concert, William Penn hotel; 8:30, concert; 9, Hamilton ensemble; 11, Press-Kaybee.
WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Henry Kohen, pianist; 4:10-4:20, Joaquin Quevedo, tenor; 4:20-4:30, William Brielofsky, violinist; 4:30-4:40, Henry Kohen; 4:40-5, lecture, "Good Speech," Columbia university; 6-7, dinner music, Waldorf-Astoria; 7-7:15, talk, Parks Conservation association; 7:15-8:15, program, Mark Strand theater and studio, direction of Joseph Plunkett; 8:30-10, Bureau of Budget Meeting; addresses, Calvin Coolidge, General Lord; music, United States Marine band, Captain William Santelman, director; 10-10:30, Invisible Choir from Washington, D. C.; 10:30-11:30, Ben Bernie's Hotel Roosevelt orchestra.
WEEI, Boston, Mass. (476), 6:30 p. m., Big Brother club; 7:30, Boston Saxophone band; 8:15, Tower Health talk; 8:30, from WEAF, Meeting of the Bureau of the Budget, address, Pres. Coolidge, Marine band; 10, Blue Ribbon quartet; 10:30, Ed. Andrews Nautical Garden orchestra.
WFI, Philadelphia, Pa. (394.5), 3 p. m., Loretta Kerk, pianist; 6:45, Bellevue Stratford roof garden orchestra.
WGBS, New York, N. Y. (315.6), 3-4 p. m., authors' program, direction of Harper Brothers; talk, Anna Steese Richardson, writer; Anna Berger, violinist; 6-6:30, Uncle Geebee; 6:30-7, Aladdin dance orchestra; 7-7:10, "Viewpoint of Senator DuBois of Idaho," Captain Archibald.
WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program, A. J. Erisman, director; 6-7, Rush Yates and his Terrace orchestra; 8-9, Buffalo Shrine band; 9-10, mixed program by Buffalo Shriners; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.
WHAR, Atlantic City, N. J. (275), 7:30 p. m., Seaside hotel trio; 9, Shelburne hotel concert orchestra.
WHN, New York, N. Y. (360), 6:30-7 p. m., Palais D'Or orchestra; 8-8:05, talk, "Storage Batteries," H. B. Shontz; 8:05-8:35, Roseland dance orchestra; 8:35-8:40, talk, H. W. Carlough of Terminal Barber Shops; 8:50-9:20, Littmann's Employees orchestra; 11-11:30, organ recital, Loew's Lexington theater; 11:30-12, Silver Slipper revue and orchestra.
WIP, Philadelphia, Pa. (508.2), 3 p. m., "Song of the Surf"; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.
WJAR, Providence, R. I. (305.9), 8 p. m., Berry Spring dance team; 9, A. & P. Gypsy string ensemble.
WJZ, New York, N. Y. (455), 4-5 p. m., Poughkeepsie regatta on Hudson river; 7-8, Bernhard Levitow's Hotel Commodore dinner concert; 8-8:10, Wall Street Journal review; 8:10-8:30, NYU Air College; 8:30-9:30, program, Landay Hall; 10:45-11:45, Jacques Green and his Club Deauville orchestra.
WLIT, Philadelphia, Pa. (394.5), 7:30 p. m., Dream Daddy's bedtime stories; 8, Pennsylvania male quartet; 9, auto talk; 9:30, Stanley theater symphony orchestra and concert; 10, Arcadia cafe dance orchestra; Charles Frey's Million Dollar Pier orchestra.
WMCA, New York, N. Y. (341), 3-5 p. m., musical program; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 9-10, hour of Spanish music, Margaret Taylor.
WNYC, New York, N. Y. (526), 7-7:25, dance music; 7:25-7:30, baseball results; 7:35-7:45, health talk; 8-8:15, "Knotty Problems in Baseball," John R. Foster; 8:15-10:15, concert, Paul Henneberg and his band from the Mall, Central Park; 10:15-10:30, "Trend of the Times," Dr. Sydney N. Ussher.
WOO, Philadelphia, Pa. (508.2), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's roof garden orchestra; 8, Mark Strand theater concert; 8:30, organ recital; Mary E. Vogt; 9, A. and P. Gypsies; 10, organ recital, Mary E. Vogt; 10:30, Hotel Sylvania dance orchestra.
WOR, Newark, N. J. (405), 6:15-7:15 p. m., Ernie

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FORD AND GLENN OF WLS VISIT KOA

Monday, June 22

(Continued from page 9)

Krickott's Cinderella orchestra; 7:15-7:25, sports talk by Bill Wathey; 8:15-8:30, "Learn to Swim," Frank E. Dalton; 8:30-9:30, Al Reid's hour; 9:30-9:45, Dr. Frank H. Vizetelly, lexicographer; 9:45-10:45, Dr. Sigmund Spaeth's hour; 10:45-11:15, two-man singing orchestra, Perry and Russell; 11:30-12, the Commanders.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, concert; 9:55, time signals, baseball.
WBZ, Springfield, Mass. (333.3), 6 p. m., Capitol theater orchestra; 6:30, baseball; 6:32, Capitol theater orchestra; 8, Aleppo Drum Corps or Shriner's band; 8:30, Max Zides, ukulele soloist; 8:45, Marion Haskell, violinist; 9, Alice Ruth Mulelly, soprano; 9:15, folk songs, Alwyn E. Bach; 9:50, baseball.
WCEE, Elgin, Ill., (275), 10:30-12 midnight, Joe Rudolph and the Boss' Own orchestra; Frank Morris, Polly Willis, John Post, Eddie and Fannie Cavanaugh.
WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7, musical program.
WEAR, Cleveland, Ohio (389.4), 7-8 p. m., musicale, Loew's State theater.
WGES, Oak Park, Ill. (250), 5-6:30 p. m., Mrs. Bernard McDevitt, lecturer; Loretta Clusman, soprano; McDevitt Sisters; Blue Devil's orchestra; Coyne Electrical School serenaders; 6:30-7, Cornelia Dungan, bedtime stories.
WGY, Schenectady, N. Y. (379.5), 2 p. m., intercollegiate regatta, Poughkeepsie; 5:30, dinner music, John Fink, Jr.'s orchestra; 6, weekly sport review, Harold Anson Bruce; 6:35, program of music for two pianos, Edna Mereness, J. Austin Springer, Emeline North Bates.
WHAZ, Troy, N. Y. (399.8), 8:15 p. m., Betty Christensen, pianist; William Diefendorf, musical saw soloist; 10, Flush's orchestra.
WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., classical program, Northland trio; Leola Aikman, soprano; John Clark, baritone; (238), 8:45-10:05, Elmer Kaiser's Riverview Park ballroom orchestra; Al Carney, organist; (399.8), 10:30-12:30 a. m., Davida Boyd, whistler; Milton Grossman, saxophonist; Walter Donovan, tenor; 12:30-1, Al Carney, organist.
WJJD, Mooseheart, Ill. (302.8), 10:30 p. m., Geneva organ, Charley Straight's orchestra.
WKRC, Cincinnati, Ohio (422.3), 10 p. m., Benzol entertainers; 11, popular program; 12, regular midnight program, Kodel gang.
WLW, Cincinnati, Ohio (422.3), 7 p. m., dinner hour concert, Hotel Gibson orchestra, Robert Visconti, director; 8:15, entertainment from theater of the Cincinnati Zoological Garden; 9:15, (from WLW studio), piano novelties, Margaret Genter of Lawrenceburg, Ind.; 9:30, concert program, Instrumental trio of violin, cello and piano; Famous Lyric male quartet.
WMAK, Lockport, N. Y. (265.5), 8:30-10:15 p. m., musicale, Max Freedman.
WORD, Batavia, Ill. (275), 8:30 p. m., Bible questions and answers, B. M. Rice; solos and duets, Morleck Sisters; Genevieve Dewey, whistler; Russell Daniels, tenor.
WRC, Washington, D. C. (469), 6-6:30 p. m., United States Navy band.
WSAI, Cincinnati, Ohio (326), 7 p. m., Bureau of Budgets, meeting from New York; Invisible choir; 10, Eugene Perazzo, pianist; Tom Byrne, cellist; Mrs. Maud Layman, soprano.
WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Joe Rudolph and the Boss' Own orchestra; Eddie and Fannie Cavanaugh; Frank Morris, Polly Willis, John Post.
WTIC, Hartford, Conn. (348.6), 6 p. m., Emil Heimbergers Hotel Bond trio; 6:50, baseball; 7, dinner music.
WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, concert from New York; 9, Detroit News orchestra.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (240), 7:30-9:30 p. m., Clyde Davis, violinist; Arthur Rayfield, pianist; Gladys Soller, Bernice Rodaway; Colonians orchestra.
KFNF, Shenandoah, Iowa (266), 7:30 p. m., concert, Henry Field Seed company.
KFUO, St. Louis, Mo. (545.1), 8 p. m., "Honoring Our Parents," Rev. W. Dietze.
KFVE, University City, Mo. (240), 6-7 p. m., Radiocast review, Romaine Fielding; 10, Orchestra Romaine; Big Brother minstrels.
KSD, St. Louis, Mo. (545.1), 9 p. m., program.
KTHS, Hot Springs National Park, Ark. (374.8), 9:15 p. m., baseball; 9:25, Como hotel roof garden orchestra.
WCBD, Zion, Ill. (344.6), 8 p. m., Zion band, string quartet, male quartet, mixed quartet; Mrs. H. E. Mayfield, soprano; Mrs. J. D. Thomas, soprano; Mrs. G. R. Sparrow, contralto; Mrs. P. M. LaRose, contralto; J. D. Thomas, baritone; E. B. Paxton, baritone; G. R. Sparrow, tenor; M. P. Barton, tenor; P. B. Newcomer, cornetist; Richard F. Hire, violinist; Mrs. L. J. Hire, pianist; Fred Faassen, organist; Alexander DePew, flutist; Berm. Newcomer, marimba duets.
WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:05 p. m., sport talk; 6:45, F. & R. Family; 7:30, International Kiwanis convention; 9, baseball; 10, Dick Long's Nankin cafe orchestra; Russell Murphy, baritone.
WDAF, Kansas City, Mo. (365.6), 6-7 p. m., Cecile Burton, reader; Tell-Me-a-Story lady; Plantation players; 11:45, Merry Old Chief; Plantation players; Charles Dornberger's Kansas City Athletic club orchestra.
WFAA, Dallas, Texas (475.9), 6:30-7:30 p. m., Art Collins and his orchestra; 8:30-9:30, Mrs. Belle Biard Gober and entertainers.
WHA, Madison, Wis. (535.4), 7:15 p. m., "Wisconsin Highways and Recreation Grounds," Frank A. Cannon.
WHAD, Milwaukee, Wis. (275), 6-7 p. m., organ music; 8-10, Marquette university studio program.
WHO, Des Moines, Iowa (526), 7:30-8 p. m., Sciota MacAdow Herndon, soprano; Margaret French, accompanist; Stewart Watson, baritone; 8-9, program, Dean Holmes Cowper, director; 11-12, organ recital.
WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra, specialties.
WMC, Memphis, Tenn. (499.7), 7:30 p. m., farm talk, C. W. Watson; 8:30, Hotel Gayoso orchestra.
WOAN, Lawrenceburg, Tenn. (282.8), 9 p. m., Vaughan Radio orchestra.
WOAW, Omaha, Nebr. (526), 5 p. m., Phyllis Griswold, organist; 6:30, McCrory's popular period, Lillian Madsen, director; 6:45, orchestra; 9, DeLuxe program.
WOC, Davenport, Iowa (483.6), 8 p. m., baseball scores.
WOI, Ames, Iowa (270), 10 p. m., popular music.
WOS, Jefferson City, Mo. (440.9), 8 p. m., varied musical program, Rev. J. O. Humphreys, director.
WSMB, New Orleans, La. (319), 6:30-7:30 p. m., dinner program; 8:30-10:30, Leslie George's Pattio Royal orchestra; Fuzzy Wuzzy Twins.
WSUI, Iowa City, Iowa (483.6), 8 p. m., organ recital.

Mountain Standard Time Stations

KFWA, Ogden, Utah (261), 9-11 p. m., studio program.
KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, Madeline V. Brooks studios, Mrs. Jane Gibb, Clifford Mohr, Paul V. Eslinger, accompanists; "Scientific Character and Vocational Analysis," Ernest Kinyoun Hutchison.

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee musicale; 6:15, McDaniels' nightly doings; 6:45, raditorial talk; 7-8, California Serenaders dance orchestra, George Cronk, director, Sigmund Sachs, violin soloist; 8-9, songs and stories of the old west; 9-10, program, Walter M. Murphy Motors company; 10-11, Examiner: Ray West and his Alexandria hotel dance orchestra.
KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 7-8, program, John A. Evans corporation, Hacienda Park dance orchestra; 8-9, program, Cheek-Neal Coffee company, Maxwell House coffee string quartet, Harry Jackson, leader; Miller's International Hawaiian trio; Columbian Instrumental trio; Newton Hall, boy tenor; 9-10, program, E. P. Janes of Altadena, builder; Ray Kellogg and Bill Hatch, the jazz twins and others; 10-11, Warner Bros. frolic, direction Charlie Wellman.
KGO, Oakland, Calif. (361.2), 6-7 p. m., Wiley B. Allen company studio; 8, Amphion trio; "Some Worth-while Agricultural Practices," Prof. C. F. Elwood; "Inside Dope on Curing Automobile Ills," Louis P. Singer; "Letters of Application," W. J. Marra; "Training for Your Vacation," Hugh Barrett Dobbs; 10-1 a. m., Henry Halstead's orchestra.
KGW, Portland, Ore. (491.5), 6-7 p. m., Frederick W. Goodrich, organist; 7:30-8, baseball.
KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio; 6:15, travel talk, W. F. Adler; 6:30-7:30, dinner hour music; 7:30, program, Columbia Outfitting company; 8-9, program, L. W. Stockwell company; 9-10, program, M. Weinstein, dealer in precious stones; 10-11, Goodrich Silvertown Cord dance orchestra, June Pursell, soloist; 11-12, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel.
KPO, San Francisco, Calif. (428.3), 6:30-6:40 p. m., amusement information service; 6:40-7, States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10, C. A. Graham, baritone; Lillian Graham, pianist; H. E. Goetze, violinist; Mrs. Edwin Newhall, accompanist; Misses McEachran, soprano; 10-11, Waldemar Lind, States Restaurant orchestra.

Baseball Scores

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

Atlantic or Eastern Daylight Saving Time Stations

Saturday, June 20: 4:30, WJZ; 5:30, WJZ; 7:25, WNYC; 8, WJZ.
Monday, June 22: 4:30, WCAE; 7:15, WEEI; 7:25, WNYC.
Tuesday, June 23: 7:25, WNYC; 7:45, WEEI.
Wednesday, June 24: 7:25, WNYC; 7:45, WEEI.
Thursday, June 25: 7:25, WNYC; 7:45, WEEI.
Friday, June 26: 7:15, WEEI.

Eastern Standard or Central Daylight 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; 3:55, WWJ; 4, WMAQ; 4:15, 4:30, KYW; 4:45, 5, KDKA; 5:55, WTIC; 6, WGN, WLS; 6:50, WTIC; 7, KDKA; WTIC; 9:55, KDKA; 10, WREO.
Sunday, June 21: 6:30, WBZ; 6:55, WTIC; 9:50, WBZ.
Monday, June 22: 2, WRC; 2:45, WMAQ; 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4, KDKA, WMAQ; 4:30, KYW; 5, KDKA; 5:55, WTIC; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 9:50, WBZ; 9:55, KDKA; 10, WREO.
Tuesday, June 23: 2, WRC; 2:45, WMAQ; 3, 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4, WMAQ; 4:30, KYW; 5, 7, KDKA; 6, WGN, WLS; 6:30, WBZ; 9:50, WBZ; 9:55, KDKA; 10, WREO.
Wednesday, June 24: 2, WRC; 2:45, WMAQ; 3, 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4:30, KYW; 5, WWJ; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 7, KDKA; 9:50, WBZ; 9:55, KDKA; 10, WREO.
Thursday, June 25: 2, WRC; 2:45, WMAQ; 3, 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4:30, KYW; 5, KDKA; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 9:50, WBZ; 9:55, KDKA; 10, WREO.
Friday, June 26: 2:30, KDKA; 2:45, WMAQ; 3, 3:30, KDKA; 3:45, WEAR; 3:55, WWJ; 4, WMAQ; 4:30, KYW; 5, KDKA; 6, WGN, WLS; 6:30, WBZ; 6:50, WTIC; 9:50, WBZ, 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, 4, WDAF; 4:30, WFAA; 5, WDAF; 5:05, WOS; 6:45, WOC; 9, WCCO; 9:15, KTHS.
Monday, June 22: 3:15, WHAS; 3:30, WDAF; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 5:05, WOS; 6, WCCO, WDAF, WOC; 6:30, WSMB; 9:15, KTHS; 9, WCCO.
Tuesday, June 23: 3:15, WHAS; 3:30, WDAF; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6, WCCO, WOC; 6:20, WOAW; 6:30, WSMB; 9:15, KTHS; 9, WCCO.
Wednesday, June 24: 3:15, WHAS; 3:30, WDAF; 4, WCCO; 4:30, WDAF, WFAA; 5, WDAF; 5:05, WOS; 6, WCCO, WDAF, WOC; 6:30, WSMB; 9:15, KTHS; 9, WCCO.
Thursday, June 25: 3, WDAF; 3:15, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 5, WDAF; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 9, WCCO; 9:15, KTHS.
Friday, June 26: 3, WDAF; 3:15, WHAS; 4, WCCO, WDAF; 4:30, WFAA; 6, WCCO, WDAF, WOC; 6:20, WOAW; 6:30, WSMB; 9:15, KTHS; 9, WCCO.

Mountain Standard Time Stations

Monday, June 22, 6, KOA.
Tuesday, June 23: 6:30, KOA.
Wednesday, June 24: 6, KOA.
Thursday, June 25: 6, KOA.
Friday, June 26: 6, KOA.

Pacific Standard Time Stations

Saturday, June 20: 2-5, KNX; 6, KFOA; 6:15, KPO.
Monday, June 22: 6, KFOA; 6:30, KPO; 6:45, KGO; 7:30, KGW.
Tuesday, June 23: 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.
Wednesday, June 24: 2, 3, 4, KNX; 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.
Thursday, June 25: 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.
Friday, June 26: 2, 3, 4, KNX; 6, KFOA; 6:15, KPO; 6:45, KGO; 7:30, KGW.

Tuesday, June 23

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

Atlantic or Eastern Daylight Saving Time Stations

CKAC, Montreal, Can. (410), 7:30 p. m., Windsor hotel dinner concert orchestra; 8:30, Canadian Pacific Steamship orchestra; talks on the Province of Quebec; 10:30, Harold Leonard's Red Jackets orchestra.
CNRA, Moncton, Canada (313), 8:30 p. m., B. M. DeLong, soprano; Ella Courtney, contralto; Evelyn Crowell, pianist; Julius Silverman, violinist; Fred Guildford, baritone; H. V. Musgrave, baritone; CNRA orchestra.
WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 8, program from New York; 8:30, Gold Dust Twins; 9, Eveready hour; 10, Grand opera.
WCAU, Philadelphia, Pa. (278), 6:30 p. m., Billy Hayes and his Cathay tea garden orchestra; 7:30, recital, N. Snellenburg and company; 8:30, Dr. Shor's dental trio; 8:45, Anthony McNichol, tenor; 8:55, talk, Smith and Brodhead Furniture company; 9:30, "What We See and Hear in Music," Maude Hanson Pettit; 10, talk, Rev. John W. Stockwell; 10:30, Billy Hayes and his Cathay tea garden dance orchestra.
WDWF, Providence, R. I. (440.9), 8:30 p. m., Arcadia orchestra.
WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Lela Kelly, soprano; 4:15-4:30, Iris Torn, pianist; 4:30-5, women's program; 6-7, dinner music, Waldorf-Astoria; 7-7:10, Rose Haas, soprano, accompanied by Bernice Maudsley; 7:10-7:30, Columbia University lecture course; 7:30-7:40, Adam Carroll, pianist; 7:40-7:50, Rose Hass; 7:50-8, Adam Carroll, pianist; 8-8:10, talk, Bank of America; 8:10-8:30, "Metes and Bounds," Bishop Luther B. Wilson; 8:30-9, Gold Dust Twins; 9-10, Eveready hour; 10-11, grand opera, "Il Trovatore"; 11-12, dance music.
WEBJ, New York, N. Y. (233), 7-7:30 p. m., Matt Peterson's Alameda club orchestra; 7:45-8, Edith Law, soprano, accompanied by Alice Law; 8-8:10, railroad talk, Garrow T. Geer; 8:15-8:30, Kay McRae, soprano; 8:30-9, Bert Roborn's Society orchestra.
WEEI, Boston, Mass. (476), 6:30 p. m., Big Brother club; 7:30, talk; 7:45, baseball; 8, WEAF musicale; 8:30, Gold Dust Twins; 9, Eveready hour; 10, WEAF Grand opera company.
WFI, Philadelphia, Pa. (394.5), 3 p. m., Caroline Hoffman, pianist; 6:45, Bellevue Stratford roof garden orchestra; 8, concert from WEAF; 8:30, Gold Dust Twins; 9, Eveready hour.
WGBS, New York, N. Y. (315.6), 3:30-3:40 p. m., Hannah Margolis; 6-6:30, Uncle Geebee; 6:30-7, Jersey Collegians; 7-7:10, Radio talk, William Henderson; 7:10-7:30, Jersey Collegians; 7:30-7:45, Phillip Horn, pianist; 8-8:15, Chris Mehan, tenor; 8:15-8:30, Paul Ross, violinist; 8:30-9, dance instruction by Mikhail Mordekin, formerly ballet master of the Imperial theater, Moscow, Russia; Rachael Bodenstein, pianist; 9-9:15, "Viewpoints," Captain Archibald; 9:15-9:30, Gertrude Zeitlin, pianist; 9:30-9:45, Franklin Sierstorff, soprano; 10-10:10, true story, Marguerite Harrison; 10:15-10:30, Marguerite Stern, soprano; 10:30-10:45, Danish songs, Hyo Sorenson.
WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program, A. J. Erisman, director; 8-11, jointly with WEAF, including, Adam Carroll, pianist; address, "Metes and Bounds," Bishop Luther B. Wilson; Gold Dust Twins, Eveready hour, selections from the opera, "Il Trovatore."
WHAR, Atlantic City, N. J. (275), 7:30 p. m., Seaside hotel trio; 9, Shelburne hotel concert orchestra; 11, organ recital, Strand theater.
WHN, New York, N. Y. (360), 2:15-3:15 p. m., overture and vaudeville, Loew's State theater; 7-7:30, Colonial Aces; 9:30-10, Palisades Amusement Park orchestra; 11:30-12, Club Alabam orchestra; 12-12:30 a. m., Parody club revue and orchestra.
WIP, Philadelphia, Pa. (508.2), 3:30 p. m., Comfort's Philharmonic orchestra; 5:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's Philharmonic orchestra; 8:45, "Song of the Surf"; 8:50, Veselli's band; 10:05, movie talk, Eli M. Orowitz; 10:30, Howard Lanin's dance orchestra.
WJAR, Providence, R. I. (305.9), 8:30 p. m. Gold Dust Twins; 9, Eveready hour.
WJY, New York, N. Y. (405), 8:15-8:30 p. m., "Animal Home Builders," R. T. Ditmars of Zoological society.
WJZ, New York, N. Y. (455), 4:30-5:30, Bernhard Levitow's Hotel Commodore tea orchestra; 5:30-6, daily reports; 7-7:15, Frank Dole's dog talk; 7:15-8, Joseph Strissof's Hotel Vanderbilt orchestra; 8-8:10, Wall Street Journal review; 8:10-9:30, Wanamaker program; 9:30-10, A. Duques, clarinetist.
WLIT, Philadelphia, Pa. (394.5), 2 p. m., Arcadia cafe concert orchestra; 4:30, Marcella North, pianist.
WMCA, New York, N. Y. (341), 4:45-4:55 p. m., beauty talk by Mme. Belle; 9-11, musical program; 11-12, Ernie Golden and his Hotel McAlpin orchestra.
WNYC, New York, N. Y. (526), 6:50-7 p. m., market high spots; 7-7:25, song recitals; 7:25-7:30, baseball results; 7:30-7:35, police alarms; 7:35-8, dance music; 8-8:15, talk; 8:15-8:30, song recitals; 8:30-10:30, program by residents of Edgemere, L. I.
WOO, Philadelphia, Pa. (508.2), 4:15 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's roof garden orchestra.
WOR, Newark, N. J. (405), 6:15-6:30 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.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, concert; 9:55, baseball; 10:30, concert, Grand theater.
KYW, Chicago, Ill. (536), 6-6:30 p. m., Congress hotel; 7-7:20, Adelaine Keller, soprano; James Luchansky, tenor; Bernice Perlis, pianist; 7:20-7:45, American Farm Bureau federation, "From Mint to Mushrooms," E. P. Taylor; "Monthly Analysis of Farm Markets"; 7:45-8:15, Chicago musical college; 9-10:30, evening at home program.
WBCN, Chicago, Ill. (266), 8-9 p. m., popular program; Borden Brothers; Midway Dancing Gardens orchestra; Radio talk, Frank H. McDonald; West End Harmony boys; Esther Holmes, reader; 10-11, Bellentine Electric company classical program; 11-12, popular program; Harvy Larsen, baritone; 12-2 a. m., Pirate Ship.
WBZ, Springfield, Mass. (333.3), 0 p. m., Leo Reisman's Hotel Lenox ensemble; 6:30, baseball; 7:30, play, Gladys Ruth Bridgham players; 8:45, Edward Morgan; 9, Hotel Brunswick orchestra; 9:50, baseball.
WCEE, Elgin, Ill. (275), 10:30-12 midnight, Charlene Star midnight dance program, Joe Rudolph and the Boss' Own orchestra.
WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 10, the Red Apple club.
WEAR, Cleveland, O. (389.4), 7-11 p. m., Kingwall string trio.
WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Lydia Lochner, contralto; Riviera theater; 9:30-10:30, Oriole orchestra; Frank Bordner, baritone; Dennis Sisters; 11:30-1 a. m., Oriole orchestra; Jack Penewell, twin guitarist; Sandy Meek, tenor.
WGES, Oak Park, Ill. (250), 5-6:30 p. m., Katherine Forbes, soprano; Edgar Scott, tenor; Lucille Matthews, violinist; 6:30-7, bedtime story, Cornelia Dungan; 10:30-1, A. Cavallo and his Master Musicians; Sandy McTavish, Rudolph Hess; Coyne Electrical serenaders.
WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string quintet; 8:30-9:30, organ recital, studio program; 10:30-11:30, Drake Hotel Terrace Garden program.
WGY, Schenectady, N. Y. (379.5), 5:30 p. m., dinner music, Hotel Van Curler orchestra; 6:35, Bee talk, "The Mason Wasp," L. A. Huguemont; 6:40, WGY orchestra; Elizabeth Youmans, soprano; 7:10, Wanamaker program, Apollo male quartet; Fay Foster, quartet; Aida Brass quartet; Wanamaker organ from WJZ; 8:10, program, Edward A. Rice, violinist; Gertrude Wemple Craig, reader; Mrs. Charles A. Griffin, pianist, from WJZ; 10, Meyer Davis orchestra from WRC.
WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., Ed Kemp, tenor; Agatha Karlen, reader; Dorothy Herman Blum, soprano; (238), 8:45-10:05, Elmer Kaiser's Riverview Park ballroom orchestra; Al Carney, organist; (399.8), 10:30-12:30 a. m., Eleanor Gilmour, soprano; Jane McConnell, contralto; Ned Becker, humorist; 12:30-1, Al Carney, organist.
WJJD, Mooseheart, Ill. (302.8), 10:30 p. m., Rushmore ensemble, Geneva organ, Charley Straight's orchestra.
WKRC, Cincinnati, O. (422.3), 10 p. m., Cosmopolitan quintet; 11, Doc Howard's WKRC entertainers.
WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; 7:15, Cornhuskers orchestra; Brooks Colby, soloist; 7:45, lullaby time, Aunt Martha, Uncle George; 8, "The Mikado," Warren K. Howe; 8:45, "Hamlet," Anthony Wons; 9, Cornhuskers orchestra; Kenneth Clark, Hawaiian guitarist; 10, Williamson Brothers, Joe Trimini; 10:15, Nubs Allan, contralto; 10:30, Cornhuskers orchestra; 10:45, Grace Wilson, contralto; 11, WLS Harmony trio; 11:20, Solemn Old Judge's program, Joe Bren's Minstrel company; 12, midnight revue; Ralph Emerson, organist.
WLW, Cincinnati, Ohio (422.3), 4 p. m., student recital, classes of Leo Stroffregen, Wm. Kyle; 7, WLW dinner hour concert; 8, orchestra; 8:15, soprano solos, Helen Remley, Beulah Barrel, accompanist; 8:30, organ selections; 9, concert program, the Formica con-

(Continued on page 11)

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

MARIMBA ARTIST FEATURE AT WLW

Tuesday, June 23

(Continued from page 10)

cert orchestra; special feature: Armand Le Brun, marimba artist.
WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ; 6:30, Hotel LaSalle orchestra; 8, Jack Chapman's orchestra; 8:30, talk, Harry Hansen; 9:15, Chicago mixed quartet.
WMBB, Chicago, Ill. (250), 7-8:30 p. m., semi-classical program, J. Bodewalt Lampe, director; Beatrice Teller and Trianon ensemble; Ambrose Wyrick; Rita McEwen; Hazel O'Neil; John S. Everett; Avalin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Johnnie Keane, Bob Duffy, Geraldine Doyle, Charles Aane and Trianon orchestra, Fisher and Smith, Florence Tenny, Little Orphan Annie presentation, Phyllis Harris, Annie, Emily Schneider, Tony the Janitor's Boy, Clyde Blazer, Cop, Irish Woman, Pedro, the Organ Grinder.
WORD, Batavia, Ill. (275), 8:30 p. m., World News Digest, G. L. Pyle; 8:50, Webster hotel orchestra; 9, Pamela Newby, contralto; Rudolph E. Magnus, tenor; Florence E. Magnus, accompanist.
WJJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Lou Byram Reed, violinist; Mrs. A. Scott Armstrong, accompanist; Fayette Miller, baritone; Mrs. Adelaide Steer, contralto; 10-1, Ralph Williams and his Rainbo Gardens Skylarks; Everett George Opie, reader; Frank Blasco, boy tenor; Tommy Janecsek, harmonica player; Mack Sisters; Will Rossiter; Ila Shannebrook, soprano; 1-2, Ginger hour.
WRC, Washington, D. C. (469), 7:10 p. m., Wanamaker program; 9:30, "The Political Situation in Washington Tonight," Frederic William Wile; 10, Le Paradis band; 11, Otto F. Beck, organist.
WREO, Lansing Mich. (285.5), 8:15-9:45 p. m., Reo Broadcasting band; Reo male glee club; 10, baseball.
WSAI, Cincinnati, Ohio (326), 6:45 p. m., WSAI studios; 7, Hotel Sinton instrumental trio; 8, Eveready hour of music; 9, Mrs. Haiouk Fikret, soprano; Ronald McFarlan, flutist; George Clifford Cook, bass.
WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Joe Rudolph and the Boss' Own orchestra; Frank Morris, Polly Willis, John Peat, Eddie and Fannie Cavanaugh.
WTIC, Hartford, Conn. (348.6), 6:50 p. m., baseball; 7, Austin organ company; 7:40, E. K. Black, tenor; Gladys Tule, reader; talk on automobile camping; 9, Bill Tasillos orchestra.
WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 7, concert from New York. WEAF.

Central Standard Time Stations

CKY, Winnipeg, Can. (384.4), 8:30 p. m., Manitoba Agricultural college lecture; 8:45, concert, J. A. Banfield Limited; 9:45, popular songs of twenty years ago, Toc H concert.
KFAB, Lincoln, Nebr. (240), 5-6 p. m., Schmoller and Mueller; 11-12:30, midnight rounders.
KFDM, Beaumont, Tex. (315.6), 7-7:30 p. m., children's program; 8-10:30, musical program.
KFVE, University City, Mo. (240), 6-7 p. m., Radiocast review, Romaine Fielding; 10, C. G. Cosby, baritone; readings, Romaine Fielding.
KLDS, Independence, Mo. (441), 8 p. m., Carolyn Elinor Haines, pianist; Thomas Holsworth, reader.
KSD, St. Louis, Mo. (545.1), 6:45 p. m., Abregh's concert ensemble; Aroe Arnesen, violinist.

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

KTHS, Hot Springs, National Park, Ark. (374.8), 9:15 p. m., baseball; 9:25, Meyer Davis.
WCCO, Minneapolis-St. Paul, Minn. (416.4), 6 p. m., baseball; 6:05, Riley's St. Paul hotel orchestra; 7-9, national program from WEAF; 9, baseball; Ohio Kiwanis band.
WOAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Doc-Art; Tell-Me-a-Story Lady; Mandellen Littlefield, pianist; Plantation players; 11:45-1, Merry Old Chief; Carl Nordberg's Plantation players; Charles Dornberger's Kansas City Athletic club orchestra.
WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Hunules School of Hawaiian music; 11-12, Patricia Randle and assisting Dallas musicians.
WHAD, Milwaukee, Wis. (275), 6-7 p. m., organ music.
WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Bible class orchestra; S. J. Cooper, director; talk.
WHO, Des Moines, Ia. (526), 7:30-9 p. m., musical program.
WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra.
WMC, Memphis, Tenn. (499.7), 7:30 p. m., health talk, Dr. E. E. Francis; 8:30, musicale; 11, Harry O. Nichols, organist.
WOAN, Lawrenceburg, Tenn. (282.8), 9 p. m., Vaughan Radio orchestra.
WDAW, Omaha, Nebr. (526), 6 p. m., advice to lovelorn; 6:20, baseball scores; 6:25, program; 9, DeLuxe program; 10:30, orchestra.
WOC, Davenport, Iowa (483.6), 5:45-6 p. m., chimes concert; 6, baseball scores; 6:30-7, Gold Dust Twins 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

CNRR, Regina, Can. (356), 8 p. m., bedtime travel talk, Jingles Kiddies; Grace Newman Mandolin club.

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee musicale; 6-6:15, McDaniels' nightly doings; 6:45, radiotorial talk; 7-8, program, Hills Bros. presenting Hills Brothers dinner-dance orchestra, Way Watts, baritone, and Starr Russell, blue streak of Radio; 8-9, Examiner program arranged by Jean Jacques; 9-10, KFI Burlesquers in a variety program; 10-11, Fackard Ballard hour, Billy and Polly Hall, Ashley Sisters, Edyl Talmadge, Bud Jamison and others.
KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 8-9, late news, program by Western's super-service garage; 9-10, program, Union Oil company of California, Non-detonating dance orchestra, Kathryn Martin, soprano, Miller's International Hawaiian trio; 10-11, Warner Brothers frolic, direction Charlie Wellman.
KGO, Oakland, Calif. (361.2), 6-7 p. m., dinner concert, Wiley B. Allen company; 8, program, Magnavox company, Clyde Gates, violinist; Mrs. Herschell L. Hagan, soprano; Norman Woodside's Metropolitan orchestra; Ruth Waterman, contralto; John T. Brown, harmonica soloist; Ellen Clarke, pianist; Beatrice L. Sherwood, soprano; zither duets, Elsie Maier, Arthur Oetti; Neapolitan Street singers; Emanuel Purcell, baritone; Frank Pigone, bass; 10-1, Henry Halstead's orchestra.
KGW, Portland, Ore. (491.5), 7:30-8 p. m., baseball; 9-10, concert, Woolach & Powell company; 10-12, cm-

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 Multnomah hotel dance orchestra.
KHJ, Los Angeles, Calif. (405.2), 5:30-8 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Plimatrick, director; 6:30-7:30, Belle Clories American history, Prof. Walter Sylvester Hertzog, weekly visit of Queen Titania and Sandman from Fairyland, Chas. Leslie Hill, readings, Uncle John; 7:30, Pigsty Wiggly six string trio; 8-10, program; Los Angeles Income Properties, Inc., arranged by J. Howard Johnson; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.
KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Sid Zoff's sports talk; 6:15, travel talk, W. F. Alder; 6:30-7:30, dinner hour music; 7:30, style talk, Myer Siegel, Jr.; 8-9, program by Bell Press; 9-10, program, George Bray; 10-12, movie night at the Ambassador, Abe Lyman and his Cocoanut Grove dance orchestra.
KPO, San Francisco, Calif. (428.3), 6:30-6:40 p. m., Amusement information service; 6:40-7, Waldemar Lind and the slates Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, program, Madame Lillian Sleikey Putini; 9-10, talk on air service; Emile H. Rovegno, baritone; Mrs. Pelletier, soprano; Mrs. Mark T. H. Shwaydor, contralto; 10-11, Johnny Bulek's Cabirians.

Wednesday, June 24

Wednesday, silent night for: CHNC, CKAC, CKY, CNRT, KFDM, KGO, KLDS, WBBR, WCBD, WDWF, WEBW, WFAA, WFI, WGBS, WGY, WHAR, WHAZ, WJY, WMAK, WMC, WOAW, WOI, WORD, WPG, WRBC, WRC, WREO, WSUI, WTIC.

Atlantic or Eastern Daylight Saving Time Stations

CNRM, Montreal, Can. (411), 9 p. m., orchestra, White Star-Dominion Line "Megantic"; address.
CNRO, Ottawa, Can. (435), 8 p. m., Chateau Laurier concert orchestra; 9, Madame Edouard Laverdure, soprano; Dr. Edouard Laverdure, tenor; Reine Berard, pianist; Madame Charles Pare, mezzo-soprano; dialogue, Emile Boucher, Emile Desrosiers; Chateau Laurier dance orchestra.
WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m., sports talk, Thornton Fisher; 7:45-8, Joe Zimmerman, pianist; 8-8:15, Jack Abbott, tenor; 8:30-8:45, Arthur Elliott, reader; 8:45-9, Hyde Auld, baritone; 9-9:15, Paul Haenssler, pianist; 9:30-9:45, Jack Abbott; 9:45-10, Paul Haenssler; 10-10:55, Anshaw Harmony Girls; 11:30-11:30, Anshaw Harmony Girls.
WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner cert, William Penn hotel; 8:30, concert; 9, concert.
WCAU, Philadelphia, Pa. (278), 6:30 p. m., Hotel Pennsylvania Interfraternity dance orchestra; 8:45, concert, N. B. T. boys; 10:45, Jack Myers' musical architects' dance orchestra.
WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Plectral ensemble; 4:10-4:25, Sara Fuller, soprano; 4:25-4:35, Frances Greenbert, pianist; 4:35-4:50, talk; 4:50-5, Plectral ensemble; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, United Synagogue; 7:30-8, A. Russ Patterson and his artists; 8-9, concert, United States Navy band, direction of Lieut. Charles Benter; 9-10, Ipana hour; 10-11, Royal Little symphony; 11-12, Ben Bernie's Hotel Roosevelt orchestra.
WEBJ, New York, N. Y. (233), 8-8:30 p. m., piano recitals, Norman Hemefeld's pupils; 8:30-8:45, Henryetta Turner, ukulele girl; 8:45-9, Arthur A. Feldman, tenor; 9-9:15, Sara Y. Tuttis, soprano, accompanied by Eleanor Fastenberg; 9:15-9:30, A. Wayne, baritone; 9:30-9:45, harp recital, Madame Gilda Cardoni.
WEEI, Boston, Mass. (476), 6:30 p. m., Big Brother club; 7:15, musicale; 7:45, baseball; 8, Traveler Shoe concert; 8:30, M. R. Cohan's half hour musical; 9, Ipana Toothpaste concert; 10, talk.
WFI, Philadelphia, Pa. (394.5), 6:45 p. m., Bellevue Stratford roof garden orchestra.
WGBS, New York, N. Y. (315.6), 3:10-3:20 p. m., Fauna Gressler, soprano; 3:40-3:50, "Indian Legends," Marion Sutherland; 3:50-4, Fauna Gressler; 6-6:30, Uncle Geebee; 6:30-7, Palisadians orchestra; 7-7:10, "Viewpoint of Postmaster General Harry S. New," Captain Archibald; 7:20-7:30, series of straight-thinking talks, Charles Franklin Jones.
WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 9-10, recital by Ethyel McMullen, pianist; 10-10:30, recital, Cantor Benjamin Levite; 10:30-10:55, Jack Oakes, colored, singing popular songs and playing the ukulele; 11-1 a. m., super-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.
WHN, New York, N. Y. (360), 2:15-2:45 p. m., Jimmy Clark and his White Way entertainers; 2:45-3:15, Carl White's orchestra; 8:15-8:30, Ruby Cowan, tenor; 9-10, Consolidated Dairy orchestra; 10-10:30, Roseland dance orchestra; 10:30-11, Pasisades Amusement Park orchestra; 11:30-12, Silver Slipper revue and orchestra; 12-12:30 a. m., Strand Roof orchestra.
WIP, Philadelphia, Pa. (508.2), 3:30 p. m., Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; Clayton Lewis, pianist.
WJAR, Providence, R. I. (305.8), 7:30 p. m., program from New York.
WJZ, New York, N. Y. (455), 4-4:30 p. m., program, Spanish songs; 4:30-5:30, Hotel Belmont tea music; 7-8, Cafe Boulevard orchestra; 8-8:10, Wall Street Journal review; 8:10-8:30, NYU Air College; 8:45-9:15, S. S. Minnekahda orchestra; 9:30-10, Robert Armbruster, pianist; 10:30-11:30, Billy Wynne's Greenwich Village Inn orchestra.
WKAQ, San Juan, P. R. (340.7), 8-10 p. m., municipal band.
WLIT, Philadelphia, Pa. (394.5), 2 p. m., Areadia cafe concert orchestra; 4:30, "Care of Children," Mrs. Louis Love; 7:30, Dream Daddy's bedtime stories; 8, Florence Haenele, violinist; Dorothy Powers, harpist; Ernestine Bacon, soprano; Pennsylvania taxie quartet; 10, Areadia cafe dance orchestra.
WMCA, New York, N. Y. (341), 3-5 p. m., musical program; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 8-8:30, May Singhi Breen and Peter de Rose; 9-9:30, Nickels trio.
WNYC, New York, N. Y. (526), 6:50-7 p. m., market high spots; 7-7:25, Five Messner Brothers; 7:25-7:30, baseball results; 7:35-8, Five Messner Brothers; 8-8:15, talk; 8:15-10:15, Shannon's Band from the Mall, Central Park; 10:15-10:30, popular songs.
WOO, Philadelphia, Pa. (508.2), 4:45 p. m., organ recital, Mary L. Vogt; 7:30, A. Candeloni's Roof Garden orchestra; 8, concert from WEAF; 10, organ recital; 10:30, Hotel Sylvania dance orchestra.
WOR, Newark, N. J. (405), 6:15-7:15 p. m., Tivoli theater orchestra; 7:15-7:30, sports talk; 7:30-8, Vincent Lopez orchestra; 8-8:15, "Topics of the Day," Spencer Armstrong; 10:15-10:45, Jascha Gurewich Saxaphone ensemble; 11-12, Ciro's orchestra.

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

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, Dry Shiz Hour of Music; 9:35, baseball.
KYW, Chicago, Ill. (536), 6-6:30 p. m., Congress hotel; 7-8, Evelyn Hendricks, soprano; Louis Meehan, tenor; Walter A. Borchardt, violinist; Thomas B. Stephanson, requests; 9-11:30, Chicago Evening American features; Paul Whiteman's Collegians; Albert Hay Malotte, organist.
PWX, Havana, Cuba (400), 8:30-11 p. m., concert, Malecon band stand.
WBCN, Chicago, Ill. (266), 8-11 p. m., exclusive WBCN artists; Borden Brothers; Arends Sisters; Clarence Jones, pianist; Johnny Specht, harmonica acrobat; Ed Dempsey, Irish tenor; Finney Briggs, humorist; West End Harmony boys; Albert Blaha, concertinist; John Williams, baritone; Dick Hogland, tenor; Ruth Webster Cross, reader; "Big Boy" Yagle, bandonist; Peggy O'Neil, soprano; Midway Dancing Gardens orchestra.
WBZ, Springfield, Mass. (333.3), 6 p. m., Hotel Kimall trio; 6:30, baseball; 6:32, Radio nature story, Thornton W. Burgess; 8, Rene F. Dagninalse, pianist; 8:15, Ottilie P. Hesse, contralto; 8:30, popular songs, George Rogers; 8:45, folk songs, Marguerite Le Mans, soprano; 9:50, baseball.
WCEE, Elgin, Ill. (275), 10:30-12, midnight, Joe Rudolph and the Boss's Own orchestra; Frank Morris, Polly Willis, John Peat, Eddie Cavanagh.
WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7, musical program.
WEAO, Columbus, O. (293.9), 8 p. m., faculty lecture; Ellensworth string quartet.
WEAR, Cleveland, O. (389.4), 7-8 p. m., Hotel Cleveland orchestra.
WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; books of the day, Lewellyn Jones; Riviera theater; 9:30-10:30, Oriole orchestra; Kay Ronayne; Robert York, tenor; 11:30-1, Oriole orchestra; Kay Ronayne; Langdon Brothers; Robert York, tenor; Gorman Brothers.
WGES, Oak Park, Ill. (250), 5-6:30 p. m., Margaret Hayes, soprano; Bryce Talbot, baritone; Earl Weitland, pianist; 6:30-7, Cornelia Dungan; 10:30-1, A. Cavallo and his 11 Master Musicians; Ralph Olson; Erwin Plecity, tenor; Cyrno Elen, school sorenaders.
WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Drake Concert ensemble, Blackstone string quintet; 8:30-9:30, studio program, organ recital; 10:30-11:30, Drake Hotel Terrace Garden orchestra.
WGY, Schenectady, N. Y. (379.5), 5:30 p. m., children's story; 5:45, Albany Strand Symphony orchestra, Julius Boshorn, conductor; Floyd H. Walters, organist; 6:30, feature from Book of Knowledge.
WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., Oscar Heather, tenor; Adele Brandt, contralto; Herman Bing, baritone; (238), 8:45-10:05, Elmer Kaiser's Riverview Park ballroom orchestra; Al Carney, organist; (399.8), 10:30-12:30, Si Benz, ukulele; Gus Bing, baritone; Harold R. Morava, tenor; Ned Becker, humorist; Dorothy Wilkens, Thora Martens; 12:30-1, Al Carney, organist.
WJJD, Mooseheart, Ill. (302.8), 10:30 p. m., Geneva organ, Charles Straight's orchestra.
WKRC, Cincinnati, O. (422.3), 8 p. m., weekly book review and reading course, Alice B. Coy; 8:15, Lelia LeMarr, pianist; 8:45, special features; 9:15, harmony time, Bob Greenlee, Jim Mischler.
WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; Martha Meier, contralto; 8:30, Ralph Emerson, organist; 7:15, Cornhuskers' orchestra; 7:45, lullaby time; 8, Cornhuskers' orchestra; 8:15, Lone Scout program; 8:45, WLS theater, Anthony Wons; 9, R. F. D. program; Harold Smith, saxophonist; Ralph Emerson, organist; 10, Cornhuskers' orchestra; 10:10, Apollo club of Chicago; Little Symphony; 11:20-11:30, Cornhuskers' orchestra.

(Continued on page 12)

PRESIDENT COOLIDGE TALK MONDAY

Index to Popular Concerts

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

Popular

Atlantic or Eastern Daylight Saving Time Stations

Saturday, 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, WEEI, WJAR; 10, WHN.

Monday, June 22: 7:30, WEEI, WHAR; 8, WGR; 8:30, WAHG, WBZ, WOR; 9, WEAF, WEEI, WJAR, WOO; 9:45, WAHG; 10:15, WAHG; 10:45, WOR.

Tuesday, June 23: 7, WHN, 7:30, WHAR; 8:30, CKAC, WCAE, WEAF, WEEI, WFI; 8:45, WBZ; 12, WHN.

Wednesday, June 24: 7, WNYC; 8:30, WNYC; 9, WMCA; 10, WAHG; 10:15, WNYC; 10:30, WGR.

Thursday, June 25: 7:30, WEAF; 8, WHN; 9, WEAF, WGBS; 9:30, WGBS; 10, WHN; 11, WMAK; 12, WHN.

Friday, June 26: 6:30, WGBS; 7, WGR, WHN; 7:30, WHAR; 7:45, WAHG; 8, WAHG, WEAF; 8:15, WAHG; 8:30, WEAF; 8:45, WAHG; 9:30, WEEI; 10:45, WEAF; 11:30, WHN; 12, WHN.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, June 20: 6, WIBO; 7, WEAR, WLS; 8, WBBM, WBCN, WIBO, WLS, WMAQ; 8:30, WMBB, WTAS; 9, WBBM, WBCN, WLS, WTAM; 9:30, WEBH, WGN, WMBB, WHT; 10, WBBM, WBCN, WKRC, WLS, WMBF, WQJ, WTAM; 10:30, WEBH, WGES, WJJD, WRC; 11, WBBM, WHT, WKRC, WLS, WQJ, WTAM; 11:30, WEBH, KGES; 12, WEAR, WHT, WLS, WQJ, WSAI; 12:30, WEBH, WGES; 1, WEAR, WQJ; 2, WEAR, WQJ.

Sunday, June 21: 6:20, WWJ; 8, WBBM, WBCN, WTAS; 8:30, WTAS; 9, WBBM, WBCN; 9:30, WTAS; 10, WBCN, WIBO, WMBF; 10:30, WJJD, WTAS; 11, WGES, WIBO, WMBF; 11:30, WTAS.

Monday, June 22: 8, WTAS; 8:30, WBZ; 9, WTAS; 10, WKRC, WTAS; 10:30, WCEE, WJJD, WMBF; 11, WKRC, WSAI; 11:30, WCEE, WMBF; 12, WKRC.

Tuesday, June 23: 8, WBBM, WBCN, WBZ, WTAS; 8:30, WMBB; 8:45, WBZ, WHT; 9, WEAR, WTAS; 9:30, WEBH, WMBB; 10 WBBM, WBCN, WGES, WKRC, WLS, WMBF, WQJ, WTAS, 10:15, WLS; 10:30, WCEE, WEBH, WGES, WGN, WHT, WJJD; 11, WBBM, WBCN, WGES, WKRC, WLS, WQJ; 11:20, WLS; 11:30, WCEE, WEBH; 12, WBCN, WIBO, WLS, WQJ; 12:30, WEBH, WGES, WHT; 1, WIBO, WQJ.

Wednesday, June 23: 8, KYW, WBBM, WBCN, WLS, WLW, WTAS; 8:15, WKRC, WLS; 8:30, WBZ, WEBH, WMBB; 8:45, WHT, WKRC; 9, KYW, WBBM, WBCN, WTAS; 9:15, WKRC; 9:30, WEBH, WMBB; 10, KYW, WBCN, WIBO, WMBF, WQJ, WSAI, WTAS; 10:30, WEBH, WGES, WGN, WHT, WJJD; 11, KYW, WIBO, WLS, WQJ; 11:30, WEBH; 12, WGES, WQJ; 12:30, WEBH WHT; 1, WQJ.

Thursday, June 24: 6:30, WSAI; 7, WRC; 8, WBBM, WBCN, WEAR, WTAS; 8:30, WEBH, WMBB; 8:45, WHT; 9, WBBM, WEAR, WTAS; 9:30, WEBH, WMBB; 10, WBBM, WEAR, WMBF, WQJ, WTAS; 10:30, WEBH, WGES, WGN, WHT; 11, WBBM, WQJ; 11:30, WGES, WLW; 12, WEBH, WIBO, WQJ; 12:30, WGES, WHT, WIBO; 1, WIBO, WQJ; 2, WIBO.

Friday, June 25: 8, KYW, WBBM, WBCN, WLS, WTAS, WWJ; 8:30, WEBH, WMBB; 9, KYW, WEBM, WTAS; 9:30, WMBB; 10, KYW, WBCN, WEBH, WIBO, WLS, WMBF, WQJ, WTAS; 10:30, WCEE, WGN, WHT, WJJD; 11, KYW, WBCN, WEBH, WGES, WIBO, WQJ; 11:15, WLS; 11:30, WCEE, WGES, WMBF; 12, WEBH, WIBO, WQJ; 12:30, WGES, WHT; 1, WIBO, WQJ.

Central Standard Time Stations

Saturday, June 20: 6:30, WFAA; 8, WSB; 10, KFVE; 10:45, WSB; 11, KFAB; 11:45, WDAF.

Sunday, June 21: 9:30, WFAA.

Monday, June 22: 6:30, WFAA, WOAW; 6:45, WCCO; 7:30, KFAB; 8, WCCO; 8:30, KFAB, WSMB; 9, KSD; 9:25, KTHS; 9:30, WSMB; 10, KFVE, WOI; 10:45, WSB; 11:45, WDAF.

Tuesday, June 23: 6:30, WFAA; 9, WOAW; 9:25, KTHS; 9:30, WOAN; 10:45, WSB; 11, KFAB, WFAA; 11:45, WDAF.

Wednesday, June 24: 7:30, KFAB, WHO; 8:30, KFAB, WEAO; 9, WHAD, WOAW; 9:25, KTHS; 9:30, WOAN; 10, KFVE; 11:45, WDAF.

Thursday, June 25: 8, WSB; 8:30, WFAA, WSMB; 9:25, KTHS; 9:30, WOAN, WSMB; 11, WFAA; 11:45, WDAF.

Friday, June 26: 6:30, WFAA; 7:30, KFAB, KFNF; 8, WDAF, WSB; 8:30, KFAB, WFAA; 9, WCCO; 9:30, WOAN; 10, KFVE; 11, WMC; 11:45, WDAF.

Mountain Standard Time Stations

Monday, June 22: 8, KOA.
Wednesday, June 24: 8, KOA.
Friday, June 26: 8, KOA.

Pacific Standard Time Stations

Saturday, June 20: 8, KFWB, KNX; 9, KFWB, KNX; 10, KFI, KFWB; 11, KFI, KNX; 11:30, KHJ; 12, KFI, KNX; 12:30, KHJ; 1, KFI, KNX; 2, KFI.

Sunday, June 21: 8, KHJ; 9, KFWB, 10, KFWB.

Monday, June 22: 8, KFWB, KNX; 9, KNX; 10, KFI, KFWB, KNX.

Tuesday, June 23: 8, KFI, KHJ, KNX; 9, KFI, KFWB, KHJ, KNX, KPO; 10, KFWB, KNX; 11, KGW, KNX.

Wednesday, June 24: 7:30, KFI; 8, KFWB, KGW; 9, KFI, KFWB; 10, KFWB, KGW, KNX; 11, KNX.

Thursday, June 25: 8, KHJ, KNX; 9, KFWB, KHJ; 10, KFI, KFWB, KHJ; 11, KNX.

Friday, June 26: 8, KFWB; 9, KFI, KFWB, KHJ; 10, KFWB, KNX; 10:30, KGW; 11:30, KGW.

Robert Visconti, violinist, is the director of the popular Hotel Gibson orchestra playing from 7 to 8 every Monday, Wednesday and Thursday at WLW, Cincinnati.

Wednesday, June 24

(Continued from page 11)

WLW, Cincinnati, O. (422.3), 7 p. m., dinner hour concert, Hotel Gibson orchestra, Robert Visconti, director; 8, The South Sea entertainers; Hawaiian specialties; The Cino Male quartet; Instrumental trio, violin, cello and piano; organ concert, Johanna Grosse.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, the story lady, Georgene Faulkner; 8, Jack Chapman's orchestra; 8:30, lecture, Northwestern university; 8:45, WMAQ players.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., operatic program, J. Bodewalt Lampe, director; Beatrice Teller and Trianon ensemble; Ambrose Wyrick, Rita McFawn, Hazel O'Neil, Rebecca Aguinick, Marie Caruso, Armin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Cecil Ward, George Forsythe, Morey Alswang, Gillis and Owen, Anna Fleming Kenney, Lindsey McPhail, Clyde Hager.

WORD, Batavia, Ill. (275), 8:30 p. m., service and address, A. L. Seeley; 9, program.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Dr. C. B. Roe, baritone; Dr. Robert N. Price, tenor; Dr. Carl Bertschinger, pianist; Dr. Howard Payne, violinist; 10-1, Ralph Williams and his Rainbo Gardens Skylarks; Melodians; Fred A. Jacobsen, reader; Hickey and Johnson; Gladys Kern, contralto; Paul Small, tenor; 1-2, Ginger hour.

WRC, Washington, D. C. (469), 5 p. m., United States Marine band.

WREO, Lansing, Mich. (285.5), 10 p. m., baseball.

WSAI, Cincinnati, O. (326), 7 p. m., Freda Sanker's Toadstool orchestra; 10, Congress Playing Card string quartet; Mrs. Hazel Morgan Levy, contralto; Clarence Pearce, tenor.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Joe Rudolph and the Boss's Own orchestra; Frank Morris, Polly Willis, John Poat, Eddie Cavanaugh.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, Detroit News orchestra.

Central Standard Time Stations

KFAB, Lincoln, Neb. (240), 7:30-9:30 p. m., Waikiki trio; LeLand Wood, violinist; Everett Dodds, Scottish trio, Ruth Zimmerman, Geraldine Munderfor.

KFNF, Shenandoah, Ia. (266), 7:30 p. m., Young People, Christian church.

KFUO, St. Louis, Mo. (545.1), 9:15 p. m., "The Resurrection of the Body," Rev. A. P. Feddersen.

KFVE, University City, Mo. (240), 6-7 p. m., Radiocast review, Romaine Fielding; 10, Orchestra Romaine; Jack Marty, Billie Kerr; Pathe News review.

KSD, St. Louis, Mo. (545.1), 7:30 p. m., music, Lyric Skydome.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25 p. m., frolic, Ray Mullins Como Roof Garden orchestra.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6 p. m., baseball; 7, First Methodist church; 8:30, musical program; 9, baseball; 10:30, Arnold Frank's St. Paul hotel orchestra; Mr. and Mrs. Rudy Baie.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., address, speaker, auspices Health Conservation association; address, Meat Council of Greater Kansas City; Tell-Me-a-Story Lady; Plantation players; 8-10, Star's Radio orchestra; 11:45-1, Merry Old Chief; Carl Nordberg's Plantation players; Charles Dornberger's Kansas City Athletic club orchestra.

WHA, Madison, Wis. (535.4), 8 p. m., "The Camera in Your Vacation," Dr. M. E. Diomer; Madison quartet.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Wisconsin theater organs; 8-10, Dexter's Syncopators, Elgar's entertainers; 11:30, organ recital.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, String orchestra, baseball scores.

WHO, Des Moines, Ia. (526), 6:30-7:30 p. m., Reese-Hughes orchestra; 7:30-9, Earl Day, Lynn Brown, Hawaiian guitarists; Helen Birmingham, pianist; Myrtle Williams, soprano; Zola Caviness, contralto; Hazel Spencer, soprano; 8-9:45, Des Moines Theater Symphonic orchestra; 9:45-12, dance program.

WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra.

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

WOC, Davenport, Ia. (483.6), 5:45-6 p. m., chimes concert; 6, baseball scores; 6:30-6:50, Sandman's visit, Val McLaughlin; 9-10, musical program; Erwin Swindell, organist; Emil Hass, reader.

WOS, Jefferson City, Mo. (440.9), 8 p. m., Metropolitan Music Makers.

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

Mountain Standard Time Stations

KFWA, Ogden, Utah (261), 9-11 p. m., old time music, KFWA trio; 11-12, Whoopus club.

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, "The Child and the State," Judge Ben B. Lindsey; "Wedding Bells," KOA players; 10-12, Dave Gingsburg and his Argonaut orchestra.

Pacific Standard Time Stations

KFAE, Pullman, Wash. (348.6), 7:30-9 p. m., program, Fourth Annual Conference of Boys' and Girls' clubs of Washington; messages, stories, songs, instrumental.

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee program; 6-6:15, McDaniels' nightly doings; 6:15, musical appreciation talk; 7, detective story by Nick Harris; 7:20, talk on psychology; 7:30-8, dinner-dance music; 8-9, program, Ventura Refining company; 9-10, program by the Examiner girls, Madelyn Hardy and Jean Jacques; 10-11, Patrick-Marsh dance orchestra, Betty Patrick, soloist.

KFWB, Hollywood, Calif. (252), 6-7 p. m., Children's hour, Big Brother of KFWB; 7-8, program, Beverlyridge company, Beverlyridge collegians dance orchestra; 8-9, program, Arrowhead Springs Water company; Lake Arrowhead string quartet; Bill Hatch's dance orchestra; 9-10, popular song hour, musical novelty, Frank Pierce, pianist; Vic Beal, tenor; 10-11, Warner Bros. movie frolic, arranged and presented by Charlie Wellman.

KGO, Oakland, Calif. (361.2), 6-7 p. m., Ben Black's orchestra.

KGW, Portland, Ore. (491.5), 6-7 p. m., dance music, Jackie Souder's orchestra; 7:30-8, baseball; 8-9, concert, Who's Your Hosler; 10-11, concert, Sherman, Clay & Company studio.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog, Dick Winslow, juvenile reporter, and Uncle John; 8, Dr. Mars Bumgardt, scientific lecturer; 8:30-10:30, program, Pacific Electric company, arranged by J. Howard Johnson; 10:30-11:30, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Sid Ziff's sports talk; 6:15, travel talk, W. F. Alder; 6:30, talk on insect life, Harry W. McSpadden; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-10, program, Rexall drug stores of California and Arizona; 10-11, program, Hercules Oil company.

KPO, San Francisco, Calif. (428.3), 6:40-7 p. m., Waldemar Lind, States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, popular program; Buck Kitner, harmonica soloist; Earl Potter, pianist; Knight Sisters; Helen Carlyon, ukulele soloist; 9-10, Goodrich Silvertown Cord orchestra; 10-11, Waldemar Lind, States Restaurant orchestra.

Thursday June 25

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

Atlantic or Eastern Daylight Saving Time Stations

CKAC, Montreal, Can. (410), 9 p. m., C. N. R. program.

WBBR, New York, N. Y. (272.6), 8 p. m., instrumental trio, Carl Pork, Frank Wood, George Twaroschk; 8:10, Lillian Havlin, soprano; Sunday school lesson, S. M. Van Sipma; 8:50, instrumental trio.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 8, recital; 9, Atwater Kent Radio artists; 10, Goodrich Silvertown Cord orchestra.

WCAU, Philadelphia, Pa. (278), 6:30 p. m., Hotel Pennsylvania Interfraternity orchestra; 7:30, N. Snellenburg & Co. symphony orchestra; 8, talk, Clara Zillessen; 8:30, recital; 10:30, dance orchestra.

WDWF, Providence, R. I. (440.9), 6:30-8 p. m., Narragansett Hotel orchestra.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Arthur Herschmann, baritone, accompanied, Madelaine Vose; 4:15-4:30, "Poems We Love," Margaret Prendergast McLean; 4:30-4:45, Cameron Emslie, pianist; 4:45-5, book talk, Cameron Rogers; 6-7, dinner music from Waldorf-Astoria; 7-7:30, services, Greater New York Federation of Churches; 7:30-8, Cushman's serenaders; 8-8:30, Mozart Vocal and Instrumental ensemble; 8:30-9, "Touring in a Packard Eight"; 9-10, Atwater Kent Radio artists; 10-11, Silvertown Cord orchestra; 11-12, Vincent Lopez Hotel Pennsylvania orchestra.

WEEI, Boston, Mass. (476), 6:30 p. m., Big Brother club; 7:45, baseball; 8, music from WEAF; 9, Atwater Kent Radio artists; 10, Goodrich Silvertown Cord orchestra.

WFI, Philadelphia, Pa. (394.5), 3 p. m., Housewives' Radio exchange and garden talk, Mabel Swint Ewer; 6:15, Bellevue Stratford roof garden orchestra; 8, concert from WEAF; 9, Atwater Kent Radio artists; 10, Goodrich Silvertown Cord orchestra.

WGBS, New York, N. Y. (315.6), 3-4 p. m., international program, auspices of Foreign Language Information service; 6-6:30, Uncle Geebee; 6:30-7, Hebrew Orphan Harmonica band; 7-7:10, talk on motoring, William J. Carroll; 7:15-7:30, Mario Alvarez, tenor; 7:30-8, California Ramblers; 8:30-9, "Footlights and Lamplights," Oliver Sayler; 9-9:20, Paul Stoeving, violinist; 9:20-9:30, Evelyn Geddes, soprano; 9:30-10:30, Piccadilly theater program.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program, A. J. Erisman, director; 6:30-7:30, two piano recital, Gospel Melodists; 8-11, jointly with WEAF, including Mozart vocal and instrumental ensemble; Atwater Kent and Goodrich Silvertown Cord orchestra.

WHAR, Atlantic City, N. J. (275), 7:30 p. m., Seaside hotel trio; 9, studio program, vocal, instrumental; 9, Shelburne hotel concert orchestra.

WHN, New York, N. Y. (360), 7-7:30 p. m., Silver Slipper revue; 8-8:30, Will Oakland's Chatheau Shanley; 9:30-10, Palisades Amusement Park orchestra; 10-10:30, Loew's vaudeville headliners; 12-12:30 a. m., Parody club revue and orchestra.

WIP, Philadelphia, Pa. (508.2), 3:30 p. m., Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; Betty Collins, songs; 8, Comfort's Philharmonic orchestra; 8:45, "Song of the Surf"; 8:50, Veselli's band; 11, Howard Lanin's dance orchestra.

WJAR, Providence, R. I. (305.9), 8 p. m., program from New York studio; 9, Victor presentation; 10, Goodrich Silvertown Cord orchestra.

WJY, New York, N. Y. (405), 7:30-8 p. m., Copenhagen quartet.

WJZ, New York, N. Y. (455), 4-4:15 p. m., F. Gehlert, tenor; 4:30-5:30, Bernhard Levitow's Hotel Commodore orchestra; 7-8, Bernhard Levitow's Hotel Commodore orchestra; 8-8:10, Wall Street Journal review; 8:10-8:30 NYU Air college; 8:30-9:30, U. S. Marine band; 10-10:30, staff recital; Milton J. Cross, tenor; Godfrey Ludlow, violinist; Keith McLeod, pianist; 10:30-11:30, Waldorf-Astoria dance orchestra.

WKAQ, San Juan, P. R. (340.7), 8:30-10 p. m., concert, La Cafeteria.

WMCA, New York, N. Y. (341), 3-5 p. m., musical program; 7:45-8, songs, Legal Farnum; 9:30-10, Snedden Weir, baritone; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 6:50-7 p. m., market high spots; 7-7:25, dance music; 7:25-7:30, baseball results; 7:35-8, dance music; 8-8:15, "Timely Topics," F. P. Bent; 8:15-10:30, program, residents of the Greenpoint Section of Brooklyn.

WOO, Philadelphia, Pa. (508.2), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's Roof Garden orchestra.

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

Eastern Standard or Central Daylight Saving Time Stations

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

KYW, Chicago, Ill. (536), 6-6:30 p. m., Congress hotel; 6:35-6:53, American Farm Bureau federation, "Ideal American Farm Homes in the Making," Frank B. White; "Review of the Grain Markets," J. W. Coverdale; "Next Saturday," representative of the American Farm Bureau federation; 7-7:20, "Twenty Minutes of Good Reading," Rev. C. J. Pernin; 7:20-8:15, Adele Nelson, soprano; Katherine Johnson, soprano; Frances Kaufman, zither soloist; Joseph Miller, zither soloist; 8:20, talk, John C. Cutting; 9-10:30, evening at home.

WBCN, Chicago, Ill. (266), 8-9 p. m., popular program; Borden Brothers; Midway Dancing Gardens or-

DANCING

(Central Time)
(Central Standard Time)

Saturday, June 20: 8, Kgw, Wpg; 8:05, Wip; 8:30, Ksd, Webh, Wgbs, Wjz; 8:35, Kpo; 9, Kfwb, Kths, Weaf, Wmbf, Wor, Wpg, Wqj, Wtas; 9:15, Wmca; 9:30, Wcee, Wges, Wgn, Wrc; 10, Kfve, Koa, Kpo, Wcco; 10:30, Kpo, Webh, Wmbf; 11, Kfab, Wfaa, Wor; 11:30, Wsai; 11:45, Wdaf; 12, Kgo, Kgw, Khj, Knx, Kfoa; 1, Khj; 1:30, Khj.

Monday, June 22: 8, Wlit, Wtas, Wwj; 8:30, Weaf, Wor, Wsmb; 8:45, Wjz; 9, Kfi, Kfwb, Wgr, Whaz, Wmaf, Wtas; 9:25, Kths; 9:30, Wcee, Whn, Wjjd, Wor; 10, Kfve, Wcco, Wtas; 10:30, Kfoa, Wcee, Wmbf; 12, Kfi, Kgo, Knx, Kpo; 1, Knx.

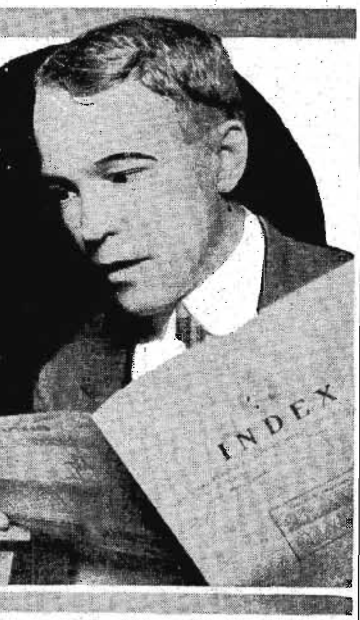
Tuesday, June 23: 8, Wtas, Wqj; 8:30, Ckac, Weau, Webh, Wip; 9, Wex, Weaf, Wgy, Wmca, Wmbf, Wqj, Wtas; 9:30, Wcee, Wges, Wgn, Whn; 10, Kfve, Whn, Wmbf; 10:30, Wcee, Webh, Woaw; 11, Kfab, Kfwb; 11:45, Wdaf; 12, Kgo, Khj, Knx, Kpo, Wqj; 12:05, Kfoa.

Wednesday, June 24: 8, Kgw, Whad, Wlit, Wtas; 8:30, Webh, Whn, Wjz, Woo; 8:45, Weau; 9, Weaf, Wgr, Whad, Wor, Wqj, Wtas; 9:30, Kfi, Kyw, Wges, Wgn, Whn, Wmbf; 9:45, Who; 10, Kfvo, Kyw, Whn; 10:30, Kyw, Wcco, Wcee, Webh, Who, Wjjd, Wmbf; 10:45, Wsb; 11, Koa, Who, Kpo; 11:45, Wdaf; 12, Kfi, Kpo, Wqj; 12:30, Khj.

Thursday, June 25: 8, Weaf, Weei, Wfi, Wjar, Wsai, Wtas; 8:30, Weau, Webh, Wjz, Wsmb; 9, Kfi, Weaf, Wip, Wmak, Wmca, Wqj, Wrc, Wsmb; 9:30, Wcee, Wges, Wgn, Wmbf, Wtas; 10, Whn, Wsmb; 10:30, Wcee, Webh, Wmbf, Woaw, Wtas; 11, Who, Woc; 11:45, Wdaf; 12, Kgo, Kgw, Khj, Kpo, Wfaa.

Friday, June 26: 8, Wear, Weei, Wgr, Wlit, Wtas, Wfi, Wwj; 8:30, Weau, Webh, Wgy, Whn, Wjz, Wmc, Woo; 9, Kyw, Wex, Weaf, Wear, Wgr, Wjar, Wqj, Wtas; 9:30, Kyw, Wcco, Wges, Wgn, Whn, Wmbf; 10, Kyw, Kpo, Wcco, Whn, Wmbf; 10:30, Wcee, Webh, Wjjd, Woaw; 10:45, Wgy; 11, Kfwb, Who.

NDAY ON WEAF, NEW YORK, AND LINK



Anna Hagmaier Woesthoff, contralto, is an attractive feature of the programs at KDKA. Perry V. Ewing broadcasts the results of the WLS agricultural investigations. Mr. Ewing is an authority on livestock and has written many state, federal and scientific reports.

DANCING

(Central Time)

(Central Standard Time)

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Monday, June 22: 8, Wlit, Wtas, Wwj; 8:30, Weaf, Woo, Wsmb; 8:15, Wjz; 9, Kfi, Kfwb, Wgr, Whaz, Whn, Wtas; 9:25, Kths; 9:30, Weee, Whn, Wjjd, Wor; 10, Kfve, Wcco, Wlds; 10:30, Kfoa, Weee, Wmbf; 12, Kfi, Kgo, Knx, Kpo; 1, Knx.

Tuesday, June 23: 8, Wtas, Wsc; 8:30, Ckac, Weau, Webh, Wip; 9, Wcx, Weaf, Wgy, Wmca, Wmbf, Wqj, Wtas; 9:30, Weee, Wges, Wgn, Whn; 10, Kfve, Whn, Wmbf; 10:30, Weee, Webh, Woaw; 11, Kfab, Kfwb; 11:45, Wdaf; 12, Kgo, Khj, Knx, Kpo, Wqj; 12:05, Kfoa.

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chestra; West End Harmony boys; Isabelle Stinson, soprano; "Big Boy" Yagle; Peggy O'Neil; 10-11, Elmer Jordan and company semi-classical program; Mrs. Doncan, soprano; Pearl Fairchild, pianist; 11-1, Elmer Jordan Owl matinee; Clarence Jones, pianist; Nick Holland, tenor; Peggy O'Neil, soprano; Midway Dancing Gardens orchestra; Ed Wallace, tenor.

WBZ, Springfield, Mass. (333.3), 6 p. m., Leo Reisman's Hotel Lenox ensemble; 6:30, baseball; 7:30, U. S. Marine band; 9, Emily Thom, violinist.

WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7, musical program.

WEAR, Cleveland, O. (389.4), 7-8 p. m., talks, prominent Clevelanders; 8-10, jazz music; 10-11, Vincent H. Percy, organist.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Edwin Kemp, tenor; Riviera theater; 9:30-10:30, Oriole orchestra; Beulah Laden, violinist; Edwin Kemp, tenor; Leroy North, pianist; 11:30-1, Oriole orchestra, Paul Small, Wayne Myers, Edwin Kemp.

WGES, Oak Park, Ill. (250), 5-6:30 p. m., Edgar Scott, tenor; Edna Wallace, soprano; Lucille Matthews, violinist; 6:30-7, bedtime stories, Cornelia Dungan; 10:30-1, A. Cavallo and his 11 Master Musicians; Edwin Barge, Louis Butler; Coyne Electrical School orchestra.

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

WGY, Schenectady, N. Y. (379.5), 5:30 p. m., dinner program, orchestra, John Fink, Jr.; 6:35, outdoor talk, "Some General Advice About Fishing," A. Stanley Talbott; 6:45, WGY orchestra; 7:30, Marine band, from Washington, WRC; 10:30, organ.

WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., Marilla Walsworth, soprano; Tony Corcoran, baritone; Margaret Garrity, pianist; Marten & Wilkens, harmony; (238), 8:42-10:05, Elmer Kaiser's Riverview Park Ballroom orchestra; Al Carney, organist; (399.8), 10:30-12:30, Ned Becker, humorist; Sandy Meek, tenor; Rita McFawn, soprano; 12:30-1 a. m., Al Carney, organist.

WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; 7:15, Cornhuskers' orchestra; 7:45, lullaby time, Aunt Martha, Uncle George; 8-8:55, WLS opera company, "The Mikado."

WLW, Cincinnati, O. (422.3), 4 p. m., French lesson, Madame Ida Teimpidis, piano recital; 7, dinner hour concert; 7:50, Secretary Hawkins; 10, three minute message, Civil Service Dept. of the United States; 10:03, orchestra concert; organ recital, Rosemary Ellerbrook; "Swiss Echoes," the Cincinnati Zither players; piano solos, Adelaide Apfel; 11:30, popular program, Irene Downing and Marjory Hebestreit; Esther Manner, violinist; Mrs. Theodore Haun, soprano.

WMAK, Lockport, N. Y. (265.5), 11 p. m., Murray Whiteman, Buffalo, N. Y.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 8, "Hunting Fossils in Patagonia," Prof. E. R. Riggs; 8:30, Boy Scout talk; 8:40, Jane Fritch, soprano; 9:15, Ukrainian choir.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., semi-classical program, J. Bodewalt Lampe; Beatrice Teller and Trianon ensemble; Ambrose Wyrick, Rita McFawn, Hazel O'Neil, John S. Everett, Armin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Florence Tenny, Fisher and Smith, Charles Agna and Trianon syncopators; Johnnie Keane, Bob Duffy, Geraldine Doyle, Little Orphan Annie presentation.

WORD, Batavia, Ill. (275), 8:30 p. m., International Sunday school lesson, W. E. Page; 9, concert, Orpheus octet; Edw. J. Munson, director.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Kenneth Sterling, tenor; Mrs. B. H. Sachs, reader; Esther Trostrud, soprano; Alice Hessner, pianist; 10-1, Ralph Williams and his Rainbo Gardens Skylarks; Clarence Theders, tenor; Frank Blasco, boy tenor; Ila Shanabrook, soprano; Lucas Sisters; Lew Butler; Marie Wright, soprano; Al Adams, harmonica players; 1-2, Ginger hour.

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

WREO, Lansing, Mich. (285.5), 8:15-9:45 p. m., Reo Broadcasting orchestra; Thomas Metzger, flutist; Reo male quartet; 10, baseball.

WSAI, Cincinnati, O. (326), 6:30 p. m., Hotel Sinton instrumental trio; 7, program from New York; Mozart vocal and instrumental ensemble; 8, Atwater Kent Radio artists; 9, Silvertown orchestra.

WTAS, Elgin, Ill. (302.8), 8-12, midnight, Joe Rudolph and the Boss's Own orchestra; Frank Morris, Polly Willis, John Poat, Eddie and Fannie Cavanaugh.

WTIC, Hartford, Conn. (348.6), 6 p. m., Emil Heimberger's Hotel Bond trio; 6:50, baseball; 7, dinner music.

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

Central Standard Time Stations

CKY, Winnipeg, Can. (384.4), 8 p. m., C. N. R. program.

KFNF, Shenandoah, Ia. (266), 7:30 p. m., concert, Tingley, Mrs. John Cunningham.

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

KLDS, Independence, Mo. (441), 8 p. m., Independence Junior Music club, guest artist; "Independence Industries."

KTHS, Hot Springs National Park, Ark. (374.8), 9:15 p. m., baseball; 9:25, New Arlington hotel orchestra.

WCBD, Zion, Ill. (344.6), 8 p. m., mixed quartet, brass quartet, mandolin and guitar band; Mrs. Beem, soprano; Mrs. Crowe, contralto; Mr. and Mrs. R. M. Steel, tenor and soprano; Mrs. S. D. Inman, soprano; Mrs. Hulda Klammer, reader; Edwin Sach, pianist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6 p. m., baseball; 7-9, program from WEAF; 9, baseball.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., book talk, Louis Mecker; Tell-Me-a-Story Lady; book talk, Louis Mecker; Plantation players; 11:45-1, Merry Old Chief; Plantation players; Johnnie Campbell's Kansas City club orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Carl D. Green and his orchestra; 8:30-9:30, Wednesday Morning Choral club; 11-12, Jefferson Theater entertainers; 12-1, Harry Hunt's Imperial orchestra.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., organ.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Sylvian trio; Louise Powell, pianist; Lorene Royster, pianist; baseball scores.

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

WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra.

WMC, Memphis, Tenn. (499.7), 7:30 p. m., science talk, Brother Joseph; 8:30, musicale.

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

WOAW, Omaha, Nebr. (526), 6 p. m., story hour, Grace Sorenson; 6:20, baseball scores; 6:30, announced; 7, Randall's Royal Fontenelle orchestra; 9, Sunshine program, Loose-Wiles Biscuit company; 10:30, orchestra.

WOC, Davenport, Ia. (483.6), 5:45-6 p. m., chimes concert; 6, baseball scores; 6:30-6:50, Sandman's visit, Val McLaughlin; 7-8, WEAF program; 8-0, WEAF program; 9, "Pythianism," Emil Silberstein; 11-12, Louis Connor and his LeClaire hotel orchestra; Peter MacArthur, baritone.

WOI, Ames, Ia. (270), 8:15 p. m., musical program.

WSMB, New Orleans, La. (319), 6:30-7:30 p. m., twilight tales; 8:30-10:30, Johnny Tobin's serenaders; orchestra.

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee hour; 6, McDaniels' nightly doings; 6:45, radiotorial talk; 7, "Knee Deep in June," music, poetry and foolishness; 7:30-9, Parker's Great American band of 60 pieces; 9-10, Southern California Music company; 10-11, Examiner's popular song hour.

KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 7:45, talk on plastic surgery, Dr. T. Floyd Brown; 8-8, late news, program by Starr Piano company; 9-10, program, Don P. Smith company, Moon Six orchestra, Sol Hoopii's original Hawaiian string trio; 10-11, Warner Brothers frolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361.2), 8 p. m., "Rollo's Wild Oat," KGO players; Amphion trio; 10-1, Henry Halstead's orchestra.

KGW, Portland, Ore. (491.5), 7:30-8 p. m., baseball; 8-9, program, Yale Laundry company; 9-10, concert, Fields Motor Car company; 10-12, dance music, Kenin's Multnomah hotel orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog, Dickie Brandon, Jane Hughes, screen starlets, Uncle John; 7:30, talk on insurance; 8-10, program, John Wright, the right tailor, arranged by Uncle John, plantation melodies by Uncle Remus on celeste and harmonica; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Sid Ziff's sports talk; 6:15, travel talk, W. F. Alder; 6:30-7:30, dinner hour music; 7:30, one act play, KNX players, Edward Murphey, director; 8-9, program, Brent Furniture company; 9-10, Running Springs Park program; 10-11, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel; 11-12, collegiate night, students from University of California, Southern Branch.

KPO, San Francisco, Calif. (428.3), 6:40-7 p. m., Waldemar Lind, States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, program, George W. Casewell Coffee company; 9-10, Theodore J. Irwin, organist; 10-11, Johnny Buick's Cabirians.

Friday, June 26

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

Atlantic or Eastern Daylight Saving Time Stations

CNRA, Moncton, Can. (313), 8:30 p. m., choir, First Baptist church; Mrs. G. Armstrong, vocalist; quartet: I. Keith, pianist; L. McKendrick, reader; address, H. H. Melanson; CNRA orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m., sports talk, Thornton Fisher; 7:45-8, popular songs, Jack Joel and Fred Burton; 8-8:15, piano duets, Margaret Meyer and Agnes Greuble; 8:15-8:45, Long "I" Grotto band; 8:45-9, Long "I" Grotto Glee club; 9-9:15, specialty of wind instruments; 9:15-9:45, Long "I" Grotto band; 9:45-10:55, Asciutto Brothers dance orchestra; 11:05-11:30, Asciutto Brothers dance orchestra.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 8:30, James Bridges' entertainers.

WCAU, Philadelphia, Pa. (278), 6 p. m., Hotel Pennsylvania Interfraternity orchestra; 6:30, Billy Hayes and his Cathay Tea Garden dance orchestra; 10:30, Billy Hayes and his Cathay Tea Garden dance orchestra.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Kathryn Neuschwander, pianist; 4:15-4:30, Florence Hendrickson, contralto; 4:30-4:45, Fred Ruzika, violinist; 4:45-5, operalogue, "Martha," Marguerite Porter; 6-7, dinner music, Waldorf-Astoria; 7-7:15, Mr. and Mrs. Burton Piersol, baritone and soprano; 7:15-7:30, Eleanor Bahntage, pianist; 7:30-7:45, children's story, Blanche Elizabeth Wade; 7:45-7:50, Mr. and Mrs. Burton Piersol; 7:50-8, Eleanor Bahntage; 8-8:30, Happiness Candy Boys; 8:30-9, Eagle Neutrodyne trio; 9-10, Spear and company's home entertainers; 10-10:15, Louis Caton, tenor; 10:15-10:30, Hans Popper, violinist, and Harriet Hoppe, pianist; 10:30-10:45, Louis Caton; 10:45-11, Hans Popper and Harriet Hoppe; 11-12, dance music.

WEBJ, New York, N. Y. (233), 7-7:30 p. m., Jack Rosenthal's Blenheim theater ensemble, direction of Sol Klein; 7:45-8, Ken Burdick, baritone; 8:15-8:30, Isabel Henderson, soprano, accompanied by Betty Duffy; 8:30-8:45, Bernard Fromenson, tenor; Norman Henneleld, pianist; 8:45-9, Milton Yokeman, tenor.

WEEI, Boston, Mass. (476), 6:30 p. m., Big Brother club; 7:15, baseball; 7:30, Whiting Milk program; 8, Neapolitan Ice Cream program; 8:30, organ recital; 9:30, Toreador club; 10, Ed Andrews Nautical Garden orchestra.

WFI, Philadelphia, Pa. (394.5), 3 p. m., Caroline Hoffman, pianist; 6:45, Bellevue Stratford roof garden orchestra.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview with Edward A. Wilson by Terese Rose Nagel; 3:10-3:20, Ben Hyams, pianist; 3:20-3:30, recitations, C. L. Odetz; 3:30-3:40, Ben Hyams; 3:40-3:50, theory lessons, Dr. Alfred G. Robyn; 3:50-4, Ben Hyams; 6-6:30, Uncle Gebee; 6:30-7, Clarence Williams trio; 7-7:10, Radio talk, Herman Bernard.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program, A. J. Erisman, director; 7-7:30, Winger's Crescent Park entertainers; 8:40-9, lecture, "Touring the Yellowstone Park," Donald Hurley; 9-9:45, W. L. Manning, baritone; 9:15-10, Mrs. Earl Fisher, contralto; 10-11, Louise Sleep, soprano; 11-1 a. m., supper dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WHAR, Atlantic City, N. J. (275), 7:30 p. m., Seaside hotel trio; 9, Shelburne hotel concert orchestra; 11, Strand theater organ recital.

WHN, New York, N. Y. (360), 10:30-11 p. m., Roseland dance orchestra; 11:30-12, Club Alabam orchestra; 12-12:30 a. m., Parody club revue and orchestra.

WIP, Philadelphia, Pa. (508.2), 3:30 p. m., Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; Ruth Mann, six-year-old pianist.

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

WJY, New York, N. Y. (405), 7:30-8:30 p. m., Freddie Rich's Hotel Astor Roof orchestra; 9-9:15, Scotch and English songs, Robert S. Chree, baritone; 9:15-9:30, "Six Years in the Malay Jungle," Carveth Wells.

WJZ, New York, N. Y. (455), 4:30-5:30 p. m., Landau's Blossom Heath serenaders; 7-8, Savarin ensemble; 8-8:10, Wall Street Journal review; 9:15-10, opera, "Musical Courier"; 10:30-11:30, Duke Yellman and his Irene Castle orchestra.

WLIT, Philadelphia, Pa. (394.5), 2 p. m., playlet, students National School of Elocution and Oratory; 7:30, Dream Daddy's bedtime stories; 8:45, Welch's Minstrels; Chas. Frey's Million Pier dance orchestra; WLIT male quartet; 10, Arcadia cafe dance orchestra.

WMCA, New York, N. Y. (341), 3-5 p. m., musical program; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 9-10, Hardman hour of music.

WNYC, New York, N. Y. (526), 7-7:35, piano recital; 7:35-7:50, resume of meeting of Board of Estimate; 7:50-8:15, song recital; 8:15-10:15, Maximillian Pilzer and his symphony orchestra; 10:15-10:30, "Kipling's Poems and Stories," Prof. J. G. Carter Troop.

WOO, Philadelphia, Pa. (508.2), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's Roof orchestra; 8, recital; 9, WOO orchestra; 10, organ recital; 10:30, Hotel Sylvania dance orchestra.

WOR, Newark, N. J. (405), 6:15-6:30 p. m., Hotel Lorraine orchestra; 6:30-7, Man in Moon; 7-7:30, Hotel Lorraine orchestra.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 2:30-5 p. m., baseball; 7, baseball; 8:45, concert; 9:55, baseball.

KYW, Chicago, Ill. (536), 6-6:30 p. m., Congress hotel; 7-7:30, Evening American studio; 9-11:30, Paul Whiteman's Collegians; Albert Hay Malotte, organist.

WBCN, Chicago, Ill. (266), 8-9 p. m., Fireside hour; George Cleveland; Dr. F. Wall, peg leg comedian; Charles Richards; Hobby club; 10-12, request program; Midway Dancing Gardens orchestra; Johnny Special, harmonica soloist.

WBZ, Springfield, Mass. (333.3), 6 p. m., Hotel Kimball trio; 6:30, baseball; 7:45, "Poultry Flock Management," Prof. William C. Monahan; 8, Hager trio; 8:30, Hotel Brunswick orchestra; 9, Bernice M. Mosher, soprano; Cecilie Rioux, accompanist; Dorothy Kreemer, pianist; Goldie Shour, violinist; 9:40, "At the Theaters," A. L. S. Wood; 9:50, baseball.

WCEE, Elgin, Ill. (275), 10:30-12 midnight Joe Rudolph and the Boss's Own orchestra; Frank Morris, Polly Willis, Eddie and Fannie Cavanaugh.

WCX, Detroit, Mich. (516.9), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7, musical program; 10, dance music, Arcadia Auditorium.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., children's hour; 8-11, dance music.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Irene Funtean, soprano; Cambridge Sisters; 9:30-10:30, Hotel Oriole orchestra; Correll and Gosden; Rita McFawn, Jack Penewell; 11:30-1, Oriole orchestra; Correll and Gosden; Rita McFawn, Jack Penewell.

WGES, Oak Park, Ill. (250), 5-6:30 p. m., Madeline Reed, contralto; John Rankel, baritone; Howard Neumiller, pianist; John Stamford, tenor; 6:30-7, bedtime stories, Cornelia Dongan; 10:30-1, A. Cavallo and his 11 Master Musicians; Jimmy Eggert; Rudolph Hess; Sandy McTavish; Coyne Electrical School serenaders.

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

WGY, Schenectady, N. Y. (379.5), 5:30 p. m., International Sunday school lessons; 6, Albany Strand Symphony orchestra, Julius Boxhorn, conductor; Floyd H. Walters, organist; 6:40, comedy, "Little Lord Fauntleroy," WGY players, Ten Eyck Clay, director.

WHT, Deerfield, Ill. (399.8), 7-8:30 p. m., Bryce Talbot, baritone; Genevieve Barry Burnham, soprano; Dean Remick, pianist; (236), Elmer Kaiser's Riverview Park Ballroom orchestra; Al Carney, organist; (399.8), Fred Agard, tenor; Milton Grossman, saxophone; Husk O'Hare, orchestra; 12:30-1 a. m., Midnight organ recital, Al Carney.

WJJD, Mooseheart, Ill. (302.8), 10:30 p. m., Senator Kessinger, Tom Loftus, Dick Vail, Lew Abbott, Geneva organ, Bill Benson, Charley Straight's orchestra.

WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; 7:15, Cornhuskers; William Tortoniello, saxophonist; 7:15, lullaby time; 8, Aloha trio; 8:15, Girls' glee club, Whiting, Indiana, high school; 8:30, Cornhuskers' orchestra; 8:45, "Mabel's Manoeuver," Anthony Wons, director; 9, R. F. D. program; Brooks Colby, violinist; Williamson Brothers; Joe Triminl; 10, Apollo club; 11:15-11:30, Cornhuskers' orchestra.

WMAQ, Chicago, Ill. (447.5), 6 p. m., organ recital, Chicago theater; 6:25, Family Altar league; 6:35, Jack Chapman's orchestra; 8, Wide-Awake club program, Frances M. Ford, director; 8:30, musical geography, Mr. and Mrs. Marx E. Oberndorfer; 9, Christian Endeavor topics; 9:15, musical program, Wesley M. E. choir.

WMBB, Chicago, Ill. (250), 7-8:30 p. m., home circle program, J. Bodewalt Lampe, director; Beatrice Teller and Trianon ensemble; Rita McFawn, Hazel O'Neil, Marie Caruso, Armin F. Hand and Woodlawn theater orchestra; 8:30-10:30, Dell Lampe and Trianon orchestra; Cecil Ward; George Forsythe; Morey Alswang; Lindsey McPhail; Geraldine Doyle; Clyde Hager.

WORD, Batavia, Ill. (275), 8:30 p. m., Uncle Dan's period; 9, program, Theodore Bergy School of Opera; 9:45, "Culture and Art," Theo. S. Bergy; 10-10:30, orchestra.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., Ralph Williams and his Rainbo Garden orchestra; Albert M. Tilton, tenor; Marie Watson Tilton, pianist; Mildred Perlin, reader; 10-1, Ralph Williams and his Rainbo Gardens Skylarks; Gladys Kern, contralto; West Brothers; Lauretta Giles, soprano; Paul Small, tenor; 1-2, Ginger hour.

WREO, Lansing, Mich. (285.5), 10 p. m., baseball.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Joe Rudolph and the Boss's Own orchestra; Frank Morris, Polly Willis, John Poat, Eddie Cavanaugh and others.

WTIC, Hartford, Conn. (348.6), 6:50 p. m., baseball; 7, George Wright, tenor; Benjamine M. Knox, baritone; Gertrude Berggren, contralto; Irene E. Molander, soprano; Elizabeth Park Rose Gardens; 9, Emil Heimberger's Hotel Bond orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, Detroit News orchestra; 9, Orange Blossom's orchestra.

Central Standard Time Stations

CKY, Winnipeg, Can. (384.4), 8:30 p. m., studio program.

KFAB, Lincoln, Nebr. (240), 7:30-9:30 p. m., F. C. Curtice and students; Mrs. Flood and orchestra.

KFDM, Beaumont, Tex. (315.6), 8-10:30 p. m., Refinery band.

KFNF, Shenandoah, Ia. (266), 7:30 p. m., Prather Sisters.

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

KSD, St. Louis, Mo. (545.1), 7:30 p. m., "Commerce Hour," one act play, Ruth Kelso-Renfrow; 8, program.

KTHS, Hot Springs National Park, Ark. (374.8), 9:15 p. m., baseball; 9:25, organ recital, Lawson Reid.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6 p. m., baseball; 6:15, Original George Osborn's Nicollet hotel orchestra; 7:45, "Danger Signals at Forty," Hennepin County Medical society; 8, Gordon Cooke ensemble; 9, baseball; 9:05, Gertrude Stewart, soprano; Thelma Slattery, soprano; Lucy Samuels, contralto; C. Arthur Carlson, tenor; Mrs. Clara Hcoun, contralto; Marion Burgess, accompanist; 10, Nicollet hotel orchestra.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., literary talk, H. Clay Harvey; address, speaker, Kansas City Children's bureau; Tell-Me-a-Story lady; Plantation players; 8-10, popular program; 11:45-1 a. m., Merry Old Chief, Plantation players; Charles Dornberger's Kansas City Athletic club orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Satisfied Five orchestra; 8:30-9:30, Edith Beilharz, violinist.

WHA, Madison, Wis. (535.4), 7:45 p. m., Prof. Robert W. West, reader.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Wisconsin theater organ recital; 8:30, Wisconsin theater weekly revue.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., Original Kentucky Night Owls' orchestra; baseball scores.

WHO, Des Moines, Ia. (526), 7:30-9 p. m., Des Moines university; 11-12, Reese-Hughes orchestra.

WMBF, Miami Beach, Fla. (384.4), 6:30-7 p. m., Fleetwood Radio orchestra; 7-7:30, Fleetwood Radio orchestra; 10-12, dance music, Fleetwood Radio orchestra.

WMC, Memphis, Tenn. (499.7), 7:30 p. m., Radio talk; 8:30, Britling's Cafeteria Novelty orchestra, Frank Bracciante, director; 11, Bob Miller and his Steamer Idlewild orchestra.

WOAN, Lawrenceburg, Tenn. (282.8), 9 p. m., Vaughan Radio orchestra; male quartets.

WOAW, Omaha, Nebr. (526), 6 p. m., musical review, Hester Bronson Cooper; 6:20, baseball scores; 6:30, orchestra; 9, First Christian church orchestra and soloists; 10:30, Brandeis Tea Room orchestra.

WOC, Davenport, Ia. (483.6), 5:45-6 p. m., chimes concert; 6, baseball scores; 6:30-6:50, Sandman's visit, Val McLaughlin; 7:30-7:50, "Horses were made before Autos"; "The Hog Market Prospects"; 8-9, Ziegler concert band.

WOS, Jefferson City, Mo. (440.9), 8 p. m., "Condition of Missouri Roads," George A. Pickens.

WSMB, New Orleans, La. (319), 6:30-7:30 p. m., dinner program, baseball.

Mountain Standard Time Stations

KFWA, Ogden, Utah (261), 9-11 p. m., KFWA Radio Buys' dance orchestra.

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmidt and his Rialto theater orchestra; 8:10, Loveland Chamber of Commerce program.

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6 p. m., Examiner's matinee musicale; 6, McDaniels' nightly doings; 6:45, radiotorial talk; 7, community program by the Examiner; 8, Aeolian residence pipe organ

(Continued on page 14)

An Evening at Home with the Listener In

STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
226	WBBM	275	WHAD	315.6	KFDM	361.2	KGO	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	278	WLBL	322.4	KOA	370.2	WEBH	421	KIAF	480	CYL
250	WGES	278	WRBC	325.9	WSAI	370.2	WGN	422.3	WLW	483.6	WOC
250	WMBB	280.2	WNAC	330	CYX	374.8	KTHS	428.3	WSB	483.6	WSUI
252	KFWB	282.8	WOAN	333.3	WBZ	379.5	WGY	428.3	KPO	491.5	KGW
261	KFWA	285.5	WKAR	336.9	KFMX	379.5	WHAZ	434.5	CNRO	491.5	WEAF
261	KSL	285.5	WREO	336.9	WCAL	384.4	CKY	434.5	CNRO	499.7	WMC
265.5	WMAK	288.3	KFKX	336.9	WSAC	384.4	KJR	434.6	NAA	508.2	KLX
266	KFNF	293.9	KJS	326.9	KNX	384.4	WMBF	435	AT9	508.2	WIP
266	WBCN	293.9	WBAV	340.7	WMCA	389.4	WTAM	435	CFCN	508.2	WOO
268	WEBW	293.9	WEAO	344.6	WCBD	394.5	KFRU	440.9	WOS	516.9	CJCA
270	WOI	299.8	KFMQ	344.6	WLS	394.5	WFI	447.5	WMAQ	516.9	WCX
272.6	WBBR	299.8	WPG	348.6	KFAE	394.5	WLIT	447.5	WQJ	526	WHO
272.6	WFBH	302.8	WJJD	348.6	KOB	394.5	WOAI	454.3	KFOA	526	WNYC
273	WRW	302.8	WTAS	348.6	WTIC	399.8	WHAS	454.3	WJZ	526	WOAW
275	KFAU	305.9	WJAR	352.7	WWJ	399.8	WHT	456	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	KHJ	467	KFI	545.1	KSD

INSTRUCTIONS FOR USE OF TABLES

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

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

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

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

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

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

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

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

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(FOR PACIFIC TIME)

Call	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Met.	Call
AT9	435	Silent	3:00- 4:00	Silent	Silent	Silent	5:00- 7:55	Silent	435	AT9
CFCA	356.9	Silent	4:00- 5:00	Silent	Silent	5:15- 6:15	5:15- 6:15	5:15- 6:15	356.9	CFCA
CFCN	434.5	9:00-11:00	Silent	Silent	Silent	Silent	Silent	7:00- 8:00	434.5	CFCN
CHNC	356.9	Silent	Silent	5:30- 6:30	Silent	Silent	Silent	Silent	356.9	CHCN
CJCA	516.9	8:00-10:00	6:30- 7:30	6:30- 8:30	6:30- 7:00	5:00- 7:00	8:00-10:00	7:00-11:00	516.9	CJCA
CKAC	410.7	4:30- 9:30	1:30- 2:30	Silent	4:30- 9:30	Silent	4:30- 9:30	Silent	410.7	CKAC
CKY	384.4	Silent	5:00- 6:45	Silent	5:30- 8:00	Silent	0:00- 7:00	5:30- 8:00	384.4	CKY
CNRA	313	Silent	Silent	Silent	4:30- 5:30	Silent	Silent	4:30- 5:30	313	CNRA
CNRO	434.5	4:30- 0:30	Silent	Silent	Silent	4:30- 9:30	Silent	Silent	434.5	CNRO
CYB	370	8:15- 9:45	Silent	Silent	7:15- 8:15	Silent	Silent	Silent	370	CYB
CYL	480	Silent	Silent	Silent	8:00- 9:30	Silent	Silent	8:00- 9:30	480	CYL
CYX	330	Silent	Silent	7:15- 8:30	Silent	Silent	Silent	7:15- 8:45	930	CYX
KDKA	309.1	5:45- 6:55	12:00- 4:30	5:45- 6:55	5:45- 6:55	5:45- 6:55	5:00- 8:30	5:45- 6:55	309.1	KDKA
KFAB	240	9:00-10:30	2:00- 3:00	5:30- 8:00	Silent	5:30- 8:00	Silent	5:30- 8:00	240	KFAB
KFAE	348.6	Silent	Silent	Silent	Silent	7:30- 9:00	Silent	Silent	348.6	KFAE
KFAU	275	Silent	Silent	7:00- 8:00	Silent	Silent	Silent	7:00- 8:00	275	KFAU
KFDM	315.6	Silent	Silent	Silent	6:00- 7:00	Silent	Silent	6:00- 7:00	315.6	KFDM
KFI	467	6:45-12:00	4:00-11:00	6:45-11:00	6:45-11:00	6:45-11:00	6:45-11:00	6:45-11:00	467	KFI
KFKU	275	Silent	Silent	4:50- 8:00	Silent	Silent	4:50- 6:00	Silent	275	KFKU
KFKX	288.3	Silent	Silent	7:30- 9:00	Silent	Silent	7:30- 9:00	Silent	288.3	KFKX
KFMQ	299.8	Silent	Silent	Silent	7:00- 8:00	Silent	5:30- 6:30	Silent	299.8	KFMQ
KFMX	336.9	Silent	5:00- 6:00	Silent	8:00- 9:00	7:00- 8:00	Silent	Silent	336.9	KFMX
KFNF	266	5:30- 6:30	4:30- 3:00	5:30- 6:30	Silent	5:30- 6:30	5:30- 6:30	5:30- 6:30	266	KFNF
KFOA	454.3	6:00-11:30	Silent	6:00-10:00	6:00-11:30	6:00-10:00	Silent	6:00-11:30	454.3	KFOA
KFRU	394.5	5:30-10:00	3:00- 5:00	5:00- 8:30	8:30-10:00	6:00- 8:30	8:30- 9:30	9:00-11:00	394.5	KFRU
KFUO	545.1	Silent	7:15- 8:15	Silent	Silent	7:15- 8:15	Silent	Silent	545.1	KFUO
KFVE	240	8:00-10:00	Silent	8:00-10:00	8:00-10:00	8:00-10:00	Silent	8:00-10:00	240	KFVE
KFWA	261	Silent	8:00- 9:00	8:00- 9:00	8:00- 9:00	8:00- 8:00	Silent	8:00-10:00	261	KFWA
KFWB	252	7:00-11:00	9:00-11:00	6:30-11:00	7:45-11:00	7:00-11:00	7:00-11:00	7:00-11:00	252	KFWB
KGO	361.2	8:00- 1:00	3:30- 9:00	9:00- 1:00	8:00- 1:00	Silent	8:00- 1:00	Silent	361.2	KGO
KGW	491.5	6:00-12:00	7:30-10:00	6:00- 7:00	9:00-12:00	8:00-11:00	8:00-12:00	9:00-12:00	491.5	KGW
KHJ	405.2	5:30-11:00	6:00-11:00	7:00- 1:30	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	405.2	KHJ
KIAF	421	Silent	2:00- 3:00	7:00- 8:00	Silent	7:00- 8:00	Silent	7:00- 8:00	421	KIAF
KJR	384.4	Silent	7:00- 8:00	6:00-10:00	Silent	8:30-10:00	10:30-12:00	8:30-10:00	384.4	KJR
KJS	293.9	Silent	7:15- 9:30	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent	293.9	KJS
KLX	508.2	Silent	Silent	6:00-11:30	Silent	Silent	6:00-11:30	Silent	508.2	KLX
KNX	336.9	6:30- 2:00	5:00-11:00	6:30-12:00	6:30-12:00	7:00-12:00	6:30-12:00	6:30- 2:00	336.9	KNX
KOA	322.4	8:00-11:00	3:30- 7:30	7:00- 8:00	Silent	7:00-11:00	Silent	7:00- 8:00	322.4	KOA
KOB	348.6	Silent	Silent	6:30- 7:30	Silent	Silent	Silent	6:30- 7:30	348.6	KOB
KPO	428.3	6:25-12:00	6:30-10:00	6:30-11:00	6:30-11:00	6:30-11:00	6:30-11:00	7:00-11:00	428.3	KPO
KSD	545.1	5:00- 7:30	Silent	7:00- 8:00	4:30- 6:30	5:30- 6:30	Silent	5:30- 7:00	545.1	KSD
KSL	261	7:00-10:00	8:00-10:00	7:00-10:00	8:00-10:00	7:00-10:00	7:00-10:00	8:00-10:00	261	KSL
KTHS	374.8	6:30- 8:00	6:30- 9:30	0:30- 8:00	6:30- 8:00	6:30- 8:00	8:30- 8:00	6:30- 8:15	374.8	KTHS
KTW	455	Silent	7:00- 9:30	Silent	Silent	Silent	Silent	Silent	455	KTW
KYW	535.4	4:00-10:30	1:00- 5:00	Silent	4:00- 8:30	4:00-10:30	4:00- 8:30	4:00-10:30	535.4	KYW
NAA	434.5	Silent	Silent	4:45- 5:00	4:45- 5:00	4:25- 5:10	4:25- 5:00	4:45- 5:00	434.5	NAA
PWX	400	5:30- 8:00	Silent	Silent	Silent	5:30- 8:00	Silent	Silent	400	PWX
WABL	275	Silent	Silent	4:00- 0:00	Silent	4:00- 6:00	Silent	4:00- 6:00	275	WABL
WAHG	315.6	9:00-11:00	Silent	4:00-10:00	Silent	3:30- 8:00	Silent	4:00- 7:30	315.6	WAHG
WAMD	243.8	8:00- 9:00	12:00- 8:00	Silent	8:00- 9:00	8:00- 9:30	8:00- 9:30	8:00- 9:00	243.8	WAMD
WBAP	475.9	5:00- 6:00	0:00-10:00	5:30-10:00	5:30- 8:45	5:30- 8:45	5:30- 8:45	5:30- 8:45	475.9	WBAP
WBAR	406	Silent	8:00- 9:00	7:00- 8:00	Silent	6:00- 7:00	5:30- 6:30	Silent	406	WBAR
WBAV	293.9	Silent	Silent	5:00- 7:30	Silent	Silent	Silent	5:00- 6:00	293.9	WBAV
WBBM	226	5:00- 9:00	1:00- 7:00	Silent	5:00- 9:00	5:00- 7:00	5:00- 9:00	5:00- 7:00	226	WBBM
WBBR	272.6	4:00- 4:45	5:00- 6:05	4:00- 4:50	Silent	Silent	4:00- 4:50	Silent	272.6	WBBR
WBCN	266	6:00-10:00	2:00- 9:00	Silent	8:00-12:00	5:00- 9:00	6:00-11:00	6:00-10:00	266	WBCN
WBZ	333.3	8:30- 5:55	4:00- 5:30	4:00- 5:55	5:15- 5:55	4:00- 5:55	3:30- 5:55	2:15- 5:55	333.3	WBZ
WCAE	461.3	4:00- 5:30	12:00- 4:30	4:00- 8:00	4:00- 7:00	4:30- 7:00	4:00- 7:00	4:30- 5:30	461.3	WCAE
WCAL	336.9	10:00-11:00	6:30- 8:00	9:00-10:00	Silent	Silent	7:00- 8:00	6:30- 7:00	336.9	WCAL
WCAP	469.5	Silent	1:00- 7:00	4:00- 8:30	Silent	3:00- 9:00	Silent	4:30- 9:00	468.5	WCAP
WCAU	278	2:30- 8:00	1:00- 4:00	Silent	2:30- 8:00	Silent	2:30- 4:00	2:30- 4:30	278	WCAU
WCBD	344.6	Silent	6:00- 7:00	5:00- 7:30	Silent	Silent	5:00- 7:30	Silent	344.6	WCBD
WCCO	416.4	4:05- 9:00	5:30- 8:15	4:00- 7:00	4:00- 7:00	4:00-10:30	4:00- 7:00	4:00-11:00	416.4	WCCO
WCX	516.9	Silent	4:15- 5:15	3:00- 6:30	3:00- 8:00	3:00- 6:30	Silent	3:00- 8:00	516.9	WCX
WDAF	365.6	4:00-11:00	2:00- 8:30	4:00-11:00	3:00- 5:45	4:00-11:00	4:00-11:00	4:00-11:00	365.6	WDAF
WDWF	440.9	Silent	1:00- 2:45	Silent	4:30- 5:30	Silent	Silent	2:00- 8:30	333.3	WDWF
WEAF	491.5	2:00- 8:00	3:20- 6:15	2:00- 7:30	2:00- 8:00	2:00- 8:00	2:00- 8:00	2:00- 8:00	491.5	WEAF
WEAO	293.9	Silent	Silent	Silent	Silent	5:00- 6:00	5:00- 6:00	Silent	293.9	WEAO
WEAR	389.4	4:00- 5:00	12:30- 7:00	4:00- 5:00	4:00- 8:00	4:00- 5:00	4:00- 8:00	4:00- 8:00	389.4	WEAR
WEBH	370.2	4:30- 9:30	4:00- 6:00	Silent	4:30- 9:30	4:30- 9:30	4:30- 9:30	4:30- 9:30	370.2	WEBH
WEBJ	233	Silent	Silent	Silent	4:00- 6:00	3:00- 5:00	Silent	4:00- 6:00	233	WEBJ
WEBW	268	Silent	2:25- 3:30	6:30- 7:45	6:30- 7:45	Silent	Silent	Silent	268	WEBW
WEEI	475.9	Silent	3:20- 6:20	4:00- 7:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	475.9	WEEI
WFAA	475.9	6:30-10:00	4:30- 9:00	4:30- 7:30	4:30-10:00	Silent	4:30-10:30	4:30- 7:30	475.9	WFAA
WFBH	272.6	7:30-10:00	1:00- 4:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	272.6	WFBH
WFI	394.5	4:00- 7:00	Silent	Silent	4:00- 6:00	Silent	4:00- 7:00	Silent	394.5	WFI
WGBS	315.6	2:00- 8:00	5:30- 6:30	Silent	2:00- 8:00	Silent	2:00- 9:00	Silent	315.6	WGBS
WGES	250	7:30-11:00	7:30-11:00	Silent	7:30-11:00	7:30-11:00	7:30-11:00	7:30-11:00	250	WGES
WGN	370.2	3:30- 8:30	6:00- 7:00	Silent	3:30- 8:30	3:30- 8:30	3:30- 8:30	3:30- 8:30	370.2	WGN
WGR	319	Silent	12:00- 6:00	6:00- 0:00	5:00- 8:00	6:00- 9:00	5:00- 8:00	4:00- 9:00	319	WGR
WGY	379.5	6:00- 9:00	3:30- 8:00	3:30- 5:30	4:10- 8:00	Silent	3:45- 8:30	4:15- 7:30	379.5	WGY
WHAD	275	4:00- 5:00	Silent	4:00- 8:00	4:00- 5:00	4:00-10:30	4:00- 5:00	4:00- 6:30	275	WHAD
WHAR	275	3:30- 6:00	5:00- 8:00	3:30- 6:30	3:30- 8:00	Silent	3:30- 6:00	3:30- 8:00	275	WHAR
WHAS	399.8	5:30- 7:00	2:00- 3:00	Silent	5:30- 7:30	5:30- 7:00	5:30- 7:00	5:30- 7:00	399.8	WHAS
WHAZ	379.5	Silent	Silent	6:00- 8:00	Silent	Silent	Silent	Silent	379.5	WHAZ
WHB	365.6	Silent	6:00-11:00	5:00- 6:00	Silent	5:00- 6:00	6:00- 8:30	5:00- 6:00	365.6	WHB
WHN	361.2	3:30- 6:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 7:00	3:30- 8:00	3:30- 8:00	361.2	WHN
WHO	526	Silent	2:00- 7:00	5:30-10:00	5:30-10:00	4:30- 9:00	5:30-10:00	5:30-10:00	526	WHO
WHT	399.4	4:00-11:00	4:00- 6:30	4:00-11:00	4:00-11:00	4:00-11:00	4:00-11:00	4:00-11:00	399.4	WHT
WIBO	226	3:00- 5:00	3:00- 9:00	Silent	3:00-12:00	3:00- 9:00	3:00-12:00	3:00-11:00	226	WIBO
WIP	508.2	4:00- 8:05	Silent	4:00- 6:00	4:00- 9:00	3:30- 4:30	4:00- 7:00	4:00- 9:00	508.2	WIP
WJAR	305.9	Silent	3:20- 6:15	4:00- 6:00	4:30- 7:00	Silent	Silent	4:00- 8:00	305.9	WJAR
WJAS	275.3	Silent	Silent	5:30- 8:00	5:30- 8:00	5:30- 8:00	4:30- 7:00	4:30- 7:00	275.3	WJAS
WJJD	302.8	3:45-10:00	5:45- 7:00	3:45-10:00	3:45-10:00	3:45- 7:00	Silent	3:30- 7:00	302.8	WJJD
WJY	405.2	Silent	4:15- 5:15	Silent	4:30- 7:15	Silent	4:30- 6:00	4:15- 5:45	405.2	WJY
WJZ	454.3	3:00- 7:30	4:00- 7:00	4:15- 5:15	4:18- 7:30	5:30- 7:30	4:30- 7:30	4:15- 6:45	454.3	WJZ
WKAQ	340.7	Silent	4:00- 6:00	Silent	Silent	4:00- 6:00	4:30- 6:00	Silent	340.7	WKAQ
WKAR	285.5	9:30-11:00	Silent	Silent	Silent	5:00- 6:15	Silent	Silent	285.5	WKAR
WKRC	422.3	7:00- 9:00	3:45- 8:00	7:00- 9:00	7:00-10:00	5:00- 9:00	Silent	Silent	422.3	WKRC
WLBL	278	9:30-10:30	Silent	Silent	6:00- 7:00	Silent	6:00- 7:00	Silent	278	WLBL
WLIT	394.5	Silent	Silent	Silent	3:45- 7:00	Silent	Silent	3:45- 7:45	394.5	WLIT
WLS	344.6	4:45-10:00	4:30- 5:55	Silent	4:00-10:00	4:00- 8:30	4:00- 5:55	4:00- 8:30	344.6	WLS
WLW	422.3	3:00- 5:00	3:30- 5:30	0:00- 7:30	4:00- 7:00	4:00- 8:00	4:00- 9:15	Silent	422.3	WLW
WMAK	265.5	Silent	Silent	5:00- 6:00	Silent	Silent	7:00- 8:30	Silent	265.5	WMAK
WMAQ	447.5	5:00- 7:00	Silent	Silent	5:00- 7:15	5:00- 6:45	5:00- 7:15	5:00- 7:15	447.5	WMAQ
WMBB	250	4:00- 7:30	4:00- 7:30	Silent	4:00- 7:30	4:00- 7:30	4:00- 7:30	4:00- 7:30	250	WMBB
WMBF	384.4	3:30- 9:00	3:30- 9:00	3:30- 9:00	3:30- 9:00	3:30- 9:00	3:30- 9:00	3:30- 9:00	384.4	WMBF
WMC	499.7	5:30- 7:30	Silent	5:30- 7:30	5:30-10:00	Silent	5:30- 7:30	5:30-10:00	499.7	WMC
WMCA	340.7	5:00- 8:00	2:30- 4:00	6:30- 7:30	5:00- 8:00	5:00- 8:00	5:00- 8:00	5:00- 8:00	340.7	WMCA
WNAC	280.2	6:00- 7:00	4:30- 6:30	5:00- 8:00	5:00- 7:00	3:00- 7:00	5:00- 7:00	3:00- 7:00	280.2	WNAC
WNYC	526	2:30- 8:20	5:00- 7:00	3:00- 7:00	3:20- 6:20	3:30- 6:30	Silent	3:30- 6:20	526	WNYC
WOAI	394.5	Silent	5:30- 8:30	5:30- 6:30	6:30- 7:30	Silent	7:30- 8:30	Silent	394.5	WOAI
WOAN	282.8	Silent	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 9:00	7:00- 8:00	282.8	WOAN
WOAW	526	4:00-10:15	7:00- 8:00	4:00- 9:30	4:00- 9:30	4:00- 9:30	4:00- 9:30	4:00- 9:30	526	WOAW
WOC	483.6	4:30-10:00	6:00- 9:30	Silent	4:30- 8:00	4:30- 8:00	4:30-10:00	4:30- 8:00	483.6	WOC
WOI	270	Silent	Silent	8:00-11:00	Silent	Silent	6:15- 7:15	Silent	270	WOI
WOD	508.2	Silent	2:05- 4:30	4:00- 7:30	Silent	4:00- 7:30	Silent	4:15- 7:30	508.2	WOO
WOR	405.2	2:15- 8:00	Silent	2:15- 8:00	2:15- 8:30	2:15- 8:30	2:15- 8:30	2:15- 8:30	405.2	WOR
WORD	275	5:30- 6:30	3:45- 5:00	5:00- 6:30	5:30- 6:30	5:30- 6:30	5:30- 6:30	5:30- 6:30	275	WORD
WOS	440.9	Silent	5:30- 6:30	6:00- 8:00	Silent	6:00- 8:00	Silent	6:00- 8:00	440.9	WOS
WPG	299.8	3:00- 8:00	5:00- 7:00	3:00- 7:30	4:00- 7:00	Silent	3:00- 8:15	3:00- 7:00	299.8	WPG
WQJ	447.5	4:00-12:00	4:00- 7:00	Silent	4:00-11:00	4:00-11:00	4:00-11:00	4:00-11:00	447.5	WQJ
WRBC	278	Silent	5:30- 6:30	5:30- 6:30	Silent	Silent	Silent	Silent	278	WRBC
WRC	468.5	4:00- 8:30	Silent	Silent	4:00- 9:00	Silent	4:00- 8:00	Silent	468.5	WRC
WREO	285.5	Silent	4:30- 5:30	Silent	5:15- 6:45	Silent	5:15- 6:45	Silent	285.5	WREO
WRW	273	6:00- 8:30	5:00- 8:30	6:00- 8:30	6:00- 8:30	6:00- 8:30	6:00- 8:30	6:00- 8:30	273	WRW
WSAC	336.9	Silent	Silent	Silent	Silent	5:00- 6:00	Silent	Silent	336.9	WSAC
WSAI	325.9	5:00-10:30	Silent	Silent	7:00- 9:00	4:00- 7:00	4:00- 9:00	Silent	325.9	WSAI
WSB	428.3	6:00-10:00	5:30- 7:15	6:00-10:00	6:00-10:00	8:45-10:00	4:00-10:00	6:00-10:00	428.3	WSB
WSMB	319	6:30- 8:30	Silent	6:30- 8:30	Silent	6:30- 8:30	6:30- 8:30	Silent	319	WSMB
WSUI	483.6	Silent	5:00- 8:00	5:30- 7:00	Silent	Silent	Silent	Silent	483.6	WSUI
WTAM	389.4	3:00- 9:00	Silent	3:00- 9:00	Silent	3:00-10:00	Silent	Silent	389.4	WTAM
WTAS	302.8	5:00- 7:30	5:00- 9:00	5:00- 7:30	5:00- 7:30	5:00- 7:30	5:00-10:00	5:00- 7:30	302.8	WTAS
WTIC	348.6	Silent	Silent	3:00- 4:00	3:30- 6:30	Silent	3:30- 6:30	3:30- 6:30	348.6	WTIC
WWJ	352.7	Silent	3:20- 7:00	3:00- 6:00	3:00- 8:00	Silent	8:00- 9:30	3:00- 7:00	352.7	WWJ

Friday, June 26

(Continued from page 13)

studio, Dan McFarland, organist; 9, play with music, "The Kentucky Mountaineer," by George Frenger; 10-11, artist-pupils of Myra Belle Vickers in all vocal program.

KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 8-9, program, Frazier's mountain park and fisheries, Frazier's orchestra, Melba Maising, popular singer; Frances St. George, the jazzmania girl; Salvino Balano string trio; 9-10, KFWB feature musical hour; 10-11, Warner Bros. trolic, direction Charlie Wellman.

KGO, Oakland, Calif. (361.2), 6-7 p. m., Ben Black's orchestra.

KGW, Portland, Ore. (491.5), 7:30-8 p. m., baseball; 9-10:20, concert, Sherman Clay Co. studio; 10:30-12, Hoot Owls.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog, little "Sir" Richard Hendrick of movieland and Uncle John; 8-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burtnett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio, Sid Ziff's sports talk; 6:15, travel talk, W. F. Alder; 6:30-7:30, program, Beverly-ridge company; 7:30-8, program, Eastern Outfitting company; 8-9, West Coast theaters; 9-11, KNX feature program; 11-12, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (428.3), 6:15-7 p. m., Loew's Warfield theater; 7-7:30, Palace hotel concert orchestra; 8-11, Palace hotel dance orchestra.

Dreams of Radio Joy for Convicts

New York Prison Allows Prisoners to Have Sets in Their Cells

OSSINING, N. Y.—"Stone walls do not a prison make, nor iron bars a cage". For, thanks to Warden Lewis E. Lawes, prosperous enough prisoners detained by the state at Sing Sing prison, can now have Radio receiving sets in their cells.

On dull evenings, when there's no show in the prison theater to keep them happy and 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 several head set extensions to other cells. Sixty or seventy prisoners have head sets.

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

DESCRIBE AIR SHAM BATTLE FROM WOR

MAJOR VAUGHN RECOUNTS MOVEMENTS OF FIGHT

Fans Hear Reports of Scrimmage as 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 battle in mid air over Times Square, New York, by fliers of the National Guard from Miller Field, Staten Island.

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

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

Educational Radio Work Tried in West

University of Washington Tests Lecture Programs Broadcast

SEATTLE.—Educational test programs from KTCL are being planned in Seattle and the state of Washington by University of Washington officials, who have been collecting data from other colleges and trying their effects on the campus. Professor Edwin Guthrie of the psychology department has made tests by dividing his class of 400 into two parts. One section listens to his lectures "face to face" in Science hall. The other section gathers before a loud speaker in Meany hall and hears the same lecture over the Radio. If the experiment works it will bring lectures of great value by celebrated educators and others within the reach of thousands of school children.

An Evening at Home with the Listener In

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

Call	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
AT9	Silent	5:00- 6:00	Silent	Silent	Silent	7:00- 8:55	Silent	AT9	Fort Bragg, N. C.	435	Silent	6:00- 7:00	Silent	Silent	Silent	8:00- 9:55	Silent	AT9
CFCA	Silent	6:00- 7:00	Silent	7:15- 8:15	7:15- 8:15	7:15- 8:15	Silent	CFCA	Toronto, Ont.	356.9	Silent	7:00- 8:00	Silent	8:15- 9:15	8:15- 9:15	8:15- 9:15	Silent	CFCA
CFCN	11:00- 1:00	Silent	Silent	Silent	Silent	9:00-10:00	Silent	CFCN	Calgary, Alta.	434.5	12:00- 2:00	Silent	Silent	Silent	Silent	10:00-11:00	Silent	CFCN
CHNC	Silent	Silent	7:30- 8:30	Silent	Silent	Silent	Silent	CHNC	Toronto, Ont.	356.9	Silent	Silent	8:30- 9:30	Silent	Silent	Silent	Silent	CHNC
CJCA	10:00-12:00	8:30- 9:30	8:30-10:30	8:30- 9:00	7:00- 9:00	10:00-12:00	9:30-12:00	CJCA	Edmonton, Can.	516.9	11:00- 1:00	9:30-10:30	9:30-11:30	9:30-10:00	8:00-10:00	11:00- 1:00	10:30- 1:00	CJCA
CKAC	5:30- 9:30	Silent	Silent	5:30- 9:30	Silent	6:30- 7:30	Silent	CKAC	Montreal, Que.	410.7	6:30-10:30	Silent	Silent	6:30-10:30	Silent	7:30- 8:30	Silent	CKAC
CKY	Silent	7:00- 8:45	Silent	7:30-10:00	Silent	8:00- 9:00	7:30-10:00	CKY	Winnipeg, Man.	384.4	Silent	8:00- 9:45	Silent	8:30-11:00	Silent	9:00-10:00	8:30-11:00	CKY
CNRA	Silent	Silent	Silent	6:30- 7:30	Silent	Silent	6:30- 7:30	CNRA	Moncton, Can.	313	Silent	Silent	Silent	7:30- 8:30	Silent	Silent	7:30- 8:30	CNRA
CNRO	6:30-11:30	Silent	Silent	Silent	6:30-11:30	Silent	Silent	CNRO	Ottawa, Ont.	434.5	7:30-12:30	Silent	Silent	Silent	7:30-12:30	Silent	Silent	CNRO
CYB	10:30-11:45	Silent	Silent	0:15- 10:15	Silent	Silent	Silent	CYB	Mexico City, Mex.	370	11:30-12:45	Silent	Silent	10:15-11:15	Silent	Silent	Silent	CYB
CYL	Silent	Silent	Silent	10:00-11:30	Silent	Silent	10:00-11:30	CYL	Mexico City, Mex.	480	Silent	Silent	Silent	11:00-12:30	Silent	Silent	11:00-12:30	CYL
CYX	Silent	Silent	9:15-10:30	Silent	Silent	Silent	9:15-10:45	CYX	Mexico City, Mex.	330	Silent	Silent	10:15-11:30	Silent	Silent	Silent	10:15-11:45	CYX
KDKA	7:45- 8:55	2:00- 6:30	7:45- 8:55	7:45-10:30	7:45- 8:55	7:00-10:30	7:45- 8:55	KDKA	Pittsburgh, Pa.	309.1	8:45- 9:55	3:00- 7:30	8:45- 9:55	8:45- 9:30	8:45- 9:55	8:00-11:30	8:45- 9:55	KDKA
KFAB	11:00-12:30	4:00- 5:00	7:30-10:00	Silent	7:30-10:00	Silent	7:30- 9:30	KFAB	Lincoln, Nebr.	240	12:00- 1:30	5:00- 6:00	8:30-11:00	Silent	8:30-11:00	Silent	8:30-10:30	KFAB
KFAE	Silent	Silent	Silent	Silent	9:30-11:00	Silent	Silent	KFAE	Pullman, Wash.	348.6	Silent	Silent	Silent	Silent	10:30-12:00	Silent	Silent	KFAE
KFAU	Silent	Silent	9:00-10:00	Silent	Silent	Silent	9:00-10:00	KFAU	Boise, Idaho	275	Silent	Silent	10:00-11:00	Silent	Silent	Silent	10:00-11:00	KFAU
KFDM	Silent	Silent	Silent	8:00- 9:00	Silent	Silent	8:00- 9:00	KFDM	Beaumont, Texas	315.6	Silent	Silent	Silent	9:00-10:00	Silent	Silent	9:00-10:00	KFDM
KFI	8:45- 2:00	6:00- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	KFI	Los Angeles, Calif.	467	9:45- 3:00	7:00- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	KFI
KFKU	Silent	Silent	6:50- 8:00	Silent	Silent	6:50- 8:00	Silent	KFKU	Lawrence, Kan.	275	Silent	Silent	7:50- 0:00	Silent	Silent	7:50- 9:00	Silent	KFKU
KFKX	Silent	Silent	9:30-11:00	Silent	Silent	9:30-11:00	Silent	KFKX	Hastings, Nebr.	288.3	Silent	Silent	10:30-12:00	Silent	Silent	10:30-12:00	Silent	KFKX
KFMQ	Silent	Silent	Silent	9:00-10:00	Silent	7:30- 8:30	Silent	KFMQ	Fayetteville, Ark.	299.8	Silent	Silent	Silent	10:00-11:00	Silent	8:30- 9:30	Silent	KFMQ
KFMX	Silent	7:00- 8:00	Silent	10:00-11:00	9:00-10:00	Silent	Silent	KFMX	Northfield, Minn.	336.9	Silent	8:00- 9:00	Silent	11:00-12:00	10:00-11:00	Silent	Silent	KFMX
KFNF	7:30- 8:30	6:30-10:00	7:30- 8:30	Silent	7:30- 8:30	7:30- 8:30	7:30- 8:30	KFNF	Shenandoah, Ia.	266	8:30- 9:30	7:30-11:00	8:30- 9:30	Silent	8:30- 9:30	8:30- 9:30	8:30- 9:30	KFNF
KFOA	8:00- 1:30	Silent	8:00-12:00	8:00- 1:30	8:00-12:00	Silent	8:30- 1:30	KFOA	Seattle, Wash.	454.3	9:00- 2:30	Silent	9:00- 2:00	9:00- 2:30	9:00- 2:00	Silent	9:00- 2:30	KFOA
KFRU	7:30-12:00	5:00- 7:00	7:00-10:30	10:30-12:00	8:00-10:30	10:30-11:30	11:00- 1:00	KFRU	Bristow, Okla.	394.5	8:30- 1:00	6:00- 8:00	8:00-11:30	11:30-1:00	9:00-11:30	11:30-12:30	12:00- 2:00	KFRU
KFUO	Silent	9:15-10:15	Silent	Silent	9:15-10:15	Silent	Silent	KFUO	St. Louis, Mo.	545.1	Silent	10:15-11:15	Silent	Silent	10:15-11:15	Silent	Silent	KFUO
KFVE	10:00-12:00	Silent	10:00-12:00	10:00-12:00	10:00-12:00	Silent	10:00-12:00	KFVE	University City, Mo.	240	11:00- 1:00	Silent	11:00- 1:00	11:00- 1:00	11:00- 1:00	Silent	11:00- 1:00	KFVE
KFWA	Silent	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	Silent	10:00-12:00	KFWA	Ogden, Utah	261	Silent	11:00-12:00	11:00-12:00	11:00-12:00	11:00-12:00	Silent	11:00- 1:00	KFWA
KFWB	9:00- 1:00	11:00- 1:00	8:30- 1:00	9:45- 1:00	9:00- 1:00	9:00- 1:00	9:00- 1:00	KFWB	Hollywood, Calif.	252	10:00- 2:00	12:00- 2:00	9:30- 2:00	10:45- 2:00	10:00- 2:00	10:00- 2:00	10:00- 2:00	KFWB
KGO	10:00- 8:00	5:30-11:00	10:00- 3:00	10:00- 3:00	Silent	10:00- 3:00	Silent	KGO	Oakland, Calif.	361.2	11:00- 4:00	6:30-12:00	11:00- 4:00	11:00- 4:00	Silent	11:00- 4:00	Silent	KOO
KGW	8:00- 2:00	9:30-12:00	8:00- 9:00	11:00- 2:00	10:00- 1:00	10:00- 2:00	11:00- 2:00	KGW	Portland, Ore.	491.5	9:00- 3:00	10:30- 1:00	9:00-10:00	12:00- 3:00	11:00- 2:00	11:00- 3:00	12:00- 3:00	KGW
KHJ	7:30- 1:00	8:00- 1:00	9:00- 3:30	7:30- 1:00	7:30- 1:00	7:30- 1:00	7:30- 1:00	KHJ	Los Angeles, Calif.	405.2	8:30- 2:00	9:00- 2:00	10:00- 4:30	8:30- 2:00	8:30- 2:00	8:30- 2:00	8:30- 2:00	KHJ
KIAF	Silent	4:00- 5:00	9:00-10:00	Silent	9:00-10:00	Silent	9:00-10:00	KIAF	Sihtipok, Minn.	421	Silent	3:00- 4:00	8:00- 9:00	Silent	8:00- 9:00	Silent	8:00- 9:00	KIAF
KJR	Silent	9:00-10:00	8:00-12:00	Silent	10:30-12:00	12:30- 2:00	10:30-12:00	KJR	Seattle, Wash.	384.4	Silent	10:00-11:00	0:00- 1:00	Silent	11:30- 1:00	1:30- 3:00	11:30- 1:00	KJR
KJS	Silent	9:15-11:30	Silent	10:00-11:00	Silent	10:00-11:00	Silent	KIS	Los Angeles, Calif.	293.9	Silent	10:15-12:30	Silent	11:00-12:00	Silent	11:00-12:00	Silent	KJS
KLX	Silent	Silent	8:00- 1:00	Silent	8:00- 1:30	Silent	8:00-12:30	KLX	Oakland, Calif.	508.2	Silent	Silent	0:00- 2:00	Silent	9:00- 2:30	Silent	9:00- 1:30	KLX
KNX	8:30- 4:00	7:00- 1:00	8:30- 2:00	8:30- 2:00	9:00- 3:00	8:30- 2:00	8:30- 4:00	KNX	Hollywood, Calif.	836.9	9:30- 5:00	8:00- 2:00	9:30- 3:00	0:30- 8:00	10:00- 8:00	9:30- 3:00	9:30- 5:00	KNX
KOA	10:00- 1:00	5:30- 9:30	0:00-10:00	Silent	9:00- 1:00	Silent	9:00-10:00	KOA	Denver, Colo.	322.4	11:00- 2:00	6:30-10:30	10:00-11:00	Silent	10:00- 2:00	Silent	10:00-11:00	KOA
KOB	Silent	Silent	8:30- 9:30	Silent	Silent	Silent	8:30- 9:30	KOB	State College, N. M.	348.6	Silent	Silent	9:30-10:30	Silent	Silent	Silent	9:30-10:30	KOB
KPO	8:25- 2:00	8:30-12:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	9:00- 1:00	KPO	San Francisco, Calif.	428.3	9:25- 3:00	9:30- 1:00	9:30- 2:00	9:30- 2:00	0:30- 2:00	9:30- 2:00	10:00- 2:00	KPO
KSD	7:00- 9:30	Silent	0:00-11:00	6:30- 8:30	7:30- 8:30	Silent	7:30- 0:00	KSD	St. Louis, Mo.	545.1	8:00-10:30	Silent	10:00-12:00	7:30- 9:30	8:30- 9:30	Silent	8:30-10:00	KSD
KSL	9:00-12:00	10:00-12:00	9:00-12:00	10:00-12:00	9:00-12:00	9:00-12:00	10:00-12:00	KSL	Salt Lake City, Utah	261	10:00- 1:00	11:00- 1:00	10:00- 1:00	11:00- 1:00	10:00- 1:00	10:00- 1:00	11:00- 1:00	KSL
KTHS	8:30-10:00	8:30-11:30	8:30-10:00	8:30-10:00	8:30-10:00	8:30-10:00	8:30-10:15	KTHS	Hot Springs, Ark.	374.8	9:30-11:00	9:30-12:30	9:30-11:00	9:30-11:00	9:30-11:00	9:30-11:00	9:30-11:15	KTHS
KTW	Silent	9:00-11:30	Silent	Silent	Silent	Silent	Silent	KTW	Seattle, Wash.	455	Silent	10:00-12:30	Silent	Silent	Silent	Silent	Silent	KTW
KYW	6:00-12:30	3:00- 7:00	Silent	6:00-10:30	6:00-12:30	6:00-10:30	6:00-12:30	KYW	Chicago, Ill.	535.4	7:00- 1:30	4:00- 8:00	Silent	7:00- 11:30	7:00- 1:30	7:00- 11:30	7:00- 1:30	KYW
NAA	Silent	Silent	6:45- 7:00	6:45- 7:00	6:25- 7:40	6:45- 7:00	6:45- 7:00	NAA	Radio, Va.	434.5	Silent	Silent	7:45- 8:00	7:45- 8:00	7:25- 8:40	7:45- 8:00	7:45- 8:00	NAA
PWX	7:30-10:00	Silent	Silent	Silent	7:30-10:00	Silent	Silent	PWX	Havana, Cuba	400	8:30-11:00	Silent	Silent	Silent	8:30-11:00	Silent	Silent	PWX
WABL	Silent	Silent	6:00- 8:00	Silent	6:00- 8:00	Silent	6:00- 8:00	WABL	Storrs, Conn.	275	Silent	Silent	7:00- 9:00	Silent	7:00- 9:00	Silent	7:00- 9:00	WABL
WAHG	11:00- 1:00	Silent	6:00-12:00	Silent	5:30-10:00	Silent	6:00- 9:30	WAHG	Richmond, N. Y.	315.6	12:00- 2:00	Silent	7:00- 1:00	Silent	6:30-11:00	Silent	7:00-10:30	WAHG
WAMD	10:00-11:00	2:00-10:00	Silent	10:00-11:00	10:00-11:30	10:00-11:30	10:00-11:00	WAMD	Minneapolis, Minn.	243.8	11:00-12:00	3:00-11:00	Silent	11:00-12:00	11:00-12:30	11:00-12:30	11:00-12:00	WAMD
WBAP	7:00- 8:00	11:00-12:00	7:30-12:00	7:30-10:45	7:30-10:45	7:30-10:45	7:30-10:45	WBAP	Fort Worth, Tex.	475.9	8:00- 9:00	12:00- 1:00	8:30- 2:00	8:30-11:45	8:30-11:45	8:30-11:45	8:30-11:45	WBAP
WBAR	Silent	10:00-11:00	0:00-10:00	Silent	3:00- 0:00	7:30- 8:30	Silent	WBAR	Sisiht, Wis.	406	Silent	11:00-12:00	10:00-11:00	Silent	9:00-10:00	8:30- 9:30	Silent	WBAR
WBAV	Silent	Silent	7:00- 9:00	Silent	Silent	Silent	7:00- 8:00	WBAV	Columbus, O.	293.9	Silent	Silent	8:00-10:00	Silent	Silent	Silent	8:00- 9:00	WBAV
WBBM	7:00-11:00	3:00- 9:00	Silent	7:00-11:00	7:00- 9:00	7:00-11:00	7:00- 9:00	WBBM	Chicago, Ill.	226	8:00-12:00	4:00-10:00	Silent	8:00-12:00	8:00-10:00	8:00-12:00	8:00-10:00	WBBM
WBBR	6:00- 6:45	7:00- 8:05	0:00- 6:50	Silent	Silent	6:00- 6:50	Silent	WBBR	Staten Island, N. Y.	272.6	7:00- 7:45	8:00- 9:05	7:00- 7:50	Silent	Silent	7:00- 7:50	Silent	WBBR
WBCN	8:00-12:00	4:00-11:00	Silent	8:00- 2:00	7:00-11:00	8:00- 1:00	8:00-12:00	WBCN	Chicago, Ill.	266	9:00- 1:00	5:00-12:00	Silent	9:00- 3:00	8:00-12:00	9:00- 2:00	9:00- 1:00	WBCN
WBZ	5:30- 7:55	6:00- 7:30	6:00- 7:55	7:15- 7:55	6:00- 7:55	5:30- 7:55	5:45- 7:55	WBZ	Springfield, Mass.	333.3	6:30- 8:55	7:00- 8:30	7:00- 8:55	8:15- 8:55	7:00- 8:55	6:30- 8:55	6:45- 8:55	WBZ
WCAE	6:00- 7:30	2:00- 6:30	6:00-10:00	6:00- 9:00	6:30- 9:00	6:00- 9:00	6:30- 7:30	WCAE	Pittsburgh, Pa.	481.3	7:00- 8:30	3:00- 7:30	7:00-11:00	7:00-10:00	7:30-10:00	7:00-10:00	7:30- 8:30	WCAE
WCAL	12:00- 1:00	8:30-10:00	11:00-12:00	Silent	Silent	9:00-10:00	8:30- 9:00	WCAL	Northfield, Minn.	336.9	1:00- 2:00	9:30-11:00	12:00- 1:00	Silent	Silent	10:00-11:00	9:30-10:00	WCAL
WCAP	Silent	3:00- 9:00	6:00-10:30	Silent	5:00-11:00	Silent	6:30-11:00	WCAP	Washington, D. C.	468.5	Silent	4:00-10:00	7:00-11:30	Silent	6:00-12:00	Silent	7:30-12:00	WCAP
WCAU	4:30-10:00	3:00- 6:00	Silent	4:30-10:00	Silent	4:30- 6:00	4:30- 6:30	WCAU	Philadelphia, Pa.	278	5:30-11:00	4:00- 7:00	Silent	5:30-11:00	Silent	5:30- 7:00	5:30- 7:30	WCAU
WCBD	Silent	1:30- 0:00	7:00- 9:30	Silent	Silent	7:00- 9:30	Silent	WCBD	Zion, Ill.	344.6	Silent	2:30-10:00	8:00- 10:30	Silent	Silent	8:00-10:30	Silent	WCBD
WCCO	6:05-11:00	7:20-10:15	6:00- 9:00	6:00- 9:00	6:00-12:30	6:00- 9:00	0:00- 1:00	WCCO	Minn.-St. P., Minn.	416.4	7:05-12:00	8:20-11:15	7:00-10:00	7:00-10:00	7:00- 1:30	7:00-10:00	7:00- 2:00	WCCO
WCX	Silent	6:15- 7:15	5:00- 8:30	5:00-10:00	5:00- 8:30	Silent	5:00-10:00	WCX	Detroit, Mich.	516.9	Silent	7:15- 8:15	6:00- 9:30	6:00-11:00	6:00- 8:30	Silent	6:00-11:00	WCX
WDAF	6:00- 1:00	4:00- 5:30	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	WDAF	Kansas City, Mo.	365.6	7:00- 2:00	5:00- 6:30	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	WDAF
WDWF	Silent	3:00- 4:45	Silent	6:30- 7:30	Silent	Silent	4:00-10:30	WDWF	Providence, R. I.	440.9	Silent	4:00- 5:45	Silent	7:30- 8:30	Silent	Silent	5:00-11:30	WDWF
WEAF	4:00-10:00	5:20- 8:15	4:00- 9:30	4:00-10:00	4:00-10:00	4:00-10:00	4:00-10:00	WEAF	New York, N. Y.	491.5	5:00-11:00	6:20- 9:15	5:00-10:30	5:00-11:00	5:00-11:00	5:00-11:00	5:00-11:00	WEAF
WEAO	Silent	Silent	Silent	Silent	7:00- 8:00	7:00- 8:00	Silent	WEAO	Columbus, Ohio	293.9	Silent	Silent	Silent	Silent	8:00- 9:00	8:00- 9:00	Silent	WEAO
WEAR	6:00- 7:00	2:30- 9:00	6:00- 7:00	6:00-10:00	6:00- 7:00	6:00-10:00	6:00-10:00	WEAR	Cleveland, Ohio	389.4	7:00- 8:00	3:30-10:00	7:00- 8:00	7:00-11:00	7:00- 8:00	7:00-11:00	7:00-11:00	WEAR
WEBH	6:30-11:30	6:00- 8:00	Silent	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30	WEBH	Chicago, Ill.	370.2	7:30-12:30	7:00- 9:00	Silent	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30	WEBH
WEBJ	Silent	Silent	Silent	6:00- 7:00	5:00- 7:00	Silent	6:00- 7:00	WEBJ	New York, N. Y.	233	Silent	Silent	Silent	7:00- 8:00	6:00- 8:00	Silent	7:00- 8:00	WEBJ
WEBW	Silent	4:25- 5:30	8:30- 9:45	8:30- 9:45	Silent	Silent	Silent	WEBW	Beloit, Wis.	268	Silent	5:25- 6:30	9:30-10:45	9:30-10:45	Silent	Silent	Silent	WEBW
WEEI	Silent	5:20- 8:20	6:00- 9:00	6:00- 9:00	6:00- 9:00	8:00- 9:00	6:00- 9:00	WEEI	Boston, Mass.	475.9	Silent	6:20- 9:20	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	WEEI
WFAA	8:30-12:00	6:30-11:00	6:30- 9:30	6:30-12:00	Silent	6:30-12:00	6:30- 9:59	WFAA	Dallas, Tex.	475.9	9:30- 1:00	7:30-12:00	7:30-10:30	7:30- 1:00	Silent	7:30- 1:00	7:30-10:30	WFAA
WFBH	0:30-12:00	3:00- 6:00	9:30-12:00	9:30-12:00	9:30-12:00	9:30-12:00	9:30-12:00	WFBH	New York, N. Y.	272.6	10:30- 1:00	4:00- 7:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	WFBH
WFI	6:00- 9:00	2:00- 3:00	Silent	6:00- 8:00	Silent	6:00- 9:00	Silent	WFI	Philadelphia, Pa.	394.5	7:00-10:00	3:00- 4:00	Silent	7:00- 9:00	Silent	7:00-10:00	Silent	WFI
WGBS	4:00-10:00	1:30- 8:30	Silent	4:00-10:00	Silent	4:00-11:00	Silent	WGBS	New York, N. Y.	315.6	5:00-11:00	2:30- 9:30	Silent	5:00-11:00	Silent	5:00-12:00	Silent	WGBS
WGES	9:30- 1:00	9:30- 1:00	Silent	9:30- 1:00	9:30- 1:00	9:30- 1:00	9:30- 1:00	WGES	Oak Park, Ill.	250	10:30- 2:00	10:30- 2:00	Silent	10:30- 2:00	10:30- 2:00	10:30- 2:00	10:30- 2:00	WGES
WGN	5:30-10:30	1:30- 9:00	Silent	5:30-10:30	5:30-10:30	5:30-10:30	5:30-10:30	WGN	Chicago, Ill.	370.2	6:30-11:30	2:30-10:00	Silent	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30	WGN
WGR	Silent	2:00- 8:00	8:00-11:00	7:00-10:00	8:00-11:00	7:00-10:00	6:00-11:00	WGR	Buffalo, N. Y.	319	Silent	3:00- 9:00	9:00-12:00	8:00-11:00	9:00-12:00	8:00-11:00	7:00-12:00	WGR
WGY	8:00-11:00	5:30-10:00	5:30- 7:30	6:10-10:00	Silent	5:45-10:30	6:15- 9:30	WOY	Schenectady, N. Y.	379.5	9:00-12:00	6:30-11:00	6:30- 8:30	7:10-11:00	Silent	6:45-11:30	7:15-10:30	WGY
WHAD	6:00- 7:00	Silent	6:00-10:00	0:00- 7:00	6:00-12:30	6:00- 7:00	6:00- 9:30	WHAD	Milwaukee, Wis.	275	7:00- 8:00	Silent	7:00-11:00	7:00- 8:00	7:00- 1:30	7:00- 8:00	7:00-10:30	WHAD
WHAR	5:30- 8:00	7:00-10:00	5:30- 8:00	5:30-10:00	Silent	5:30- 8:00	5:30-10:00	WHAR	Atlantic City, N. J.	275	6:30- 9:00	8:00-11:00	0:30- 9:00	6:30- 0:00	Silent	6:30- 9:00	6:30-11:00	WHAR
WHAS	7:30- 9:00	4:00- 5:00	Silent	7:30- 0:30	7:30- 9:00	7:30- 9:00	7:30- 9:00	WHAS	Louisville, Ky.	399.8	8:30-10:00	5:00- 0:00	Silent	8:30-10:30	8:30-10:00	8:30-10:00	8:30-10:00	WHAS
WHAZ	Silent	Silent	8:00-10:00	Silent	Silent	Silent	Silent	WHAZ	Troy, N. Y.	379.5	Silent	Silent	9:00-11:00	Silent	Silent	Silent	Silent	WHAZ
WHB	Silent	8:00- 1:00	7:00- 8:00	Silent	7:00- 8:00	8:00-10:30	7:00- 8:00	WHB	Kansas City, Mo.	365.6	Silent	9:00- 2:00	8:00- 9:00	Silent	8:00- 9:00	9:00-11:30	8:00- 0:00	WHB
WHN	5:30- 8:00	5:30-10:00	5:30-10:00	5:30-10:00	5:30- 9:00	5:30-10:00	5:30-10:00	WHN	New York, N. Y.	361.2	6:30- 0:00	6:30-11:00	6:30-11:00	6:30-11:00	6:30-10:00	6:30-11:00	6:30-11:00	WHN
WHO	Silent	4:00- 0:00	7:30-12:00	7:30-12:00	6:30-11:00	7:30-12:00	7:30-12:00	WHD	Des Moines, Ia.	526	Silent	5:00-10:00	8:30- 1:00	8:30- 1:00	7:30-12:00	8:30- 1:00	8:30- 1:00	WHO
WHT	6:00- 1:00	6:00- 8:30	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	0:00- 1:00	WHT	Deerfield, Ill.	399.8	7:00- 2:00	7:00- 9:30	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	WHT
WIBO	5:00- 7:00	5:00-11:00	Silent	5:00- 2:00	5:00-11:00	5:00- 2:00	5:00- 1:00	WIBD	Chicago, Ill.	226	6:00- 8:00	6:00-12:00	Silent	6:00- 3:00	0:00- 3:00	6:00- 3:00	6:00- 2:00	WIBO
WIP	6:00-10:05	2:15- 3:15	Silent	6:00-11:00	Silent	6:00-11:00	Silent	WIP	Philadelphia, Pa.	508.2	7:00-11:05	3:15- 4:15	Silent	7:00-12:00	Silent	7:00-12:00	Silent	WIP
WJAR	Silent	5:20- 8:15	6:00- 8:00	6:30- 9:00	5:30- 6:30	8:00- 9:00	6:00-10:00	WJAR	Providence, R. I.	305.9	Silent	6:20- 9:15	7:00- 9:00	7:30-10:00	6:30- 7:30	7:00-10:00	7:00-11:00	WJAR
WJAS	Silent	Silent	7:30-10:00	7:30-10:00	7:30-10:00	6:30- 9:00	6:30- 9:00	WJAS	Pittsburgh, Pa.	275.3	Silent	Silent	8:30-11:00	8:30-11:00	8:30-11:00	8:30-10:00	7:30-10:00	WJAS
WJJD	5:45-12:00	7:45- 9:00	5:45-12:00	5:45-12:00	5:45-12:00	Silent	5:45-12:00	WJJD	Mooseheart, Ill.	302.8	6:45- 1:00	8:45-10:00	6:45- 1:00	6:45- 1:00	6:45- 1:00	Silent	6:45- 1:00	WJJD
WJY	Silent	6:15- 7:15	Silent	6:30- 0:15	Silent	6:30- 8:00	6:45- 7:45	WJY	New York, N. Y.	405.2	Silent	7:15- 8:15	Silent	7:30-10:15	Silent	7:30- 9:00	7:45- 8:45	WJY
WJZ	5:00- 9:30	6:00- 9:00	6:15- 7:15	6:10- 9:30	7:30- 9:30	6:30- 9:30	6:15- 8:45	WJZ	New York, N. Y.	454.3	0:00-10:30	7:00-10:00	7:15- 8:15	7:10-10:30	8:30-10:30	7:30-10:00	7:15- 9:45	WJZ
WKAQ	Silent	6:00- 8:00	Silent	Silent	6:00- 8:00	6:30- 8:00	Silent	WKAQ	San Juan, P. R.	340.7	Silent	7:00- 9:00	Silent	Silent	7:00- 9:00	7:30- 0:00	Silent	WKAQ
WKAR	11:30- 1:00	Silent	0:00- 7:00	Silent	7:00- 8:15	Silent	6:00- 7:00	WKAR	Lansing, Mich.	285.5	12:30- 2:00	Silent	7:00- 8:00	Silent	8:00- 9:15	Silent	7:00- 8:00	WKAR
WKRC	9:00-11:00	5:45-10:00	9:00-11:00	9:00-12:00	7:00-11:00	Silent	Silent	WKRC	Cincinnati, O.	422.3	10:00-12:00	6:45-11:00	10:00-12:00	10:00- 1:00	8:00-12:00	Silent	Silent	WKRC
WLBL	11:59-12:59	Silent	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent	WLBL	Stevens Point, Wis.	278	12:59- 1:59	Silent	Silent	9:00-10:00	Silent	9:00-10:00	Silent	WLBL
WLIT	Silent	Silent	Silent	5:45- 9:00	Silent	Silent	5:45- 9:45	WLIT	Philadelphia, Pa.	394.5	Silent	Silent	Silent	6:45-10:00	Silent	Silent	6:45-10:45	WLIT
WLS	6:45-12:00	6:30- 7:55	Silent	6:00-12:00	6:00-10:30	6:00- 7:55	6:00-10:30	WLS	Chicago, Ill.	344.6	7:45- 1:00	7:30- 8:55	Silent	7:00- 1:00	7:00-11:30	7:00- 8:55	7:00-11:30	WLS
WLW	5:00- 7:00	5:30- 7:30	7:15- 9:30	0:00- 9:00	6:00-10:00	6:00-11:15	Silent	WLW	Harrison, O.	422.3	6:00- 8:00	6:30- 8:30	8:15-10:30	7:00-10:00	7:00-11:00	7:00-12:15	Silent	WLW
WMAK	Silent	Silent	7:00- 8:00	Silent	Silent	9:00-10:30	Silent	WMAK	Lockport, N. Y.	265.5	Silent	Silent	8:00- 9:00	Silent	Silent	10:00-11:30	Silent	WMAK
WMAQ	7:00- 9:00	Silent	Silent	7:00- 9:15	7:00- 8:45	7:00- 9:15	7:00- 9:15	WMAQ	Chicago, Ill.	447.5	8:00-10:00	Silent	Silent	8:00-10:15	8:00- 9:45	8:00-10:15	8:00-10:15	WMAQ
WMBB	6:00- 9:30	6:00- 9:30	Silent	6:00- 9:30	6:00- 9:30	6:00- 9:30	6:00- 9:30	WMBB	Chicago, Ill.	250	7:00-10:30	7:00-10:30	Silent	7:00-10:30	7:00-10:30	7:00-10:30	7:00-10:30	WMBB
WMBF	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	WMBF	Miami Beach, Fla.	364.4	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	6:30-12:00	WMBF
WMC	7:30- 9:30	Silent	7:30- 0;30	7:30-12:00	Silent	7:30- 9:30	7:30-12:00	WMC	Memphis, Tenn.	499.7	8:30-10:30	Silent	8:30-10:30	8:30- 1:00	Silent	8:30-10:30	8:30- 1:00	WMC
WMCA	7:00-10:00	1:00- 5:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	WMCA	New York, N. Y.	340.7	8:00-11:00	2:00- 6:00	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	WMCA
WNAC	8:00- 9:00	0:30- 8:30	5:00- 9:00	7:00- 9:00	5:00- 9:00	7:00- 9:00	5:00- 9:00	WNAC	Boston, Mass.	280.2	9:00-10:00	7:30- 9:30	6:00-10:00	8:00-10:00	6:00-10:00	8:00-10:00	6:00-10:00	WNAC
WNYC	4:30- 8:20	7:00- 9:00	5:00- 8:20	5:20- 8:20	5:30- 8:30	5:20- 7:30	5:30- 8:20	WNYC	New York, N. Y.	526	5:30- 9:20	8:00-10:00	6:00- 9:20	6:20- 9:20	6:30- 9:30	6:20- 8:30	6:30- 9:20	WNYC
WOAI	Silent	7:30-10:30	Silent	8:30-10:30	Silent	9:30-10:30	Silent	WOAI	San Antonio, Texas	394.5	Silent	8:30-11:30	Silent	9:30-11:30	Silent	10:30-11:30	Silent	WOAI
WOAN	Silent	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	WOAN	Lawrenceburg, Tenn.	282.8	Silent	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	WOAN
WOAW	6:00-12:15	9:00-10:00	6:00-11:30	6:00-11:30	Silent	6:00-11:30	6:00-11:30	WOAW	Omaha, Nebr.	526	7:00- 1:15	10:00-11:00	7:00-12:30	7:00-12:30	Silent	7:00-12:30	7:00-12:30	WOAW
WOC	0:30-12:00	8:00-11:30	Silent	6:30- 8:00	6:30-10:00	6:30-12:00	6:30-10:00	WOC	Davenport, Ia.	483.8	7:30- 1:00	9:00-12:30	Silent	7:30- 9:00	7:30-11:00	7:30- 1:00	7:30-11:00	WOC
WOI	Silent	Silent	10:00- 1:00	Silent	Silent	8:15- 9:15	Silent	WOI	Ames, Ia.	270	Silent	Silent	11:00- 2:00	Silent	Silent	9:15-10:15	Silent	WOI
WOO	Silent	4:05- 6:30	6:00- 9:30	Silent	6:00- 9:30	Silent	6:15- 9:30	WOO	Philadelphia, Pa.	508.2	Silent	5:05- 7:30	7:00-10:30	Silent	7:00-10:30	Silent	7:15-10:30	WOO
WOR	4:15-10:00	Silent	4:15-10:00	4:15- 5:30	4:15-10:00	4:15- 5:30	4:15- 5:30	WOR	Newark, N. J.	405.2	5:15- 9:00	Silent	5:15- 9:00	5:15- 6:30	5:15- 9:00	5:15- 6:30	5:15- 6:30	WOR
WORD	7:30- 8:30	5:45- 7:00	7:00- 8:30	7:30- 8:30	7:30- 8:30	7:30- 8:30	7:30- 8:30	WORD	Batavia, Ill.	275	8:30- 9:30	6:45- 8:00	8:00- 9:30	8:30- 9:30	8:30- 9:30	8:30- 9:30	8:30- 0:30	WORD
WOS	Silent	7:30- 8:30	8:00-10:00	Silent	8:00-10:00	Silent	8:00-10:00	WOS	Jefferson City, Mo.	440.9	Silent	8:30- 9:30	9:00-11:00	Silent	9:00-11:00	Silent	9:00-11:00	WOS
WPG	5:00-10:00	1:15- 9:00	5:00- 9:30	6:00- 9:00	Silent	5:00-10:15	5:00- 9:00	WPG	Atlantic City, N. J.	299.8	6:00-11:00	2:15-10:00	6:00-10:30	7:00-10:00	Silent	6:00-11:15	6:00-10:00	WPG
WQJ	6:00- 2:00	6:00- 0:00	Silent	6:00- 1:00	6:00- 1:00	8:00- 1:00	6:00- 1:00	WQJ	Chicago, Ill.	447.5	7:00- 3:00	7:00-10:00	Silent	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00	WQJ
WRBC	Silent	7:30- 8:30	7:30- 8:30	Silent	Silent	Silent	Silent	WRBC	Valparaiso, Ind.	278	Silent	8:30- 9:30	8:30- 9:30	Silent	Silent	Silent	Silent	WRBC
WRC	6:00-10:30	Silent	Silent	6:00-11:00	Silent	6:00-10:00	Silent	WRO	Washington, D. C.	468.5	7:00-11:30	Silent	Silent	7:00-12:00	Silent	7:00-11:00	Silent	WRC
WREO	Silent	6:30- 7:30	Silent	7:15- 8:45	Silent	7:15- 8:45	Silent	WREO	Lansing, Mich.	285.5	Silent	7:30- 8:30	Silent	8:15- 9:45	Silent	8:15- 9:45	Silent	WREO
WRW	8:00-10:30	7:00-10:30	8:00-10:36	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	WRW	Tarrytown, N. Y.	273	9:00-11:30	8:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	WRW
WSAC	Silent	Silent	Silent	Silent	7:00- 8:00	Silent	Silent	WSAC	Clemson Coll., S. C.	336.9	Silent	Silent	Silent	Silent	8:00- 9:00	Silent	Silent	WSAC
WSAI	7:00-12:30	2:00- 3:00	9:00-11:00	6:00- 9:00	6:00-11:00	6:00- 9:00	Silent	WSAI	Mason, O.	325.9	8:00- 1:30	3:00- 4:00	10:00-12:00	7:00-10:00	7:00-12:00	7:00-10:00	Silent	WSAI
WSB	8:00-12:00	7:30- 9:15	8:00-12:00	8:00-12:00	10:45-12:00	8:00-12:00	8:00-12:00	WSB	Atlanta, Ga.	428.3	9:00- 1:00	8:30-10:15	9:00- 1:00	0:00- 1:00	11:45- 1:00	9:00- 1:00	9:00- 1:00	WSB
WSMB	8:30-10:30	Silent	8:30-10:30	Silent	8:30-10:30	8:30-10:30	Silent	WSMB	New Orleans, La.	318	9:30-11:30	Silent	9:30-11:30	Silent	9:30-11:30	9:30-11:30	Silent	WSMB
WSUI	Silent	7:00-10:00	7:30- 9:00	Silent	Silent	Silent	Silent	WSUI	Iowa City, Ia.	483.6	Silent	8:00-11:00	8:30-10:00	Silent	Silent	Silent	Silent	WSUI
WTAM	5:00-11:00	Silent	5:00-11:00	5:00- 6:00	5:00-12:00	5:00- 6:00	5:00- 6:00	WTAM	Cleveland, O.	389.4	6:00-12:00	Silent	6:00-12:00	6:00- 7:00	6:00- 1:00	6:00- 7:00	6:00- 7:00	WTAM
WTAS	7:00- 9:30	7:00-11:00	7:00- 9:30	7:00- 9:30	7:00- 9:30	7:00-11:00	7:00- 9:30	WTAS	Elgin, Ill.	302.8	8:00-10:30	8:00-12:00	8:00-10:30	8:00-10:30	8:00-10:30	8:00-12:00	8:00-10:30	WTAS
WTIC	Silent	Silent	5:00- 6:00	5:50- 8:30	Silent	5:00- 6:00	5:50- 8:30	WTIC	Hartford, Conn.	348.6	Silent	Silent	6:00- 7:00	6:50- 7:30	Silent	6:00- 7:00	6:50- 9:30	WTIC
WWJ	Silent	5:20- 9:00	5:00- 8:00	5:00- 8:00	5:00-10:00	5:00-11:30	5:00- 9:00	WWJ	Detroit, Mich.	352.7	Silent	6:20-10:00	6:00- 9:00	6:00- 9:00	6:00-11:00	6:00-12:30	6:00-10:00	WWJ

Radio Digest
PROGRAMS Illustrated

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

E. C. RAYNER, Publisher

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

Member of the Audit Bureau of Circulations

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PUBLISHED WEEKLY

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

Vol. XIII Saturday, June 20, 1925 No. 11

"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 the publicity seekers, propagandists and other of these stations which believe their service indispensable for the short period of about six evening hours each week.

Once upon a time Chicago's silent night meant what it implied. Now it means only that the stations whose transmitters are in the city boundaries remain off the air, while those stations with transmitters removed some ten, twenty or sixty miles shoot everything they can to the great Chicago audience, having as they do zero competition from the purely locals.

Public indignation is rising. When WTAS was the only station within fifty miles on the air Monday night, the situation wasn't so bad. WTAS was on lower power then, and besides, it wasn't selling the air. Then came an increase in power, a sister station, WCEE, and both stations went toll. Shortly afterward, WJJD 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 claims 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 Loyal 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 claim that the poor crystal fan and single tube listener must be entertained. That is the chief altruistic motive for their existence. And this premise is incorrect, because the crystal fans have six days a week to be entertained. The seventh gives them a chance to clean off the crystal or go to a movie.

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

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

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

Promoting Interest in Art

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

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

RADIO INDI-GEST

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

(News copy from KFOA at Seattle)

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

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

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

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

(Beer up, my friend, beer up)

Erich Strohbein, local Radio dealer, gives away a prize with each Radio set. He has one for the flappers which is proving exceedingly popular. It consists of a neat leather carrying case containing a complete Flapper's Road Outfit. The articles are a pair of collapsible roller skates, a road map showing dirt roads in detail and a box of Keepa-Shine 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 shoulda been like it said in the book he won on a raffle last year on Radio, so it musta been Spain, wasn't that wonderful? We asked him whether they were broadcasting any bull fights, but he was stepping on the starter and didn't hear us.

* * *

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

* * *

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

Hoping you are the same,
THE THIRD TROMBONE PLAYER.

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

The Ear-Lap

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

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

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

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

RUSTY LEWIS OF 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.

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

News of the Week

Condensed
By DIELECTRIC

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

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

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

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 thse players and I followed their work carefully with increasing admiration for their balanced playing and studious attention to the intent of each selection rendered. This is truly an asset.

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

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

Various Uses of Filament Control Jacks

By Harry C. Lodge

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

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

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

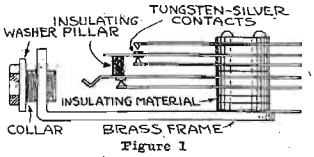


Figure 1

jack, that is the part which takes care of the phone circuit, the second being of course the part which controls the filament. This part is insulated from the rest of the jack usually by a pillar of insulation such as bakelite or hard rubber. 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.

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

The ends of the springs nearest the panel have tungsten silver contact points, and since this metal is not attacked by the elements we can always depend upon a good contact at these points. In figure 1 can also be seen the pillar of insulation which is the key to filament control. The ends of the springs project a short way behind the separating pieces of insulation and it is here that jack connections are made. The ends of the springs are usually coated with solder although some jacks are made up with a washer on the end which is tinned with solder and flux,

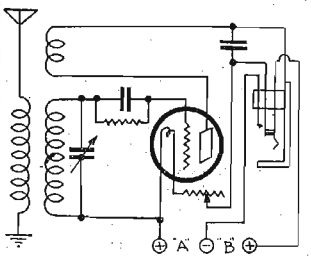


Figure 2

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 control part is in series with one of the filament leads.

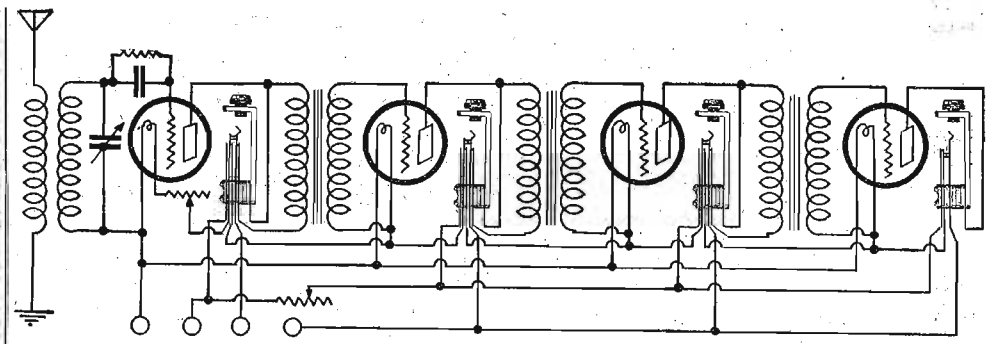


Figure 5

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 second jack both tubes are on and ready for use. Pulling out the plug disconnects both tubes.

In figure 4 we have filament control jacks in the most popular arrangement,

(Continued on page 18)

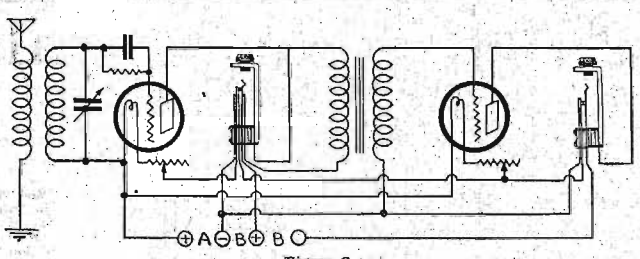


Figure 3

USE OF CONTROL JACKS

(Continued from page 17)

namely, the detector with two stages of audio frequency amplification. In this case, plugging the phones in and out does the same things as explained in the preceding paragraph except that it takes care of three tubes. In this arrangement two double filament control jacks and one single filament control jack will be needed and this circuit is O.K. for either a soft or hard detector tube with two amplifiers. In figure 5 filament control jacks are presented in a circuit comprising a detector and three stages of audio frequency amplification. This combination came into some popularity with the Hetduegen. 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, bottom spring of one jack always goes to the middle spring of the next jack. If this is kept in mind, one willl have no great difficulty with the rest of the wiring. In wiring filament control jacks, great care should be exercised to see that the filament wires make a good contact with the end of the springs. They should be soldered in every case, as this is the only way to make an absolute positive contact. Since the jacks usually have soldor on the ends of the springs and since the wire used for connections is usually tin coated, there is seldom the necessity of using flux. Usually solder alone will do the work. If flux is used it should be some non-corrosive flux such as rosin, etc. It is advisable to cover the filament leads at least, with spaghetti tubing as this, while making the set look much neater and better, also protects the tubes from accidental short circuits which will burn out the tubes.

Filament control jacks as well as other

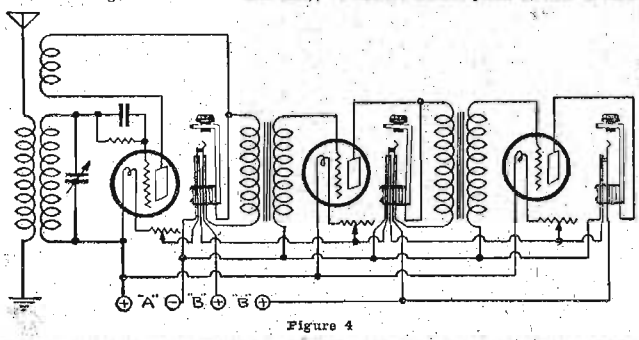


Figure 4

if the same typo 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 convenlences over the old arrangement where in some cases there was a rheostat for each tube can be plainly seen. Here we have only one rheostat yet all tubes are properly controlled and automatically go on or off whenever the plug is placed in the proper jack. With these, the most common arrangements, one can work out all sorts of combinations for filament control jacks such as detector and four stage, detector with one stage and push pull amplification, detector with a stage of transformer and two stages of resistance coupled, or detector and three stages of resistance coupled.

Secret of Correct Wiring

The whole secret of connecting filament control jacks correctly can now be seen. It depends upon remembering that the types should be placed near the bottom of the panel because it is here that the filament terminals are found inasmuch as the tube sockets rest on the baseboard. If jacks are not placed near the bottom various leads will not be as short as they might be and it will be found that the plugs are always in the way when tuning.

When jacks with filament control have been wired for the first time by an inexperienced reader, it is best to check the wiring at least twice before putting the set into operation. The reason for this being that since the phone circuit wire is so close to the filament circuit wiring and there is so much possibility for error, it would be very easy for the fan to make a costly mistake. Even though he did not make a mistake, he may have been a little careless with his soldering and a small drop of solder may have dripped and made contact between the filament and the phone circuit spring.

The Reader's View

Superstations

Being a subscriber of your good magazine and an ardent Radio fan I wish to say that I believe Mr. Kintner 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 15 superstations in a certain band of wave lengths and as his plan is to give them each a difference of 20 kilocycles there would be no interference, though they should use as much as 50 kw.

I would also like to say a few words concerning the much talked about question, "Who is to pay for broadcasting?" To answer that intelligently, I think we should all first decide this question, "What is broadcasting for?" It is done by the broadcasters for advertising purposes to place him or his firm before the public, and to entertain the listener, for if there is no entertainment why should the public listen. As a whole, we can sum it all up as to who derives the benefit from it. I believe both parties are benefited, the people who are putting out the programs are putting their names before thousands of people who would otherwise never hear of them, the public who listens gets the entertainment and educational benefit, and as it is today, the average fan is not asking for more stations, but a solution to the problem on how to prevent interference from so many closely alloted wave lengths, which subject goes back to our Mr. Kintner's plan. In closing allow me to thank you for such a splendid magazine at so reasonable a price.—W. A. Ault, chief engineer, Richmond, Ky.

One Good Station in Each State

Permit me to indorse your editorial, "Less Stations and Better Radio," in your recent number. It is timely and hits the nail on the head.

What is the use to "kid" ourselves about selectivity and keep on in an endless receiver building contest when at times stations as much as ten meters apart pile in right on top of one another. Recently WWJ, Detroit, and WJAD, Waco, Texas, both on 352.7 meters, were on at the same time (the department of commerce, Radio division, evidently consider them so far apart geographically as not to interfere) when they could not be tuned apart and had quite a dead spot between them. That is not selectivity in a receiver, but just poor broadcasting, or is it excellent broadcasting to deviate from an allocated wave length to find a channel of your own without regard for others?

It's about time for the BCLs, who, after all, pay the fiddler, if indirectly, to get together and demand some restriction on indescriminate broadcasting. "One good station in each state and real enjoyment of Radio" is a good goal to work for.—H. Dittmer, El Reno, Okla.

A. B. C. Course in Radio Fundamentals

Chapter XIII—Storage Batteries

By David Penn Moreton

IN THE ordinary primary cell, when the negative plate is nearly consumed, it is necessary to replace it with another in order to keep the cell in an operating condition. If, instead of replacing the worn out negative plate, a current be sent through the cell in the reverse direction and the metal again deposited on the negative plate, the cell is then called a storage battery.

When a cell of this kind is producing a current in an electrical circuit of which it is a part the cell is said to be discharging; and, when a current is being sent through it in a reverse direction by an outside electrical pressure, the cell is said to be charging. Fundamentally there is no difference between a primary and a storage battery, as the primary battery may have its negative plate restored by sending a current through the cell, but it is not commercially economical to do this is any but a few cells which are especially constructed for this purpose.

Chemical, Not Electrical Energy Stored

The reader should not get the impression that electricity is stored in a storage battery. This is not the case. In the process of charging, electrical energy is converted into chemical energy which is stored in the cell and in discharging, this chemical energy is changed back into electrical energy. This change from one form of energy to another is not accomplished without some loss, or in other words the storage battery is not 100 per cent efficient. For example, when the cell is discharging, a part of the electrical pressure is used in overcoming the internal resistance of the cell. As a result only a part of the electrical pressure is available at the terminals of the cell. When the cell is being charged, the charging electrical pressure must overcome the electrical pressure of the cell and also the internal resistance of the cell. Representing the electrical pressure of the cell by E, the internal resistance by R and the

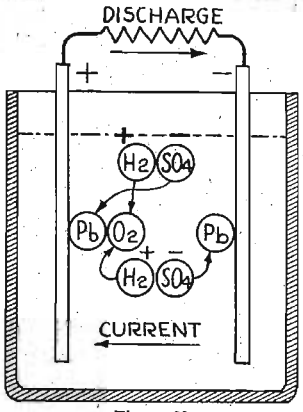


Figure 60

current by I, we may write the above relations in the following form.

Charging pressure = E+I × R

Discharging pressure = E−I × R

The charging and discharging pressures are different due to the fact that the electrical pressure in the cell is not a constant but depends upon the degree of charge of the cell, growing less as the cell becomes discharged.

Two Main Classes

Storage cells may be divided into two main groups, according to the kind of materials used in the construction ot the plates; namely, lead storage cells and non-lead storage cells. The best example of the non-lead storage cell is known commercially as the Edison cell and it will be described briefly a little later.

In the construction of the lead storage cell the negative plate is pure sponge lead, Pb, and the positive plate is lead peroxide, PbO_2, one part lead and two parts oxygen. The electrolyte is diluted sulphuric acid, H_2SO_4, two parts hydrogen, one part sulphur and four parts oxygen. The lead peroxide and sponge lead are poor conductors of electricity, and in addition, they are not hard enough to be made into plates; so it is necessary to attach them to metal frames of some harder material which is a good electrical conductor. The material in this framework must also have the property of not acting as a third plate, as otherwise the electrolyte will produce local action between the framework and the lead peroxide or between the framework and the sponge lead wherever it touches them. The material usually used in the construction of this framework is an alloy of lead and antimony, which is mechanically strong. There is no local action between it and the other substances in the cell. The framework is called the grid, the sponge lead and lead peroxide are called the active materials and the combination of grid and active material is called a plate.

Action in Lead Storage Cell

The action taking place in the lead storage cell on discharge may be explained by reference to figure 60. The sulphuric acid, H_2SO_4, acts chemically

(Continued on page 20)

A. B. C. RADIO COURSE

(Continued on page 19)

upon the negative plate of sponge lead, Pb, and it is broken up into positively charged hydrogen, H_2, and negatively charged SO_4. The SO_4 part of the acid unites with the lead plate, forming lead sulphate, $PbSO_4$, and gives up its negative charge. The hydrogen carries its positive charge to the positive plate of lead peroxide, where it gives it up, and unites with the oxygen of the lead peroxide, forming water, H_2O. The sulphuric acid in contact with the positive plate of lead peroxide, PbO_2, is also broken up into H_2 and SO_4. The H_2 part of the acid combines with some of the oxygen of the lead peroxide and forms more water. The SO_4 part of the acid unites with the lead, Pb, of the lead peroxide plate and forms lead sulphate on the positive plate. During the process of discharge both plates are being reduced to lead sulphate $PbSO_4$, 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 kind of material, namely lead sulphate, in contact with the electrolyte. There must be two kinds in order that a cell may operate. The practical limits of discharge are, however, reached before the surface of both plates are completely covered.

The water formed during the discharge and the breaking up of the acid results in the acid continually growing weaker. The active materials, lead and lead peroxide, are replaced by lead sulphate which has a much higher electrical resistance and it is more bulky than the active materials which it replaces. The sulphate causes an increase in the material resistance, and since it takes up more space than the active material 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 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, $PbSO_4$. 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_2, and negatively charged oxygen, O. Part of the positively charged hydrogen is now attracted to the negative plate and unites with the SO_4 part of the lead sulphate, forming sulphuric acid, H_2SO_4, and leaving sponge lead at the negative plate. The negatively charged oxygen O, passes through the electrolyte in the opposite direction to the current and is attracted to the positive plate, where it unites with the lead, Pb, of the lead sulphate, $PbSO_4$, and forms lead peroxide, PbO_2. The SO_4 part of the lead sulphate on the positive plate combines with the rest of the hydrogen liberated, when the electric current broke up the water, H_2O, into H_2 and O. The chemical action forms still more sulphuric acid and a positive plate of lead peroxide. The cell will be completely charged when all of the lead

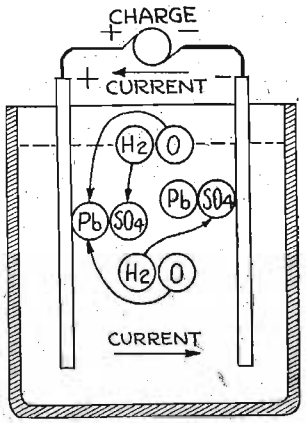


Figure 61

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 a primary cell, does not depend upon the area of the plates but upon the kind of material composing the plates and the kind of electrolyte that is used. The voltage of the ordinary storage battery when fully charged and on open circuit will be about 2.2 volts and the cell should not be discharged below an open circuit voltage of 1.7 volts. The ampere-hour capacity of a storage cell depends upon the area of the positive and negative plates. Small storage cells such as those used for B batteries have an ampere-hour capacity of a few thousand milli-ampere hours, while storage cells such as those used for A batteries have a much larger ampere-hour capacity the average being about 80 ampere-hours.

In order to get the increased ampere-hour capacity, the area of the plates must be increased. Now if only two plates were used their dimensions would become excessive. To overcome this difficulty a number of positive and negative plates are used and they are arranged alternately. All of the positive plates are connected to a common terminal and, likewise all of the negative plates are connected to a common terminal. These positive plates are all insulated from the negative plates by sheets of insulating material, called separators. These separators are usually composed of wood which has been specially treated to remove any injurious impurities, especially the acetic acid, and in some cases sheets of rubber are used. The combinations 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 case painted with acid resisting paint and provided 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 make up for the evaporation and the gas may escape from the cell particularly when it is on charge. The terminal lugs may be provided with binding posts or they may be connected together, positive to negative, by lead strips and binding posts or other suitable terminals provided at the outside ends of the group of cells.

A group of cells constitutes what is called a battery and the voltage of such a battery will be equal to the sum of the voltages of all the cells, or if all cells have the same voltage, the battery voltage will be equal to the voltage of a single cell multiplied by the number of cells. The current capacity of the cells in series is the same as that of a single cell. The current capacity of a battery may be increased by connecting the cells in parallel, but the electrical pressure or voltage remains the same as that of a single cell.

(The Edison storage battery will be described next issue. Professor Moreton will also give a few pointers on the care and charging of storage batteries.—Editor's Note.)

TUNED R.F. ADVANCES

(Continued from page 7)

each with as perfect control as one or two stages. In fact, as before stated, eliminate the physical limitations and

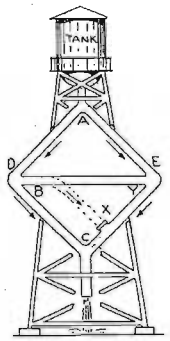


Figure 26

there remains no limit to the number of stages it is possible to cascade. Hence,

(Continued on page 21)

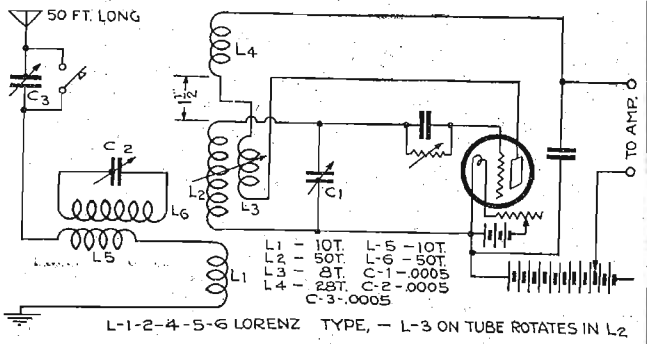
Three Tube Set Free from Local QRM

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 latter station is just 100 yards away I received WHT, Chicago; WQJ, Chicago; WTAY, Oak Park; WDAF, Kansas City; WOAW, Omaha, and KYW, on a loud speaker, using just three tubes. I had absolutely no interference from either of the local stations and I assure that they are notable when it comes to "stepping on the loud pedal." C_2 is the trap arrangement which cut out much local QRM.

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

DIAGRAM AND CIRCUIT CONSTANTS



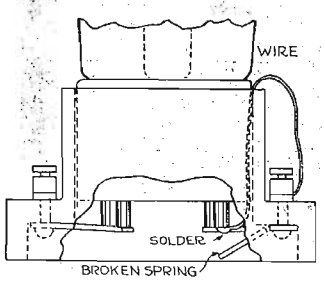
WORKSHOP KINKS EARN A DOLLAR—

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

Repair for Socket Spring

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



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

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

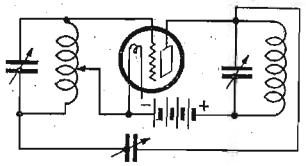


Figure 27

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

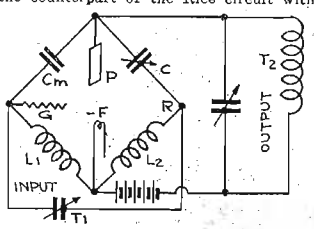


Figure 28

the addition of magnetic coupling in the detector circuit, and is well worth building.

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 both Rice and the Goodrich as it is drawn into a balanced bridge.

Note particularly that G and R represent the input circuit, while terminals P and F are output. 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 L1 and L2.

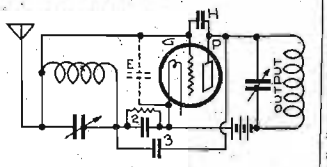


Figure 29

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

Action Creating Compensation

You may wonder whether you can explain from this bridge diagram just how a balanced or compensation is obtained. The balance is obtained, as previously explained, while the action is as follows: As T1 is independent electrically from T2, all retroactive currents through the capacity CM are neutralized in T1 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 wiring of this circuit. Total interstage shield-

(Continued on page 22)

Try Trees for Static Free Aerials—Squier

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

"At this season of the year, where static is more pronounced and where the thousands of our people are going into the open spaces, it is highly desirable that this very simple and efficient type of antenna should be tried out practically in the field.

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

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

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

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 1 inch further apart than designated, all the works were placed on 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 X wire or three condensers. You have an article in a previous issue. Would be pleased to have you use enclosed addressed envelope and give me the dope on that.

A.—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.

Under separate cover we are forwarding the issue of December 27, which contained 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 circuit however is good only when the neutroformers are properly spaced as mentioned 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.

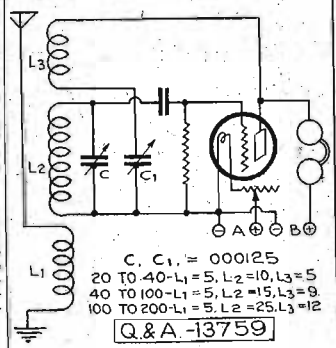
Probably though you could publish a diagram of a super-regenerative for me that you know would work if properly constructed without honeycomb coils or variometers if possible. I would like to use only one variable condenser, an eleven plate and able to work a loop fair. I have a Federal No. 95 variocoupler that I would like to use somewhere in the set if possible.

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

Short Wave Weagant Hoop-Up

(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 giving the condenser capacities, grid leak 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.



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

TUNED R.F. ADVANCES

(Continued from page 21)

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

Caution in Wiring Circuit

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

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

Wholly Capacitative Bridge Circuit

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

Here then, is a circuit wholly capacitive and very interesting, first, because of its originality, and second because it portrays a most 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 inserting a choke or resistance with capacity, making it common to the low potential of the input circuit, just a mere juggling of wires as it were, yet entirely changing the whole bridge construction.

How many manufacturers paid dearly just to see this circuit would be of interest, but surely more than two enjoyed this privilege. In each of the diagrams a standard nomenclature is employed in order that one may more readily absorb the method used in compounding it into a Wheatstone bridge circuit. While it is of moment to note that two of the arms comprise capacities existent as inherent within the tube, viz, that between plate and grid and that between grid and filament, of even greater interest is the fact that the remaining two arms are also the capacity and impedence existant between the plate and filament. This surely is a novelty in bridge structures.

If I may be permitted to, for the moment, revive my character of King Miloplex, not forgetting in the least Maggie, the cook, many of my readers will recall that statement I made in those circuit articles relative to the fact that in reality three

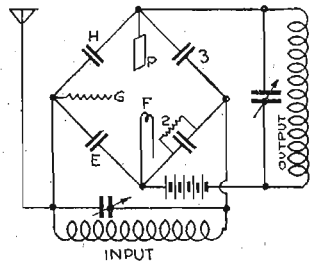


Figure 30

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

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

Securing Wire Ends

To secure ends of the wire on narrow 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.

Radiophone Broadcasting Stations

Corrected Every Week—Part I

United States

AQE, Canton, O. 425 meters. Hdqts. 135th Field Artillery O. N. G.

AT9, Fort Bragg, N. C. 435 meters. 750 watts. U. S. Government. Announcer, Lieut. James Y. LeGette. Slogan, "The Pioneer Broadcasting Station of the Army." Tues, Thurs, Sat. 8-9:55 pm, dance music, talks, bands, lights. Sun, 8-9:55 pm, services. Eastern.

AV7, St. Paul, Minn. 400 meters. 6th Inf. Minn. Nat'l Guard, St. Paul Armory. Irregular schedule. Central.

AW5, Darton, O. McCook Field, U. S. Army. Experimental work only.

KDKA, E. Pittsburgh, Pa. 309.1 meters, 1,000 watts. *Westinghouse Elec. & Mfg. Co. Announcer, R. W. Arlin. Slogan, "The Pioneer Broadcasting Station of the World." Daily ex Sun, 9:55-10 am, 11:55, time, 12, market reports, weather; 2:30-5:30, baseball, music; 7, baseball; 9:55, time; daily except Sun, Sat; 12:15 pm; 7:45 pm, talks. Daily ex Sat, Sun, 8:30 pm; 8:45, concert; 9:55, time. Sat, 8:45 pm, concert; 9:55, time. Tues, Thurs, 10:30 pm. Sun, 9:45 am, 3 pm, 3:45, 6:45. Eastern.

KDLR, Devils Lake, N. Dak. 231 meters. 5 watts. *Radio Elec. Co. Wilson Ins. Agency. Daily ex Sun, 12:10 pm, weather; 6:15, markets; 10-12, orchestra. Mon, 9:30-11:30 pm. Sun, 4:30-6. Central

KDPM, Cleveland, O. 250-1317 meters. 750 watts. Westinghouse Elec. & Mfg. Co. Announcer, H. W. Irving. Experimental station.

KDYL, Salt Lake City, Utah. 245.8 meters. 500 watts. Newhouse Hotel. Announcer, Gene Rack. Slogan, "Better Radio." Daily ex Sun, 6-8 pm, 6:30-8, news, music, entertainment. Sun, 11-1 am. Mountain.

KDZB, Bakersfield, Calif. 360.7 meters. 100 watts. Frank Siefert. Daily ex Sun, 8-9 pm, reports, music. Pacific.

KFAB, Lincoln, Nebr. 240 meters. 500 watts. Nebraska *Buick Auto Co. Announcer, Gayle Grubb. Mon, Wed, Fri, 7:30-9:30 pm; Tues, Sat, 11-12:30 am. Thurs, 3 pm; Sun, 4 pm, church services. Central.

KFAD, Phoenix, Ariz. 272 meters. 100 watts. McArthur *Brothers Mercantile Co. Announcer, Arthur C. Anderson. Slogan, "Where Summer Winters." Daily ex Sun, 7:30-8:30 pm, news, weather, stock reports, music. Mountain.

KFAE, Pullman, Wash. 348.6 meters. 500 watts. State *College of Washington. Announcer, George Bayles. Wed, 7:30-9 pm, talks, music. Tues.

KFAF, Denver, Colo. 278 meters. 500 watts. Western Radio Corp.

KFAJ, Boulder, Colo. 261 meters. 100 watts. Univ. of Colo. Announcer, F. M. Orsborn. Tues, Sat, 9 pm, time, music, addresses by faculty. Thurs. 7:30 pm Sat, 2:30-5 pm, sports. Mountain.

KFAN, Moscow, Idaho. 231 meters. 50 watts. University of Idaho.

KFAU, Boise, Ida. 275 meters. 500 watts. Boise B. S. Announcer, David Taylor. Slogan, "Intermountain Station." Daily ex Sat, Sun, 4-4:45 pm, markets, weather, news. Mon, Fri, 8-10 pm, concert. Mountain.

KFAW, Santa Anna, Calif. 211.3 meters. 50 watts. Radio Den. Slogan, "Where There Is Always a Friend from Your Old Home Town." Daily ex Sun, 4:30-5 pm, news, reports, music. Mon, Thurs, concert. Pacific.

KFBB, Havre, Mont. 275 meters. 50 watts F. A. Buttrey Co. Announcer, C. O. Boettger. Daily ex Sun, 12:45 pm, music, markets, weather, reports. Mountain.

KFDC, San Diego, Calif. 254 meters. 10 watts. W. K. *Azbill. Thurs, Sun, 8-9 pm. Bible lesson, sermon. Pacific.

KFBG, Tacoma, Wash. 249 meters. 50 watts. First *Presbyterian church. Announcer, Frank Tovey. Sun, 11-1 pm, 7:30-9. Pacific.

KFBL, Everett, Wash. 224 meters. 100 watts. Lesse Bros. Announcer, R. H. Lesse.

KFBU, Laramie, Wyo. 270 meters. 50 watts. The *Cathedral. Slogan, "The Top of the World."

KFCB, Phoenix, Ariz. 238 meters. 50 watts. Nielson Radio Supply Co. Announcer, E. A. Nielson. Slogan, "When It's Wintertime in Michigan, It's Summer Time Down Here." Daily 7-7:30 pm, bedtime stories. Mountain.

KFCC, Helena, Mont. 247.8 meters. 10 watts. The First Congregational church. Announcer, George C. Stocking. Sun, 11 am, church service; 6:30, bedtime story; 7:30-9, service. Mountain.

KFCF, Walla Walla, Wash. 256 meters. 100 watts. Frank A. Moore. Slogan, "The Valley They Liked So Well They Named It Twice." Mon, 8-10 pm. Thurs, Fri, 8-12 midnight. Pacific.

KFCY, Le Mars, Ia. 252 meters. 50 watts. Western Union College. Announcer, D. O. Kline. Slogan, "College on the Hill." Fri, 9-11 pm, central.

KFDD, Boise, Idaho. 275 meters. 50 watts. St. Michael's Episcopal Cathedral. Announcer, E. Mark Hanford. Sun, 11:15-12:30 pm, 7:30-9:15. Mountain.

KFDH, Tucson, Ariz. 258 meters. 50 watts. Univ. of Ariz. Announcer, Max Voss Kuehler. Irregular schedule.

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

KFDM, Beaumont, Tex. 315.6 meters. 500 watts. Magnolia Petroleum Co. Announcer, Magnolene Mills. Slogan, "Kall for Dependable Magnolene." Tues, Fri, 12:30-12:55 pm, band concert; 7-7:30, children's hour; 8-10:30, concerts. Sun, 11-12 m, 8-9 pm. Central.

KFDX, Shreveport, La. 250 meters. 100 watts. First *Baptist church. Announcer, Hugh Claycomb. Wed, 9-10 pm, music, talks. Sun, 11 am, 7:45 pm. Central.

KFDY, Brookings, S. D. 273 meters. 50 watts. S. *D. State College. Announcer, G. A. Rietz. Daily ex Sun, 12:15 pm, livestock markets. Tues, 11 am, music, lecture. Central.

KFDZ, Minneapolis, Minn. 231 meters. 10 watts. Harry O. Iverson

KFEC, Portland, Ore. 248 meters. 50 watts. Meier & *Frank Co., Inc. Daily ex Sun, 12 m, weather, reports; 4-5 pm, music; 6:30 pm, weather, crop, markets, reports. Sat, 11 am, 12 pm, children's hour. Pacific.

KFEL, Denver, Colo. 254 meters. 50 watts. The W. L. *Wimner Radio Shop. Announcer, Eugene P. O. Fullon. Daily ex Sun, 11 am, 2 pm, 4. Tues, Thurs, Sat, 10-12 midnight, dance. "Top of the World" studio. Mountain.

KFEQ, Oak, Nebr. 268 meters. 100 watts. J. L. Scroggin. Announcer, Clarence Koch. Wed, 9-10 pm, Sun, 4:30-6 pm. Central.

KFER, Fort Dodge, Iowa. 231 meters. 10 watts. Auto Electric Service Co. Announcer, Carl E. Giltner. Tues, Thurs, 9 pm.; Sun, 7:30 pm. Central.

KFEY, Kellogg, Ida. 233 meters. 10 watts. Bunker Hill & Sullivan Mining & Con. Co. Announcer, Walter C. Clark. Slogan: "Voice of the Coeur D'Alenes." Mon, Wed, Sat, Sun, 7:30-8:30 pm. Pacific.

KFFF, Moberly, Mo. 266 meters. 50 watts. First *Baptist Church. Announcer, Granville Ray. Boots Slogan: "The Gospel Messenger of the Air." Sun, 9:45 am, 11, 8 pm. Central.

KFFV, Launcel, Calif. 265 meters. 100 watts. Grace*land College. Closed for the summer.

KFGC, Baton Rouge, La. 268 meters. 100 watts. Louisiana State University. Thurs, 8-9 pm. Central.

KFGD, Chickasha, Okla. 252 meters. 200 watts. Okla. College for Women. Tues, Thurs, 8 pm, music, lectures. Wed, 10 am, chapel service. 11 pm, special jazz program. Central.

KFGH, Stanford Univ., Calif. 270.1 meters. 500 watts. Leland Stanford Junior University. No regular schedule.

KFGQ, Boone, Ia. 226 meters. 10 watts. Crary Hardware Co. Announcer, Harold E. Wilcox. Slogan: "Dunlet Boone Station." Wed. 10-11 pm. Sun. 3-4 pm. Central.

KFGX, Orange, Tex. 250 meters. 500 watts. First *Presbyterian church.

KFHA, Gunnison, Colo. 252 meters. 50 watts. Western State College of Colorado. Announcer, E. Russel Wightman. "Where the Sun Shines Every Day." Tues, Fri, 6:30 pm, bedtime story; 8 pm, musicale; 10:30, orchestra. Mountain.

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

KFI, Los Angeles, Calif. 467 meters. 2000 watts. Earle *C. Anthony, Inc. Announcer, Paul W. Reese. Slogan: "The Radio Central Super-Station." Daily ex Sat, Sun, 5:30-6:10 pm, 6:45-11. Sat, 5:30-6:10 pm, 6:45-12 midnight. Sun, 10-10:45 am, 4-5 pm, 6:30-11, 11-12 m, first Sun of month; 11-12:30 pm, third Sun of month. Pacific.

KFIF, Portland, Ore. 248 meters. 100 watts. Benson Tech. School.

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

KFIQ, Yakima, Wash. 256.3 meters. 100 watts. First Methodist Church. Announcer, Dr. I. M. Miller. Wed, 7:30 pm, organ. Sat, 7 pm. Sun, 11 am, 7:30 pm. Pacific.

KFIU, Juneau, Alaska. 220 meters. 10 watts. Alaska Elec. Light & Power Co. Announcer, O. E. Shoemaker. Mon, Wed, Fri, 6-7 pm, Alaskan.

KFIZ, Fond du Lac, Wis. 272 meters. 100 watts. *Daily Commonwealth and Wisconsin Radio Sales, Inc. Announcer, Albert Mayer. Daily ex Sun, 5 pm, music, news, markets, weather. Central.

KFJB, Marshalltown, Iowa. 248 meters. 10 watts. Marshall Elec. Co. Announcer, E. N. Peak. Slogan: "Marshalltown, the Heart of Iowa." Daily ex Sun, 10 am, markets. Tues, Fri, 8:30 pm. Central.

KFJC, Junction City, Kan. 213.3 meters. 10 watts. *R. B. Fegan.

KFJF, Oklahoma City, Okla. 261 meters. 225 watts. *National Radio Mfg. Co. Announcer, Tired Hand. Slogan: "Radio Headquarters Daily." Daily ex Sun, 9:30 am, 12:15 pm, market; 2:15, markets; 3, 4, baseball; 7 pm. Daily ex Sat, Sun, Mon, 8:30-10:30 pm, orchestra; Sat, 11:15 pm, markets. Fri, 7:30-9:30 pm, band. Sun, 11 am, 2 pm, services. Central.

KFJI, Astoria, Ore. 246 meters. 10 watts. E. E. Marsh and Liberty Theater. Announcer, E. E. Marsh. Wed, Fri, 10-11 pm, organ. Sun, 10:30-11 pm. Pacific.

KFJM, Grand Forks, N. D. 278 meters. 100 watts. University of North Dakota. Slogan: "Grand Forks, the Educational Center of the State."

KFJR, Portland, Ore. 263 meters. 5 watts. Ashley C. Dixon & Son.

KFJX, Cedar Falls, Iowa. 258 meters. 50 watts. Iowa State Teachers' College. Educational programs.

KFJY, Fort Dodge, Iowa. 240 meters. 50 watts. Tuttle Wall Radio Co. Announcer, Carl Tunwall. Daily, 5:15 pm., markets, news, weather, bulletins. Sun, 11 am. Central.

KFKA, Greeley, Colo. 273 meters. 60 watts. Colorado State Teachers' College. Announcer, Brewer Boardman.

KFKB, Milford, Kans. 273 meters. 500 watts. Brinkley-Jones Hospital Assn. Off the air for the summer.

KFKQ, Conway, Ark. 250 meters. 100 watts. Conway Radio Lab.

KFKU, Lawrence, Kan. 275 meters. 500 watts. University of Kansas. Announcer, John F. Patt. Slogan, "Up at Lawrence on the Kaw."

KFKX, Hastings, Nebr. 288.3 meters. 2000 watts. Westinghouse Elec. & Mfg. Co. Slogans, "The Empress of the Air." "The Pioneer Re-Broadcasting Station of the World." Mon, Tues, Wed, Thurs, Fri, 12:30-1 pm, markets, weather. Mon, Thurs, 8:30-11 pm, broadcasts own program. Re-broadcasts KDKA's programs. Central.

KFLB, Menominee, Mich. 248 meters. 50 watts. Signal Elec. Mfg. Co. Announcer, Norman Kornick. Slogan, "The Waves of Green Bay." Tues, Fri, 8-10 pm, music. Central.

KFLP, Cedar Rapids, Ia. 256 meters. 20 watts. Everett M. Foster.

KFLR, Albuquerque, N. M. 254 meters. 100 watts. U. & N. M. Announcer, Philip S. Donnell. Slogan, "The Sunshine Center of America." Sat, 8 pm, music. Mountain.

KFLU, San Benito, Texas. 238 meters. 10 watts. Benito Radio club. Announcer, R. W. Thacker. Slogan, "Home of the Magic Valley." Tues, Thurs, Sat, 8:30-10 pm, concert. Sat. 8:30 pm, Sunday school lesson. Central.

KFLV, Rockford, Ill. 229 meters. 200 watts. Swedish Evangelical Mission Church. Announcer, A. T. Frykman. Fri, 8:30 pm. Sun, 12:30 pm, service for shut-ins (Swedish); 9:30, service (English). Central.

KFLX, Galveston, Texas. 240 meters. 10 watts. George R. Clouch.

KFLZ, Atlantic, Iowa. 273 meters. 100 watts. Atlantic *Automobile Co. Operated by Walnut Grove Hog Remedy Co. Slogan, "The Garden Spot of Iowa." Daily ex Sun, 11:50-12:15 pm, question box, markets. Tues, Thurs, 8:30-10 pm, music. Central.

KFMB, Little Rock, Ark. 254 meters. Christian churches of Little Rock.

KFMQ, Fayetteville, Ark. 299.8 meters. 500 watts. U. of Arkansas. Announcer, O. V. Bullen. Tues, 9 pm. Thurs, 7:30 pm. Central.

KFMR, Sioux City, Ia. 261 meters. 100 watts. Morningside College. Announcer, Jesse C. Dinsmmun. Daily ex Sun, 9 am. Tues, Thurs, Sat. 12:10 pm. Wed, 10:15 pm. Sun, 10:30 am, 7:15 pm.

KFMT, Minneapolis, Minn. 263 meters. 100 watts. Dr. *George W. Young. Announcer, Dr. George W. Young. Slogan: "Always Young." Mon, 6-8 pm; 8:30-9:30; 9:30-10:30; Tues, 7-8 pm; 9-10; Wed, 6-7 pm, 7-8; 8-8:30. Thurs, 7:30-8 pm, 8:30-9, 9-9:30. Fri, 7-8 pm, 8-9, 9-10. Sat, 9-10 pm. Central.

KFMW, Stoughton, Wisc. 268 meters. 50 watts. M. G. Satteren (announcer). Sun, 3-4:30 pm.

KFMX, Northfield, Minn. 336.9 meters. 500 watts. Carleton College. Announcer, Merrill O. Bolen. Tues, 10 pm. Wed, 9 pm. Sun, 7 pm. Central.

KFNF, Shenandosh, Ia. 266 meters. 500 watts. Henry *Field Seed Co. Announcer, Henry Field. Slogan, "Friendly Station in a Friendly Town." Daily ex Sun, 12:15-1:30 pm, 3-4. Daily ex Sun, Tues, 7:30-9:30 pm, concert. Sun, 10:15 am, 3 pm, services; 6:30-8, Golden Rule; 8-9:15, church service. Central.

KFNG, Coldwater, Miss. 254 meters. 10 watts. Wooten's Radio & Elec. Co. Announcer, S. D. Wooten. Slogan, "The Most Powerful 10 Watt Station in the World." Sat, 9:30-10:30 pm. Sun, 4-5 pm. Central.

KFNJ, Warrensburgh, Mo. 254 meters. 50 watts. Central Missouri State Teachers' College. Announcer, John McNay.

KFNL, Paso Robles, Calif. 240 meters. 10 watts. Radio Broadcast Assn. Announcer, Early W. Moore. Slogan, "The Home of the Nut." Mon, 8-10 pm, music. Pacific.

KFNV, Santa Rosa, Calif. 227 meters. 5 watts. L. A. Drake. Daily 2-5 pm; 6-6:30, news, music. Pacific.

KFOA, Seattle, Wash. 454.3 meters. 500 watts. Rhodes *Dept. Store. Slogan, "The Gateway to the Orient." Daily ex Sat, Sun, 12:30-1:30 pm. Daily ex Sun, 4-6:15, Times bulletins, concert; 6:45-8:15. Daily ex Sun, Thurs, 8-9:15 pm, orchestra, baseball; 8:30-10 pm, Times program. Tues, Fri, Sat, 10:05-11:30 pm, orchestra. Pacific.

KFOC, Whittier, Calif. 236 meters. 100 watts. First Christian church.

KFOJ, Moberly, Mo. 246 meters. 10 watts. Moberly High school. Announcer, Herbert Settle.

KFOL, Marengo, Ia. 234 meters. 10 watts. Leslie M. Schallock.

KFON, Long Beach, Calif. 233 meters. 100 watts. Echophone Radio Shop. Slogan, "Where Your Ship Comes In." Daily ex Sun, 5:30-10:30 pm. Sun, 11-12 m, 6:10:30 pm. Pacific.

KFOO, Salt Lake City, Utah. 241 meters. 250 watts. *Latter Day Saints University. Announcer, Don C. McRae.

KFOR, David City, Nebr. 226 meters. 50 watts. David *City Tire & Elec. Co. Slogan, "The Voice of David City." Announcer, Howard A. Shuman. Temporarily off the air.

KFOT, Wichita, Kansas. 231 meters. 50 watts. College Hill Radio Club. Announcer, Leon Garnett. Slogan, "Radiocasting Church." Sun, 11-12:30 pm; 7:30-9, church services. Mon, 9-10:30 pm, music. Central.

KFOX, Omaha, Nebr. 248 meters. 100 watts. Board of of Education. Technical High. Announcer, June Johnson.

KFOY, St. Paul, Minn. 252 meters. 50 watts. Beacon *Radio Service. Thurs, 11-12 m. Sun, 5:30-4:30 pm. Central.

KFPG, Los Angeles, Calif. 238 meters. 100 watts. Garretson and Goodan.

KFPL, Dublin, Tex. 252 meters. 15 watts. C. C. Baxter, announcer.

KFPM, Greenville, Tex. 242 meters. 10 watts. The New Furniture Co. Announcer, Dave Ablowich, Jr. Slogan: "The New Furniture Co., the Home of Good Furniture." Located at Greenville, Texas, Where You Find the Blackest Land, the Whitest People." Daily ex Sun, 2 pm, music. Tues, Wed, Thurs, Fri, 3 pm, Sun, 11 am, services; 7:30 pm, irregularly. Central.

KFPR, Los Angeles, Calif. 231 meters. 500 watts. Los Angeles Co. Forestry Dept. Irregular schedule.

KFPY, San Francisco, Calif. 236 meters. 50 watts. Holmes E. Robinson, Inc. Announcer, Ralph H. Heintz. Slogan: "Ain't We Got Fun." Temporarily off the air.

KFPW, Carterville, Mo. 268 meters. 20 watts. St. John M. E. Church. S. Slogan: "Keeping Pace with Christ Means Progress." Wed, Fri, 9-10 pm, popular program. Suo. 1-3 pm, chapel service. Central.

KFPY, Spokane, Wash. 266 meters. 100 watts. Symons Investment Co. Announcer, E. B. Craney. Mon, Tues, Wed, Thurs, Fri, Sat, 7-7:30 pm. Sun, 7-8 pm. Pacific.

KFQA, St. Louis, Mo. 261 meters. 100 watts. The Principia. Sun, 3 pm, church service. Central.

KFQB, Fort Worth, Tex. 263 meters. 200 watts. The *Searchlight Pub. Co. Announcer, Horace B. Greene. Sun, 11 am, 7:15 pm, church services. Tues, Wed, Thurs, Fri, 7 pm, music. Sat, 3 pm, concert, Bible lecture. Central.

KFQC, Taft, Calif. 231 meters. 100 watts. Kidd Bros. Radio Shop.

KFQH, Burlington, Calif. 220 meters. 50 watts. Post Office Radio and Music Co. Wed, Fri, 8-10 pm. Pacific.

KFQP, Iowa City, Iowa. 224 meters. 10 watts. George *S. Carsun, jr. Closed for the summer.

KFQR, Oklahoma City, Okla. 299.7 meters. 50 watts. Walter La Fayette Ellis.

KFQT, Denison, Tex. 252 meters. 10 watts. Texas National Guard. Announcer, Robert Cox.

KFQU, Holy City, Calif. 222 meters. 100 watts. W. *Riker. Announcer, Arthur J. Landstrunn. Daily ex Mon, 9-10 pm. Sun, 11-12 m, 9-10 pm. Pacific.

KFQW, North Bend, Wash. 215.7 meters. 50 watts. The Photo Radio and Elec. Shop. Announcer, Carl F. Knierim. Slogan: "At the Western Entrance of Snoqualmie Pass." Daily ex Sun, 7:30-8:30 pm. Pacific.

KFQY, Belden, Nebr. 273 meters. 10 watts. Farmers State Bank. Announcer, A. H. Abts. Slogan: "Where Corn Is King."

KFQZ, Hollywood, Calif. 226 meters. 250 watts. Taft Radio company.

KFRB, Beeville, Tex. 248 meters. 250 watts. Hall *Brothers. Temporarily off the air.

KFRC, San Francisco, Calif. 268 meters. 50 watts. City of Paris Dry Goods Co.

KFRH, Grafton, N. D. 208 meters. 10 watts. The Radio Shop.

KFRL, Grand Forks, N. Dak. 240 meters. 10 watts. Men's Club, First Presbyterian Church.

KFRM, Fort Sill, Okla. 263 meters. 50 watts. James P. Boland.

KFRQ, Portland, Ore. 215 meters. 5 watts. Radio Market Service Co.

KFRU, Bristow, Okla. 394.5 meters. 500 watts. Ethridge Radio Co. "The Voice of Oklahoma." Daily ex Sun, 12 m, 3 pm, markets, oil news. Mon, 7-8 pm. Mon, Wed, 8-10:30 pm. Tues, 10:30-12 midnight. Thurs, 10:30-11:30 pm. Fri, 11-1 am. Sat, 7:30-8 pm, 9-12. Sun, 9:30 am, 11, 5 pm. Central.

KFRW, Olympia, Wash. 220 meters. 100 watts. United Churches of Olympia. Slogan, "Make the World a Brotherhood." Thurs, 9-12 midnight, Sun, 11-12 m., 8-9 pm. Pacific.

KFRX, Pullman, Wash. 217 meters. 10 watts. J. Gordon Klemgard. Announcer, Gordon Klemgard. Slogan: "The Only Farmers Radio Station in the World. Closed for the summer.

KFRY, State College, N. M. 360 meters. 50 watts. New Mexico College of Agriculture and Mechanic Arts.

KFRZ, Harlington, Nebr. 232 meters. 15 watts. The Electric Shop. Announcer, P. M. Thies. Daily ex Sun, 11:30 am, news, markets; 4:15-5:15 pm, entertainment. Sun, 12-1:30 pm, entertainment. Central.

KFSG, Los Angeles, Calif. 275 meters. 500 watts. Angelus Temple. Tuesday, Thurs, Fri, Sat, 7:30-4:30 pm. Tues, 6:30-7:30 pm. Wed, 2:30-4:30 pm; 6:30-7:30. Thurs, Fri, Sat, 7:30-11 pm. Sun, 10:30-12:30 pm, 2:30-4:30, 7-9:30. Mon silent. Pacific.

KFSY, Helena, Mont. 248 meters. 10 watts. The Van Matrom company. Announcer, George C. Stocking. Wed, 7:30 pm, music, talks. Mountain.

KFUJ, Breckenridge, Minn. 242 meters. 50 watts. *Hoppert Plumbing & Heating Co. and Hoppert Radio Electric Co. Announcer, F. H. Rettig. Slogan, "Where the Red River of the North Finds Its Source." Daily ex Sun, 10:30 am, 2:30 pm, weather. Daily ex Sun, 10:40 am, 1:30 pm, 5:45 pm, markets. Mon, Wed, 8-9 pm. Central.

KFUL, Galveston, Tex. 258 meters. 10 watts. Thomas Goggan & Bros.

KFUM, Colorado Springs, Colo. 242 meters. 100 watts. *W. D. Cooley. Slogan, "Known for Unsurpassed Mountain Scenery." Tues, Sat. 8:30-10:30 pm. Sun, 11 am, 7:30 pm, Mountain.

KFUO, St. Louis, Mo. 545.1 meters. 500 watts. Concordia Theological Seminary (Lutheran). Announcer, Prof. Walter A. Maier. Mon, 8 pm. Wed, 9:15 pm. Sun, 4 pm, 8:15. Central.

KFUP, Denver, Colo. 234 meters. 50 watts. Fitzsimons General Hospital.

KFUR, Ogden, Utah. 224 meters. 50 watts. Peery *Building Co. Tues, Thurs, Sat, 9:30-11:30 pm, dance music. Mountain.

KFUS, Oakland, Calif. 254 meters. 50 watts. Louis *L. Sherman, M. D.

KFUT, Salt Lake City, Utah. 261 meters. 100 watts. University of Utah. Tues, Thurs, 12:10 pm. Mountain.

KFUU, San Leandro, Calif. 244 meters. 50 watts. Colburn Radio Laboratories. Announcer, H. C. Colburn. Slogan, "Voice of the Cherry City." Daily ex Sun, 10-11 am. Wed, Fri, 8-9 pm. Sun, 2-3:30 pm. Pacific.

KFUV, Springfield, Mo. 253 meters. 10 watts. G. Pearson Word.

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

KFUZ, Virginia, Minn. 248 meters. 10 watts. Burton Elders and Albin Lofback. Y., M. C. A. Slogans, "The Arrowhead Station." "Virginia, Minn., the Heart of the Arrowhead Country." Wed, Sat, 8-9 pm, Wed, 9:30-11 pm, dance music. Sat, 9-10 pm, music; 10-11:15, Oro Diggers' Club. Central.

KFVC, Camden, Ark. 242 meters. 10 watts. Rensberg's *Music Shop. Announcer, Carl Rensberg. Slogan, "Kum Stolly, Visit Camden." Daily, 7:30-8:30 pm. Central.

KFVD, San Pedro, Calif. 395.4 meters. 50 watts. J. McWhinnie Elec. Co.

KFVE, University City, Mo. 240 meters. 500 watts. Flying Corps of America. Slogan, "You will Always Know KFVE by the Tick of Her Clock." Daily ex Thurs, 6-7 pm; 10-12. Central.

KFVF, Hollywood, Calif. 208.2 meters. 50 watts. West Hollywood Radio Shop. Slogan, "Keen, F'or, V'ery F'inest." Announcer, Franklin Richardson. Daily ex Sun, 8:15-7; 7:30-8. Pacific.

KFVG, Independence, Kan. 236 meters. 10 watts. First Methodist Episcopal church.

KFVH, Manhattan, Kan. 218.8 meters. 10 watts. Whan *Radio Shop. Announcer, Herbert Whan. Slogan, "Kansas Fans Very Handy." Daily ex Sun, 12 m, markets. Thurs, 8-12 midnight, dance music. Fri, 7:30-9 pm. Central.

KFVI, Houston, Texas. 248 meters. 10 watts. Headquarters Troop 56th Cavalry Brigade.

KFVJ, San Jose, Calif. 226 meters. 500 watts. First Baptist church.

KFVK, Sacramento, Calif. 248 meters. 500 watts. Sacramento Chamber of Commerce.

KFVL, Vancouver, Wash. 231 meters. 10 watts. Army *Radio Station.

KFVN, Welcome, Minn. 227 meters. 10 watts. Carl *E. Bagley.

KFVO, Kirksville, Mo. 226 meters. 5 watts. F. M. *Henry.

KFVR, Denver, Colo. 240 meters. 50 watts. Mountain *light Branch Broadcasting Station.

KFVS, Cape Girardeau, Mo. 224 meters. 50 watts. *Cape Girardeau Battery Station.

KFVU, Eureka, Calif. 209.7 meters. 5 watts. The *Radio Shop.

KFVW, San Diego, Calif. 246 meters. 500 watts. *Airfan Radio Corp.

KFVX, Bentonville, Ark. 236 meters. 10 watts. Radio *Shop.

KFWA, Ogden, Utah. 261 meters. 500 watts. Browning Brothers Co. Announcer, H. C. Mallardet. Slogan, "Keeping Friends with All." Daily ex Sun, 4-5 pm, Zenith hour, stocks, markets, time. Mon, Tues, Wed, Fri, 9-11 pm, music. Sun 9-12 midnight, music. Mountain.

KFWB, Hollywood, Calif. 252 meters. 500 watts. Warner Brothers.

KFWC, Upland, Calif. 211.1 meters. 100 watts. L. E. *Wall. Tues, Thurs, Sat, Sun, 8-12. Pacific.

KFWD, Arkadelphia, Ark. 256 meters. 500 watts. Arkansas Light & Power company.

KFWF, St. Louis, Mo. 214.2 meters. 250 watts. St. Louis Truth Center.

KFWH, Chico, Calif. 254 meters. 100 watts. F. *Wellington Morse, Jr.

KGB, Tacoma, Wash. 249.7 meters. 50 watts. Tacoma Daily Ledger. Announcer, Alvin Stenso. Slogan, "This is KGB in Tacoma, Washington, the Lumber Capital of America and the Gateway to Mount Tacoma." Mon, Wed, Fri, 7-9 pm. Pacific.

KGO, Oakland, Calif. 361.2 meters. 2,000 watts. Gen. *Elec. Co. Announcer, Howard I. Milholland. Daily ex Sun, 10:30 am, luncheon concert. Daily ex Sat, Sun, 1:30 pm; Sat, 12:30, markets, weather; Mon, Wed, Fri, 8 pm, music. Mon, 4-5:30 pm, dance orchestra. Daily ex Sun, 4-5:30 pm, concert orchestra. Mon, Tues, Wed, Fri, 6-7 pm, music; Mon, Tues, Thurs, Sat, 8 pm, lectures, music. Mon, Tues, Thurs, Sat, 10-1 am, dance music. Mon, 5:30-6 pm, children's half hour; Mon, Tues, Wed, Thurs, Fri, 7 pm; Thurs, 5:30-6:30 pm, boys' hour; Fri, 5-5:30 pm, girls' half hour; Sun, 11-12 m., 8 pm, church services; 3:30-5 pm, Little Symphony orchestra. Pacific.

KGU, Honolulu, Hawaii. 270 meters. 500 watts. Marion *A. Mulrony. The Honolulu Advertiser. Announcer, W. K. Karmen. Daily, 7:30-9 pm. Tues, Thurs, Sat, special program. Sun, 11 am; 7:30 pm. 150 meridian. 5½ hours earlier than Pacific.

(Note—The second part of the station data list will appear next week.)

CHALLENGE!

ONE DOLLAR will be paid to the Radiophan submitting the most errors in any one station's listing in this directory. Letters must reaeh 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.

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

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

Five sucessive 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.

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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.

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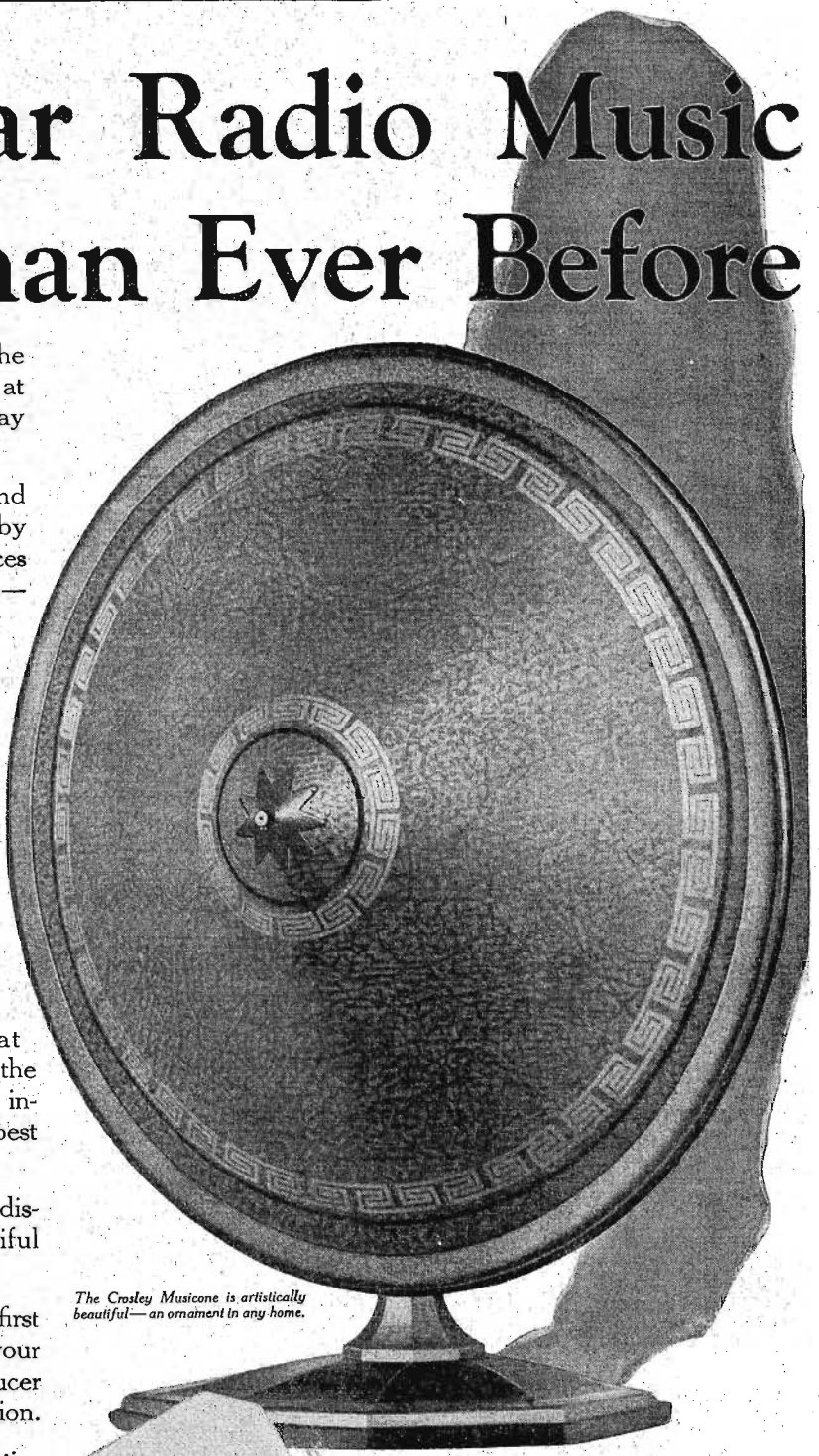

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