

# HELP HOOVER FIX WAVES

## 'HIRED HAND' COMES BACK TO WBAP MIKE

**LISTENERS AND THE BOSS WON'T LET HIM QUIT**

Famous Texan Returns from Ranch Sojourn with Denial That He Ever Suggested Resigning

FORT WORTH, Texas.—"Exit! Exit! The Hired Hand is back on the job!" Radio fans throughout the country have reason to be glad again with the return of the Hired Hand, popular substitute announcer of WBAP, the Fort Worth Star-Telegram. His absence from the microphone lasted only one week. He claims now that his boss is responsible for infecting him again on the radio! (Continued on page 2)



Left, "Floria the Flapper," The Cincinnati Post Girl's mystery girl of Cleve. W.M. Magnolia, popular novelist and entertainer, who is frequently heard from WBAP, Illinois. Right, Marie Match, pianist of the Texas Christian University school of music, who was heard this week at Station WRAP, the pianist of national fame.

## FAN WANTS A WIFE; CAN ANYONE HELP?

DENVER.—Wanted—one wife—3 lives in Hamburg, N.Y., and wants to hear from some lady who wants to be married," declares a humor in a lengthy letter to Station KCOA, the General Electric company, at Denver. "Maybe some lady wants to get in the marriage business with me, so let her send me a letter." The correspondent stipulates that applicants must be of "young years."

## Station KFDM to Broadcast Beaumont Music Festival

BEAUMONT, TEXAS.—A program will be broadcast from KFDM, Magnolia, Beaumont, musical station, every night during music week in Beaumont, Texas, April 26 to May 2 inclusive.

This will include on Sunday night, April 26, a sacred concert at 9:30 p.m. Central time, and Friday night a children's program from 7 to 7:30 p.m., and at 8 p.m. a concert by the Magnolia Reddery band. April 27, 28, 29, 30 and May 1, at 9:30 p.m., special programs will be given by the Magnolia Violin club, under the direction of Miss Gladys Barnes, the Beau-

mont High School orchestra, local musicians and visiting artists, who will be present for the Texas Federation of Future Club convention, held in the city during the week.

## Form Sutter-Yuba Club

TUFA, CITY, Calif.—Radio fans of Butte and Yuba counties have organized a radio club here for the purpose of increasing further interest in the new science. The club will be known as the Sutter-Yuba club.

## RADIO'S HEAD WISHES DATA FROM PEOPLE

### Would Remedy Tangle

**Radio Digest Publishes Blank to Secure Information for the House and Senate**

WASHINGTON.—Secretary Hoover calls for the opinions of radio listeners!

He is powerless to regulate broadcasting despite all the existing chaos, and he seeks to know what the majority of broadcast listeners want. The recent appeal, made in desperation because the old 1934 law does not give him authority to release license fee renewals or to number programs, must be answered.

The future of broadcasting rests in the hands of the listeners who talk to the aid of Mr. Hoover. He wants to know many things. When he knows these things he can present a clear case to congress, so that immediate action can be secured.

#### Radio Digest to Collect Data

Radio Digest, in its war upon the creation of further air-concession by the licensing of more class B broadcasting stations, announces that it will help collect and tabulate the information desired by Mr. Hoover.

It will print a voting blank, a copy of which appears on page three. If more than one is desired they may be secured by writing Radio Digest.

The purpose of the blanks is to answer a number of questions for Mr. Hoover and congress. The answers given will in a

(Continued on page 3)



## GOLD CUP NOMINEES TOP CENTURY MARK

COMPLETE LIST IS GIVEN;  
STANDINGS NEXT WEEK

Who Will Win Second Annual Radio Digest Gold Cup for Best Announcer

Over the century mark with nominations! Last week's mail brought the total to 107 contenders for the 1925 Radio Digest Gold Cup Award, the winning announcer of which will be presented by Radio Digest with a solid gold cup, shaped like a microphone and valued at \$5,000.

Who will be the world's most popular Radio announcer for 1925? George D. Hay of WLS, Chicago, was last year. Will he repeat? Or will some new "voice" carry away the second annual trophy? The final vote will tell.

The Gold Cup Award Editor has had a hard time placating some readers who have nominated their favorite and failed to see his name in print. This has been because they haven't allowed sufficient time for the name to be printed. Or perhaps the name was printed in an earlier edition as the result of an earlier nomination.

But one nomination is necessary. The complete list of nominations received by Radio Digest up to Saturday, April 14, appears below. Additional nominations will appear weekly. To save space the full list will not be given each week.

### First Standings Next Week

Here's a treat. Next week the approximate standings will be shown. The exact vote will not be shown because the content is too young, but the leaders' names, grouped by classes, such as first, second, third, etc., will be published.

Supporters of the various contenders are very interested to learn the strength of their candidates. Next week they will know. In the meantime, send in votes for your candidate so that his name will appear high in the list.

### Complete List of Nominees

The 107 announcers nominated on or before April 14 are:

CPLD, Fred Carlson	WBZ, P. E. Martin
CBWD, Walter Burdett	WBBF, George Smith
CPOC, W. W. Gross	WEAK, Phillip Cedars
CSCM, J. L. Clegg	WEAK, Graham McNamee
CHAT, W. H. Clegg	WEAK, Ray O. Thompson
DFT, D. H. P. Cross	WEAR, Harry Jackson
CNAK, G. W. Hayes	WEEL, Bill Envoy
CBNA, G. W. Hayes	WEEL, Mrs. L. E. Hayes
CBWW, G. W. Hayes	WFAS, Adam Colburn
CBNA, G. W. Hayes	WHLB, Ernest Chappell
CBNA, G. W. Hayes	WBFO, John Tamm
CBNA, G. W. Hayes	WBIN, V. R. Dunn
CBNA, G. W. Hayes	WBIS, V. R. Husted
CBNA, G. W. Hayes	WBIL, G. R. Buckley
CBNA, G. W. Hayes	WBII, Eddie Hayes
CBNA, G. W. Hayes	WBAL, Raymond Steiner
CPK, George T. Clark	WBBL, M. G. Greenleaf
CFDT, Harry Field	WBBO, N. Dean Cole
CRFM, Oris Penney	WBBO, Mrs. Marie
CBNA, G. W. Hayes	WBCH, Max Harlan
CBWA, Robert McMichael	WBFS, Chester Phillips
CBWJ, Robert McMichael	WBAL, Earl Keeler
CBH, John Dillinger	WBFA, F. A. Riley
CBWJ, Robert McMichael	WBHO, Fred Kowalski
CBWJ, Robert McMichael	WBIR, Norman Beckenbauer
CBWJ, Robert McMichael	WBLO, Everett Clegg
CBWJ, Robert McMichael	WBOT, L. L. Baird
CBNA, G. W. Hayes	WBZ, J. Andrew White
CBNA, G. W. Hayes	WBAS, Jasmin Agusti
CBNA, G. W. Hayes	WBBC, L. L. Baskin
CBNA, G. W. Hayes	WBCL, Harry Edwards
CBNA, G. W. Hayes	WBEG, George D. Hay
CBNA, G. W. Hayes	WBFG, Fred Shultz
CBNA, G. W. Hayes	WBGC, Jerry O. L. Bevington
CBWJ, Robert McMichael	WBAC, J. C. Powers
CBWJ, Robert McMichael	WBHD, Charles Hartung
CBWJ, Robert McMichael	WBAV, Lester Palmer
CBWJ, Robert McMichael	WBZW, Otto Kruse
CBWJ, Robert McMichael	WBLC, G. W. Hartman
CBWJ, Robert McMichael	WBMO, Wm. W. Newell
CBWJ, Robert McMichael	WBZL, James Burnett
CBWJ, Robert McMichael	WBED, Bert Rice
CBWJ, Robert McMichael	WBHE, W. H. Hayes
CBWJ, Robert McMichael	WBII, Jerry Sullivan
CBWJ, Robert McMichael	WBIC, G. W. Rhee
CBWJ, Robert McMichael	WBPO, Roy E. Davis

If your favorite's name is not in the above list, fill in the "nomination certificate" at the top of this page with the necessary information and mail it to the GOLD CUP AWARDS EDITOR, care of this magazine. Then save the official ballots for your choice!

### How to Win Cup for your Choice

Don't miss a single ballot, for when these are turned in to 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

Radio Digest and each is consecutively numbered ballot, 20 votes. For each 10 consecutively numbered ballots, 40 votes. For each 20 consecutively numbered ballots, 60 votes, and for each 30 consecutively numbered ballots, 80 votes bonus will be allowed.

Send nominations or ballots to the GOLD CUP AWARD EDITOR, Radio Digest, \$10 N. Dearborn St., Chicago.

Aahmes Temple Shrine Band to Broadcast from KGO April 28—Fiddlers Contest at WOC

Every Thursday night from 11 to 11:30 p.m. Station KTW, Chicago, Ill. will broadcast a Radio minstrel show. It will include such dignitaries as members and erstwhile "wrasslers" of the pink skin. Grab a ringside seat any Thursday night at the KTW zauduit show.

Nobles of the Mystic Shrine, members of the Aahmes Temple Shrine band will entertain the KGO, Oakland, Calif., Radio audience Tuesday, April 23, in a program of vocal and band numbers. Will R. Hill, "old home poet," will also contribute.

Station WOC, Davenport, Iowa, is going to stage an old-time fiddlers' contest in their studios on Friday evening, April 24, from 8 to 9. Winners will be picked by Radio fans. A similar contest was held recently at WLW, Cincinnati, and was attended by many of the old school fiddlers.

The recent National Cornell Night program was broadcast from Station WSU, State University of Iowa, and brought in hundreds of telegrams and letters from Cornellians throughout the country.

A feature musical event of WGY, Schenectady, N. Y., was a recital held recently by Ernest Davis, well-known operatic tenor, assisted by Mahel Austin, soprano, and Ollie G. Vetter, pianist.

Mozart's opera, "The Marriage of Figaro," first patronized by Marie Antoinette, was broadcast recently from KGO, Oakland, Calif.

During the opening of Loew's Mt. Vernon theater, NTG, announcer at Station WHN, presided at the microphone. He was assisted by many of his Radio pals.

Station CPCA, Toronto, Can., is now entering the fourth year of their existence. To celebrate this occasion, they held a birthday program which was filled with many pleasant surprises.

A special program was broadcast from Station KNX, Los Angeles, Calif., by employee of the Westinghouse Electric and Manufacturing company.

Ex-Governor Frank O. Lowden of Illinois, recently addressed the first Midwest Radio community meeting from Station WLS, Chicago.

Anna Jarvis, president and founder of the Mother's Day International Association, recently broadcast a talk from Station WOR, Newark, N. J.

## "HIRED HAND" AT WBAP

(Continued from page 1) public, for he was sincere in his efforts to get away from the "milk" and permit fans of WBAP to enjoy "more music and nonsense."

The Beiler Room announcer contends yet that what Texas needs is just two things, both to come out of the air—rain and himself. But it appears that his Radio audience and the Sun-Telegram have only agreed to the rain part of the program.

**Denies Ever Hating or Leaving**  
After a week's visit to the Half Ranch of West Texas, he now says that it will be impossible to get him out of the studio with a derrick.

Incidentally, the Hired Hand strenuously denies that he ever said anything about leaving—which seems to be more Truth Society stuff. Anyhow, he's back; shoveling coal some times, announcing for WBAP every once in a while—and noting that "truth" is protected at all times.

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## Looking Ahead

WBZ, KOA and KFI "Back Stage" will appear in the next few issues. Listeners who have heard these famous stations undoubtedly wonder how they are "behind the scenes," in this case, under the antenna. Worth waiting for, is the best way to describe these feature pages.

The Low Loss Tuned Radio Frequency Set, articles on which are begun this issue, will be described through the layout and assembly stages next week. The construction and wiring of this set are so simple that beginners can tackle it with full assurance of success.

Prof. David Penn Moreton continues his discussion of alternating current and the basic principles underlying its use. Readers who follow the A.B.C. course from start to finish will find themselves able to cope successfully with practically any problems of construction or operation that may arise.

Operating and Trouble Shooting on the Freshman Masterpiece is presented for the thousands of readers who either purchased or assembled this popular receiver. This is one of the less complicated tuned radio frequency assemblies and the data on it applies to many of the similar sets available.

Newsstands Don't Always Have One Left

WHEN YOU WANT

# Radio Digest

YOU WANT IT!

BEST OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

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Publisher: Radio Digest, 10 N. Dearborn St., Chicago, Illinois.	
Please find enclosed check N. O. for Five Dollars (U.S. funds), for One Year's Subscription to Radio Digest, Illustrated.	
Name _____	
Address _____	
City _____	State _____

# KYW DANCE LESSON HELP FOR CHILDREN

## STATION GIVES REGULAR BALLET INSTRUCTION

Each Saturday Boris Petroff Teaches Steps with Help of Picture in Daily Paper

CHICAGO.—Now the little children—especially the pretty little girls who want to acquire grace—can take their dancing lessons every week in their own home. The loud speaker will be their teacher. For beginning this month, KYW, the Westinghouse station here, has inaugurated a regular Saturday afternoon ballet dancing lesson. The teacher is Boris Petroff, of the production staff of the Balaban and Katz theaters in Chicago. The lessons begin at 2:30 p. m., Central time (daylight saving after April 26) every Saturday.

On Friday previous to the day the lesson is given, a series of pictures of Dorothy Burke dancing partner of Mr. Petroff, are published in one of the daily newspapers. The pictures are explained by the article accompanying them, which also interests those interested to listen to KYW at 2:30 next day.

Mr. Petroff on the following day, Saturday, uses the pictures there to illustrate his broadcast ballet dancing lesson. The series will continue all summer, it is planned.

Since ballet dancing is the foundation of all dancing the lessons are sure to be beneficial to both those who are studying and about to study any kind of dancing. Mr. Petroff is especially suited to instruct. He was formerly a member of the Imperial Russian ballet and has been a teacher of dancing in America for seven years.

## Mrs. Henry Field, of KFNF Fame, Succumbs

Broadcast Funeral Ceremony to  
Shenandoah Station's Fans

SHENANDOAH, Iowa.—The audience of KFNF is in mourning. Mrs. Henry Field, beloved wife of the proprietor of the popular Shenandoah station, died recently. The funeral services, which were attended by 3,000 people from this and neighboring cities, were broadcast to the world as a fitting tribute to the mother of the Field family, which has been so active for the good of this community.

Thousands of letters of condolence poured in from listeners who heard of Mrs. Field's untimely death. A movement has been started among Radio friends to purchase a pipe organ and present it to Station KFNF as a memorial to Mrs. Field.

## HOOVER WANTS HELP

(Continued from page 1)

large measure he responsible for the future of broadcasting.

Radio Digest appeals to Radio listeners to fill in the blank on page three and mail it at once to Radio Digest, 510 N. Dearborn street, Chicago. Ask for more blanks if you want them.

### Cause of Air Congestion

Lack of legislation and funds to administer present legislation is the cause, as explained previously by this publication, for the terrific jamming, heterodyning, and crowded condition of the ether. Radio broadcasting is at the crisis. Some action must be taken, and taken immediately, if conditions are to get better instead of worse.

The questions asked by the blank on page three will help if enough readers answer them and send them in.

If you don't like broadcasting conditions as they are today send in a blank for yourself and a hundred blanks from your friends. Then you can be sure you have done your duty.

Help Secretary Hoover to get the information he desires!

### Congress Ignorant of Conditions

The necessity of helping Mr. Hoover to present his case to congress so that body will pass the required laws and appropriate badly needed funds, is reflected by the small number of members of the senate and the house of representatives that possess Radio sets and know enough about Radio to turn them.

The number of these legislators is but 100, and of this 100 only a few enthusiastic ones exist.

Hence the need of telling congress what it's all about. Their lack of information is appalling, and represents a crying need for immediate action.

Fill the blank at the bottom of page three and help relieve the congestion of the air. DON'T FAIL! Do it today, and send for more blanks if you want them.

## TURN SHIP'S CABIN INTO RADIO STUDIO

NEW YORK.—In order to enable Radiophans to hear Marie Tivoli, internationally famous operatic and concert singer, before she left the United States for Europe, Station WJZ ran a remote control line aboard the ship on which she was sailing. The suite she occupied aboard the S. S. Homeric was transformed into a small studio less than two hours before sailing time. This was her first and only appearance before the microphone.

## WINDSOR CASTLE TO HAVE NO RECEIVERS

ONDON, England.—Although King George III used to regularly on his own personal radio set at Buckingham Palace, he will permit no aerials to find a place on the battlements of his other residence, Windsor Castle. The castle is the home of numerous distinguished permanent guests of his majesty. Several of them have sought permission to install sets there, but have met with a polite refusal.

## JUST "EVERYDAY GEORGIA FOLKS"



**C**ONSIDERABLY less than a year ago Mr. and Mrs. Edwin McConnell were doing rather nicely as gospel song leaders at Baptist revivals here and there. Today Ed and Grace McConnell are as familiar to the radio millions as Bobbie Jones is in his sphere. The two "Everyday Georgia Folks," as they aptly styled themselves, brought to the radio world, through WSB, something entirely new in the history of broadcasting.

They tried the virtually unprecedented innovation of being natural—of letting human nature, unconventionality, spontaneous humor and unforced cheerfulness do the work—and got away with it.

Ed is a Georgian, born and reared, and is just as big and cumbersome and informal in person as he is on the air. He gets as much fun out of a broadcast as the audience does, and probably more. He is the son of the noted Georgia evangelist, Dr. Lincoln McConnell. Ed has

written a number of gospel songs and popular airs that were hits long before he discovered Radio. He is in the middle thirties, towers considerably over six feet, weighs more than 225 pounds.

Mrs. McConnell, or "Mama," as Ed calls her, is an ideal foil. She is pretty and demure, chaste and attractive. Her voice is charming when she sings alone, and it blends perfectly with Ed's when they sing together.

When Ed and Grace put on a broadcast they begin by making the proposition to a family party. Ed chats with the audience as confidentially as though he and all his family had been next door neighbors with every listener for decades. Every Saturday night at either the 8 to 9 or the 10 to 11 (Central time), broadcast from WSB, The Atlanta Journal station, the McConnells may be heard, and it is safe to say that their programs always draw the biggest audiences of the week.

## CONCENSUS 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.

- |   |
|---|
| 1. Do you want less class B (500 watts or more power) stations?..... Yes _____ No _____<br>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 _____<br>3. How far away, approximately, is the nearest class B station?..... mi.<br>4. Are you troubled by B stations heterodyning and interfering with one another?..... Yes _____ No _____<br>5. Have you read a description of the Kintner plan?..... Yes _____ No _____<br>6. Are you in favor of it or some similar plan which will help clear the air of the present "traffic" congestion?..... Yes _____ No _____<br>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 _____<br>8. Include separately a list of five stations you like most and five you dislike most. |
|---|

How many members in your family? \_\_\_\_\_ Name \_\_\_\_\_

Are all of the same mind as yourself?..... City, County, State \_\_\_\_\_

(Write to Radio Digest if more blanks are desired)

## BIG MUSIC FESTIVAL FROM KOA MAY 3-10

### DENVER MUSIC WEEK PRO- VIDES GOOD PROGRAM

Many Musical Organizations to Provide Material for Daily and Nightly Broadcasts

DENVER, Colo.—Perfused music, representative of five eras in the history of musical development—modern, pre-modern, romantic, classical and clavichord—will be one of the daylight attractions of Denver's huge music week festival to be broadcast by KOA, May 3 to 10.

Costumes as harmonicas as the melodies themselves will be worn for this novel performance, which will be given daily at noon and flashed to the ears of the nation from the Denver municipal auditorium.

Tea-time music, a feature to be provided by a half dozen crack orchestras, will be heard by KOA's guests as a daily afternoon event, as well as three student concerts, which will be broadcast as matinee attractions. A choral and orchestra competition of forty-two entries among high school students representing twenty-seven institutions in thirteen Colorado towns marks the fourth matinee event.

### Plan Big Evening Festivals

Orchestra and glee club musicals by ten high schools of Denver comprise the late afternoon programs over KOA's microphones, followed by daily twilight concerts by a group of forty piece brass bands. These will be open-air features and will be given at Denver's Grand theater.

Details for evening presentations are rapidly taking shape, according to Freeman H. Talbot, program manager of the General Electric station and executive director of the Denver Music Week association.

"We plan to give one evening to popular operatic arias at the KDA studios," he declared. "Among these will be the second act from 'Martha,' the quartet from 'Rigoletto,' 'Barcarolle' from 'Tales of Hoffmann,' 'Sextet from Lucia,' 'Toreador Song from Carmen,' the 'Anvil Chorus' and 'Miseries from 'Il Trovatore,' and instrumental medleys from the Gilbert-Sullivan light operas. These numbers will be presented by leading singers participating in the music week festivities."

## EXPERT GOING TO AID MISSIONARIES

Have Had Receiver for Eighteen Months, But Cannot Make It Work

ST. LOUIS, Mo.—With Radio at its present state of perfection, there are still some people who doubt that music can be received from the air. They are people who live in the vicinity of Proctor, Mo.

The Clingen sisters, missionaries of the Presbyterian church living at Proctor, eighteen miles from a railroad in the Ozarks, saved enough from their small salaries to buy a receiver. They have had the set for eighteen months, but have not received a sound from it. The natives began to express doubts as to the mental stability of the Clingen sisters.

However, Station WMAY, located in this city, heard of the predicament and recently took up a collection to send Kenneth Flint, a Radio expert, to Proctor, with orders to get the set working. Flint is on his way and is donating his own time.

## Michigan Theater Observes Radio Week; Stars on Bill

LANSING, Mich.—Radio week was observed by a local theater here recently when stars from Chicago and Kansas City stations appeared on the program in conjunction with the regular vaudeville bill. The Radio entertainers were Josephine Van Bergen, pianist and soloist from WQJ, Chicago; Walter Wilson, KYW's "Uncle Bob;" Lucy Bruch, violinist from WLS, Chicago; Jack Halligan, comedian at KYW; Art Linick, comedy songwriter from KYW, and Bartman and Saxton, singing team from WDAF, Kansas City.

## New British Bill Causes

### Rush on Licenses by Fans

LONDON, England.—The new British Radio bill has had at least one good effect. It has shown very conclusively that many people do not intend to pay for their Radio programs until they are absolutely forced to do so. As a result of the penalties proposed for such evasions under the new measure, more new Radio licenses have been sold in the last month than during the previous twelve months. The rush took many post offices unaware. The heavy demands could not be met, the supplies of licenses being exhausted.

You will never know the thrills  
of Radio until you own a

# FRESHMAN MASTERPIECE



The Greatest Value ever  
Offered in a Radio Receiving Set

## *5 tube tuned radio frequency*

embodying the 5 big features  
demanded in a perfect receiver

- ¶ Built of only the finest low loss material in a beautiful mahogany cabinet [or soft-toned leatherite];
- ¶ It brings in far distant stations,
- ¶ Night after night at the same points on the dials,
- ¶ With real loudspeaker volume,
- ¶ And full throated, true to life tone.

*Be sure the serial number is riveted on the sub-panel  
It is your protection and guarantee*

\$60

*At all  
dealers*

**Chas. Freshman Co. Inc.**  
*Radio Receivers and Parts*  
FRESHMAN BUILDING  
240-248 WEST 40TH ST.—NEW YORK, N.Y.

# Gold Medal WCCO, Minneapolis-St. Paul



Hitting the high spots in singing at WCCO. From left to right they are: Ted Kline, first tenor; Kenneth Johnson, second tenor; Carl Schubert, baritone, and Nels Swenson, bass. They are the famous Gold Medal quartet.



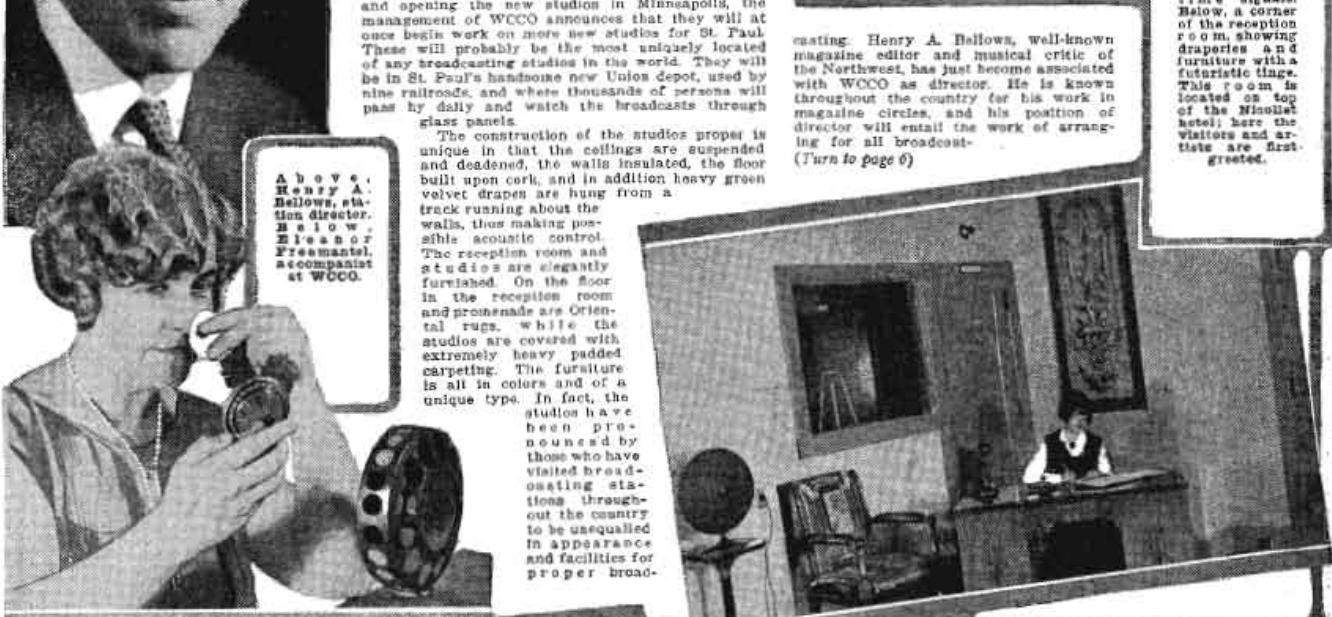
Above: Henry A. Bellows, station director. Below: Eleanor Posler, pianist, accompanying at WCCO.

THE Gold Medal station, Minneapolis-St. Paul, WCCO, is on the air with its new 5,000 watt equipment and broadcasting from its new Minneapolis studios on top of the Nicollet hotel. If you doubt this, ask Ray Sweet, chief engineer of WCCO, who has been in bed recuperating from the effects of installing the station. Ask Paul Johnson, announcer, who has hardly been able to speak above a whisper since the five-hour program opening night. Ask any of the four or five thousand Twin City residents who jammed the Nicollet hotel to see the new studios on opening night, in fact, ask any Radio fan from New York to San Francisco, and from Brownsville, Texas, to LePas, Manitoba. Not satisfied with getting the new transmitter on the air and opening the new studios in Minneapolis, the management of WCCO announces that they will at once begin work on more new studios for St. Paul. These will probably be the most uniquely located of any broadcasting studios in the world. They will be in St. Paul's handsome new Union depot, used by nine railroads, and where thousands of persons will pass by daily and watch the broadcasts through glass panels.

The construction of the studios proper is unique in that the ceilings are suspended and deadened, the walls insulated, the floor built upon cork, and in addition heavy green velvet drapes are hung from a track running about the walls, thus making possible acoustic control. The reception room and studios are elegantly furnished. On the floor in the reception room and promenade are Oriental rugs, while the studios are covered with extremely heavy padded carpeting. The furniture is all in colors and of a unique type. In fact, the studios have been pronounced by those who have visited broadcasting stations throughout the country to be unequalled in appearance and facilities for proper broad-



casting. Henry A. Bellows, well-known magazine editor and musical critic of the Northwest, has just become associated with WCCO as director. He is known throughout the country for his work in magazine circles, and his position of director will entail the work of arranging for all broadcast. (Turn to page 6)



Visitors at the Minneapolis studios of the Gold Medal station on top of the new Nicollet hotel may view the broadcast through the glass panels.



Left to right, Ray Sweet, chief engineer; Eleanor Posler, musical program director; Paul Johnson, announcer, and Harry Wilber, station manager. This is the very popular group after broadcasting for five and one-half hours.



## HOUSE OF COMMONS MAY BE BROADCAST

**ENGLISH PREMIER WOULD  
FIND OUT FEASIBILITY**

Proposal Startles Parliament—Appoint Committee to Investigate Question  
—Call in American Experts

LONDON, England.—"Hello, the British Isles. The house of commons speaking." This announcement may soon be heard by millions of British Radio fans. "I think," stated Premier Baldwin recently in parliament, "that the whole question of permitting proceedings in the house to be broadcast by the British Broadcasting company should be considered and for that purpose I am thinking of setting up a select committee of both houses."

This announcement took members of parliament completely by surprise and was the topic of discussion throughout the rest of the day.

The R. B. C. is approaching the stage when it may be possible to provide a special wave length which can be allotted to the broadcasting of parliamentary debates. Listeners could then tune in to the house of commons as they tune in to other stations.

The committee suggested by the premier will probably investigate the whole question of the future of broadcasting. It will have the assistance of experts and will be furnished with evidence from the United States.

(Editor's Note.—American broadcast listeners will remember that congress voted down a similar proposition sometime ago. It was proposed to broadcast the proceedings of congress, but the members of that body were evidently unfavorably inclined toward letting the public hear the business taking place there.)

### Marion Shut-in Rabid Fan

MARION, Ohio.—Though confined to a wheel chair, Jack Hoagland, 22, of this city, is probably the most rabid radio fan in this vicinity. Jack makes all his own apparatus and has a log that would make a radio manufacturer envious. And best of all, people come in to visit Jack regularly nowadays to see his sending and receiving sets, and to learn why their sets won't work properly.

### Ladies, Tune to WGY for Lesson in Home Economics

SCHENECTADY, N. Y.—An extension course in home economics is open to every woman within range of the voice of WGY, Schenectady station of the General Electric company. Two afternoons each week, Monday and Thursday, at 2 o'clock Eastern time, members of the faculty of the

## The Finer Side of Radio

A Song  
That  
Reached  
Home

A great baritone sang with uncommon fervor to his enraptured listeners.

The melody seemed to string a golden chain of words for some responsive heart.

It reached ten times a million hearts.

For as the music faded into silence the singer said GOOD NIGHT MOTHER!

And then we knew that song had gone straight and true to someone somewhere in that vast invisible audience.

Someone whose tear-dimmed eye saw not the wonderful singer but a little boy whose toasted head lay on her breast.

And in that spell of mother love which makes millions kin.

All those listening hearts "tuned in" to one heart.

A heart that must have felt the magic of ten million prayers unified in one "God bless her!"

Our Bristol Loud Speaker had given us all the rich tonal quality of the singer's voice, its natural sweetness, its pathos. It had been a wonderful evening.



5 MODELS

The Cabinet model is of beautifully finished mahogany, 37 x 10 x 18". It has a full Roaring wooden horn with long expansion chamber and a high-grade electro-magnetic iron reproducer. Price \$29.00. Horn comes from \$12.50 to \$25.00.

Send for Bulletin AT-3022

Ask your dealer to demonstrate them on the Bristol Compagnie.

**BRISTOL AUDIOPHONE Loud Speaker**

## DO YOU KNOW THESE VOICES?



A photograph that one seldom sees. Three of the best announcers in the country, during the recent Kansas City radio show. Left to right, Lambdin Kay, "The Voice of the South," WSB; George Hay, "The Solemn Old Judge," WLS, and Leo Fitzpatrick, "The Merry Old Chieftain," WDAF.

## GOLD MEDAL WCCO

(Continued from page 5)

ing programs from the Gold Medal station. "Listen for the time signals," is often heard from this station. The announcer is none other than Paul Johnson, who has endeared himself to the ears of all the fans listening to WCCO.

Next in line comes Eleanor Poehler, musical program director. She has been with WCCO for some time, and the quality of musical programs broadcast, vouch for her ability at picking artists.

On the evening of the opening, invitations were sent out to approximately 5,000 people to come to the Nicollet hotel and view the broadcasts. They began arriving at 7 o'clock in the evening, and continued coming until the program ended at 2:30 a. m. During the evening hours a motion picture photographer would have been able to catch a mob scene equalled in but few productions. Elevators were swamped trying to carry the passengers. Many of the guests walked the twelve flights to get to the studios.

The most noticeable result, according to officials of the Gold Medal station, of the installation of the new equipment is the greatly increased range. Since the new transmitter has been on the air, reception has been reported from both coasts, and on Saturday, March 7, report was received that the noonday market reports had been heard over a loud speaker in the heart of New York city. On the west coast, radio fans report that the new WCCO comes in with the volume of local stations.

### W. W. Tracy Announcer for WEBW, Beloit, Wis.

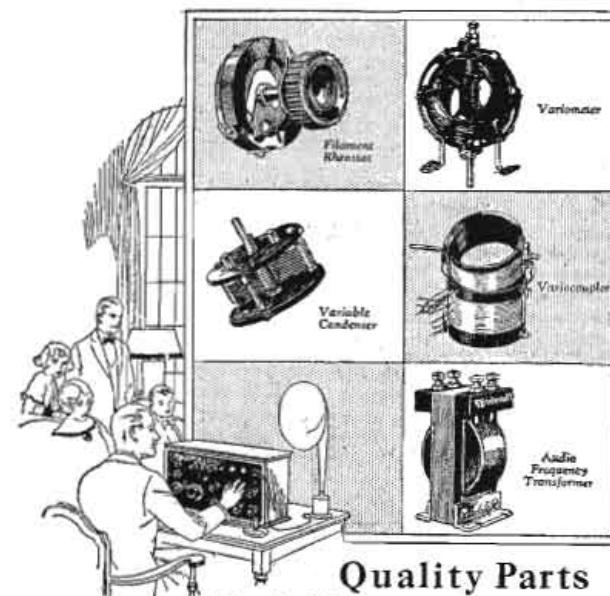
BELOIT, Wis.—W. W. Tracy, engineer and globe-trotter, has been appointed official announcer for all Fairbanks-Morse programs broadcast Tuesday evenings from WEBW, Beloit. Mr. Tracy, like all of the other members of the F.M. broadcasting staff, is employed in the company shops. He is the chief engineer at Beloit works.

### Quell Super Station Rumor

NEW YORK—Recent purchase of fifty acres of land by the Radio Corporation of America was denied by company officials as indicating that a super station would be erected. The R. C. A. announced that the land was obtained for short wave experimental work.

### Charleston to Have Club

CHARLESTON, W. Va.—Local fans in this city are organizing a new radio club to further the development of radio. They held a meeting recently at the Y. M. C. A.



### Quality Parts Matched for Perfect Teamwork

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

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

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**Standard RADIO Products**

# Operating and Trouble Shooting

## For the Owner of Super-Zenith VII, VIII, IX and X

THE panel and apparatus of Super-Zenith VII form the basis around which the other three models in the Zenith line are built so the following data on this set will be of equal value to the owner of the larger models.

Super-Zenith VII is probably the largest cabinet receiver on the market, as the apparatus has not been crowded together and there are large compartments at each end for the batteries. This set is a tuned radio frequency receiver, incorporating two stages of radio frequency amplification, a detector and three stages of amplification at audio frequencies. Much interest has been aroused in Radio circles in this set as it is the first time that a receiver has appeared for use by the Radio public in which variable coupling in the R. F. transformers has been tried.

The unique and different factors are not all within the cabinet as inspection of figure 1 will show. At the right end of the panel there is an engraved scale which indicates the settings of the pointer Da, which settings are controlled by the knob identified by the letter D. The usual construction is to have a large dial which can be turned by means of a smaller vernier knob, but in this case all control of Da is done through knob D. The other tuning control is the indicator Ga and Ja, the setting of which is varied by the knob GJ.

The rear view of this panel is shown in figure 2, and study of this illustration will show the reason for the peculiar identification lettering of the controls. The variable condenser D is on the shaft of the pointer Da which is adjusted through knob D. Behind knob D on the front of the panel will be found a knurled disc which is the control H, by which the capacity of the small condenser H as shown in the rear view, may be varied. The two condensers G and J in figure 2 are controlled through cords by the knob GJ, the settings for which are shown by the pointer Ga-Ja; thus two condensers are controlled simultaneously by means of a single knob.

Figure 3 is presented for those who are familiar with schematic wiring diagrams, and the various parts used and shown in figure 1 and 2 may be readily found in figure 3. For control of efficiency of the first tube, a variable high resistance unit is inserted in the plate circuit of the first tube and identified by the letter E. M is the rheostat by which the brilliancy of the detector tube can be varied while L is a stage control switch which permits of ready change from one to two or three stages of audio frequency amplification. Considering now figure 3 it will be noted that signals come into the primary of the fixed coupler C and the turns in use in the primary can be varied by means of the different connections to binding post B.

A small loading coil is shown at A, which may be cut in or out by the switch identified as A. The secondary of coupler C is tuned by condenser D and from this tuned circuit signals pass to one has become thoroughly accustomed to

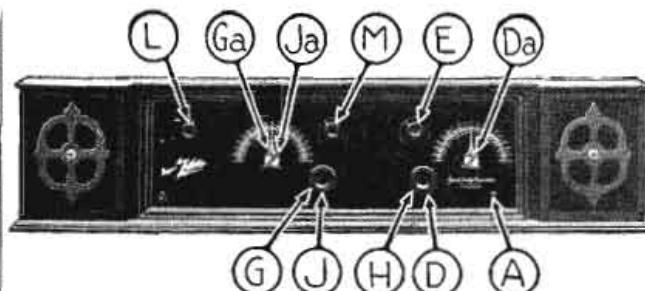


Figure 1

Control E, the resistance, will necessitate a little practice before its use is thoroughly understood. It should be

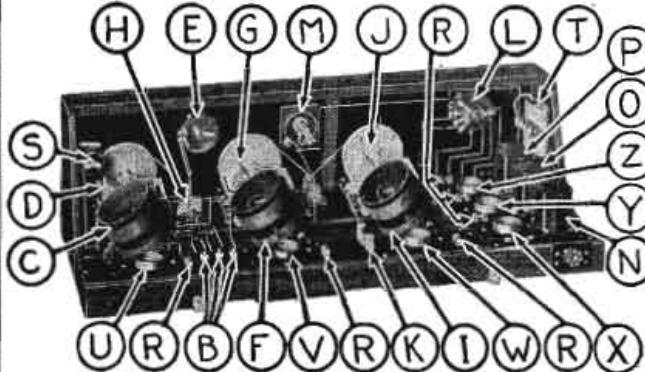


Figure 2

resistances are employed to keep the voltage supplied the filaments of the amplifier tubes at the correct value. The three stages of audio frequency amplification appear at the right end of figure 2, the tube sockets X, Y and Z being the first, second, and third stages respectively, while transformers N, O and P are used in that order.

A jack, not shown in figure 3, is furnished, allowing the use of head phones for tuning. The method of changing from phones to loud speaker is entirely automatic, merely removing the phone plug puts the loud speaker into operation, plugging in the phones puts them into operation and disconnects the loud speaker. Switch L is used to increase and decrease the amplification as desired. This is an improvement over the old plug and jack system employed in the majority of other Radio receivers. Until

turned to the right until a hissing sound is heard, at which point it should be turned back until the sound just disappears.

the set is in use, the operator has become thoroughly accustomed to

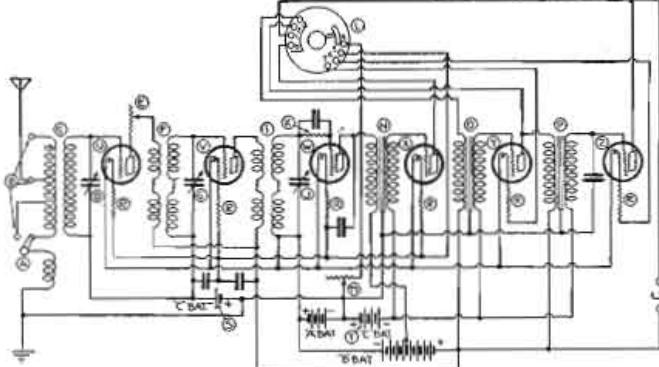


Figure 3

tube U. Tube U is coupled to tube V by means of the tuned R. F. transformer F. The primary of transformer F is attached to the shaft of condenser G and is rotated with respect to the secondary simultaneously with condenser C. Tighter coupling between primary and secondary is possible at higher wave lengths than can be used at lower wave lengths, and this primary is adjusted so that its position approaches a right angle with respect to the secondary. By their use the desired station is tuned in. Low wave stations transmitting on 200 to 300 meter waves will be found on the lower left hand side of the scale, stations of higher wave lengths will be found as the pointers are advanced to the right. It will also be noticed that controls D and GJ will have practically the same setting when tuning in a station. For example, if a station is being received with pointer Da at \$5 on the scale, Ga-Da will likewise be at approximately \$5.

In other words, it should be kept as far to the right as possible without causing distorted signals. The operator can readily recognize this point when a station is tuned in, by turning the control E completely to the right and then bringing it back until a point is reached where the signal is perfectly clear.

To tune, start with D and GJ at zero on their respective scales and the vernier H midway between its left and right hand stopping points. Move GJ slowly to the right and simultaneously swing D pendulumwise to the right in, swing it back and forth slowly over a range of three degrees on either side of the position maintained by GJ. The proximity of a station broadcasting at the time, will be indicated by a hissing or rushing sound as D passes a particular point. Adjust GJ and D to the loudest point of the sound, then release D and operate GJ and the vernier knob H simultaneously as follows:

Move vernier H slowly back and forth, at the same time moving GJ slowly back and forth over a range about one division on either side of the point where the loudest signals are heard. This should clear up the reception. If the event that does not, controls GJ and D should be slightly readjusted and the vernier H operated as before. This will bring in the station clearly, and the readings on the scale may be marked down on a log card for future reference. Should it be desired to return a station at a future time, it is only necessary to place the pointers at the positions on the scales indicated by the log card and then adjust the vernier H.

To get the utmost out of the receiver the following readjustments may be made after the station has been tuned in as outlined above. Turn control E completely to the right and then gradually bring it back to the point where the voice of music clears up. The best suggestion for using this control is to keep it as far to the right without impairing the quality of the program being received.

After a station is tuned in, remove the headphones plug from the jack in the lower left hand corner of the panel, whereupon the signal will be heard in the loud speaker which has been connected to two

(Continued on page 18)

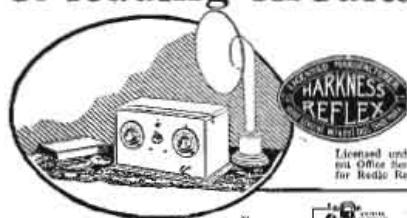
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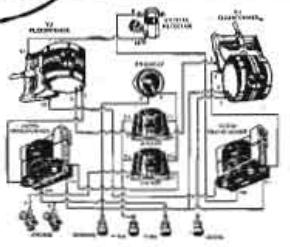
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# ALASKAN SEAL ENTERTAINS AT WHO

Saturday, April 25

Saturday, silent night for: AT9, CFAC, CFCA, CHIC, CHYC, CKY, KFAE, KFOM, KFUW, KWAV, WHAF, WGN, KIQD, KJEL, KWOB, KWBZ, WHAF, WEI, WEBH, WEIS, WEMO, WGST, WHAF, WHAD, WHAZ, WHB, WHB, WHD, WHF, WHAF, WHAK, WHA, WHI, WWD, WYO, WWD.

Eastern Time Stations

CHIC, Toronto, Can. (356.0), 8:30-10 p. m., dance music; CHNG, Toronto, Can. (356.0), 8:30 p. m., CHNC radio orchestra, Charles E. Seeger, director; CHAC, Montreal, Can. (446.7), 7:30-9 p. m., Harry George's "Lilac Song"; CHAD, Montreal, Can. (446.7), 8 p. m., Harold Leonard's Windsor Band, Bert Jacobs.

CKRD, Ottawa, Can. (405.0), 8 p. m., James McMurtry and his Canadian Laundry orchestra; CKCR, Ottawa, Can. (405.0), 8 p. m., Eddie Hahn's Radio band, Eddie Hahn, pianist; CKRS, Ottawa, Can. (405.0), 8 p. m., Harry Johnson's radio orchestra; CKSD, Ottawa, Can. (405.0), 8 p. m., Harry Johnson's radio orchestra.

KWFO, Pittsburgh, Pa. (600.0), 12-12 a. m., Pauline Lester and her Chanson Society vocal ensemble.

WGAB, Buchanan Hall, N. Y. (881.0), 12-2 a. m., special program, "Gershwin," by Fred Franklin's orchestra; WENR, New York, N. Y. (772.0), 8 p. m., Miss Mary E. Tapp, piano; WHR, New York, N. Y. (772.0), 8 p. m., Miss Mary E. Tapp, violinist; 8:15, piano quartet and answers; 8:45, Dr. Hans Hagen, violinist.

WKCR, New York, N. Y. (772.0), 8 p. m., Leo Bolman Hotel Lounge orchestra; WKD, Matilda Barnes Orchestra; Joseph Carlton Band; 7:30, birthday story for the Kidder 7-15 Clubmen, United States Naval history; 8:15, band selections; 8:45, piano quartet; 9, Eddie Murphy's "Zootsuit"; pianist; 10:30, Hotel Kinnell trio; 11:15, Wm. R. Hinman, Master of Ceremonies; 12:15-12:45, Wm. R. Hinman, Master of Ceremonies.

WCAE, Pittsburgh, Pa. (446.7), 8:30-10 p. m., Pauline Lester and her Chanson Society vocal ensemble.

WGAB, Buchanan Hall, N. Y. (881.0), 12-2 a. m., special program, "Gershwin," by Fred Franklin's orchestra; WAMG, Buchanan Hall, N. Y. (881.0), 12-2 a. m., special program, "Gershwin," by Fred Franklin's orchestra; WENR, New York, N. Y. (772.0), 8 p. m., Miss Mary E. Tapp, piano; 8:15, piano quartet and answers; 8:45, Dr. Hans Hagen, violinist.

WGRB, New York, N. Y. (772.0), 8 p. m., Leo Bolman Hotel Lounge orchestra; WKD, Matilda Barnes Orchestra; Joseph Carlton Band; 7:30, birthday story for the Kidder 7-15 Clubmen, United States Naval history; 8:15, band selections; 8:45, piano quartet; 9, Eddie Murphy's "Zootsuit"; pianist; 10:30, Hotel Kinnell trio; 11:15, Wm. R. Hinman, Master of Ceremonies; 12:15-12:45, Wm. R. Hinman, Master of Ceremonies.

WCAE, Pittsburgh, Pa. (446.7), 8:30-10 p. m., dinner concert; William Penn hotel; 1, Current Music today; 2:30, Pennsylvania symphony show; show.

WGKX, Detroit, Mich. (518.0), 8 p. m., musical program.

WEAF, New York, N. Y. (481.0), 8:30-10:30 p. m., music hall program, "Gershwin," by Fred Franklin's orchestra; dancing music; Western Avenue hotel; 7:30-8, talk, "Coronet Dream"; Nat Lantz, 7-15 Clubman; 8:30-8:45, show; 9, dance music.

HARRY J. FETTER, tenor: 8:30-8:45, Harry J. Fetter's Program; 8:45-9, Harry J. Fetter's 8:30-9, show; musical comedy; 9:15-10, Harry J. Fetter's Program; 10:30-11:15, Harry J. Fetter's Program; 11:15-12, Harry J. Fetter's Program; 12:15-12:45, Harry J. Fetter's Program.



Leonore Swanson, mezzo-soprano, is a popular artist with the Pacific coast fans. She appears frequently at KPO, San Francisco. Miss Swanson was formerly a soloist with Sennett's band. Photo: Myers Studio.

"Pegasco," 8-11-25. Ben Barnes and his Hotel Roosevelt orchestra, 8-11-25, 8 p. m., national crimes of General John J. Pershing under auspices of American Legion.

WF, Philadelphia, Pa. (394.0), 8 p. m., Meyer Davis' "Singing Pictures," 8-1-25, 8 p. m., Carnegie Free Methodist church of Philadelphia; Leonard East and son, drama players; Franklin W. Wagner, tenor; 8:30, George Busoni dance orchestra; 9, Ray Bruno and his band; 10:30-11:30, musical comedy, "Sister; 8-2-25, Mr. and Mrs. Charles Caron, musical comedy; 8-3-25, Grotto; 8-4-25, Grotto; 8-5-25, Grotto; 8-6-25, Grotto; 8-7-25, Grotto; 8-8-25, Grotto; 8-9-25, Grotto; 8-10-25, Grotto; 8-11-25, Grotto; 8-12-25, Grotto; 8-13-25, Grotto; 8-14-25, Grotto; 8-15-25, Grotto; 8-16-25, Grotto; 8-17-25, Grotto; 8-18-25, Grotto; 8-19-25, Grotto; 8-20-25, Grotto; 8-21-25, Grotto; 8-22-25, Grotto; 8-23-25, Grotto; 8-24-25, Grotto; 8-25-25, Grotto; 8-26-25, Grotto; 8-27-25, Grotto; 8-28-25, Grotto; 8-29-25, Grotto; 8-30-25, Grotto; 8-31-25, Grotto; 8-32-25, Grotto; 8-33-25, Grotto; 8-34-25, Grotto; 8-35-25, Grotto; 8-36-25, Grotto; 8-37-25, Grotto; 8-38-25, Grotto; 8-39-25, Grotto; 8-40-25, Grotto; 8-41-25, Grotto; 8-42-25, Grotto; 8-43-25, Grotto; 8-44-25, Grotto; 8-45-25, Grotto; 8-46-25, Grotto; 8-47-25, Grotto; 8-48-25, Grotto; 8-49-25, Grotto; 8-50-25, Grotto; 8-51-25, Grotto; 8-52-25, Grotto; 8-53-25, Grotto; 8-54-25, Grotto; 8-55-25, Grotto; 8-56-25, Grotto; 8-57-25, Grotto; 8-58-25, Grotto; 8-59-25, Grotto; 8-60-25, Grotto; 8-61-25, Grotto; 8-62-25, Grotto; 8-63-25, Grotto; 8-64-25, Grotto; 8-65-25, Grotto; 8-66-25, Grotto; 8-67-25, Grotto; 8-68-25, Grotto; 8-69-25, Grotto; 8-70-25, Grotto; 8-71-25, Grotto; 8-72-25, Grotto; 8-73-25, Grotto; 8-74-25, Grotto; 8-75-25, Grotto; 8-76-25, Grotto; 8-77-25, Grotto; 8-78-25, Grotto; 8-79-25, Grotto; 8-80-25, Grotto; 8-81-25, Grotto; 8-82-25, Grotto; 8-83-25, Grotto; 8-84-25, Grotto; 8-85-25, Grotto; 8-86-25, Grotto; 8-87-25, Grotto; 8-88-25, Grotto; 8-89-25, Grotto; 8-90-25, Grotto; 8-91-25, Grotto; 8-92-25, Grotto; 8-93-25, Grotto; 8-94-25, Grotto; 8-95-25, Grotto; 8-96-25, Grotto; 8-97-25, Grotto; 8-98-25, Grotto; 8-99-25, Grotto; 8-100-25, Grotto; 8-101-25, Grotto; 8-102-25, Grotto; 8-103-25, Grotto; 8-104-25, Grotto; 8-105-25, Grotto; 8-106-25, Grotto; 8-107-25, Grotto; 8-108-25, Grotto; 8-109-25, Grotto; 8-110-25, Grotto; 8-111-25, Grotto; 8-112-25, Grotto; 8-113-25, Grotto; 8-114-25, Grotto; 8-115-25, Grotto; 8-116-25, Grotto; 8-117-25, Grotto; 8-118-25, Grotto; 8-119-25, Grotto; 8-120-25, Grotto; 8-121-25, Grotto; 8-122-25, Grotto; 8-123-25, Grotto; 8-124-25, Grotto; 8-125-25, Grotto; 8-126-25, Grotto; 8-127-25, Grotto; 8-128-25, Grotto; 8-129-25, Grotto; 8-130-25, Grotto; 8-131-25, Grotto; 8-132-25, Grotto; 8-133-25, Grotto; 8-134-25, Grotto; 8-135-25, Grotto; 8-136-25, Grotto; 8-137-25, Grotto; 8-138-25, Grotto; 8-139-25, Grotto; 8-140-25, Grotto; 8-141-25, Grotto; 8-142-25, Grotto; 8-143-25, Grotto; 8-144-25, Grotto; 8-145-25, Grotto; 8-146-25, Grotto; 8-147-25, Grotto; 8-148-25, Grotto; 8-149-25, Grotto; 8-150-25, Grotto; 8-151-25, Grotto; 8-152-25, Grotto; 8-153-25, Grotto; 8-154-25, Grotto; 8-155-25, Grotto; 8-156-25, Grotto; 8-157-25, Grotto; 8-158-25, Grotto; 8-159-25, Grotto; 8-160-25, Grotto; 8-161-25, Grotto; 8-162-25, Grotto; 8-163-25, Grotto; 8-164-25, Grotto; 8-165-25, Grotto; 8-166-25, Grotto; 8-167-25, Grotto; 8-168-25, Grotto; 8-169-25, Grotto; 8-170-25, Grotto; 8-171-25, Grotto; 8-172-25, Grotto; 8-173-25, Grotto; 8-174-25, Grotto; 8-175-25, Grotto; 8-176-25, Grotto; 8-177-25, Grotto; 8-178-25, Grotto; 8-179-25, Grotto; 8-180-25, Grotto; 8-181-25, Grotto; 8-182-25, Grotto; 8-183-25, Grotto; 8-184-25, Grotto; 8-185-25, Grotto; 8-186-25, Grotto; 8-187-25, Grotto; 8-188-25, Grotto; 8-189-25, Grotto; 8-190-25, Grotto; 8-191-25, Grotto; 8-192-25, Grotto; 8-193-25, Grotto; 8-194-25, Grotto; 8-195-25, Grotto; 8-196-25, Grotto; 8-197-25, Grotto; 8-198-25, Grotto; 8-199-25, Grotto; 8-200-25, Grotto; 8-201-25, Grotto; 8-202-25, Grotto; 8-203-25, Grotto; 8-204-25, Grotto; 8-205-25, Grotto; 8-206-25, Grotto; 8-207-25, Grotto; 8-208-25, Grotto; 8-209-25, Grotto; 8-210-25, Grotto; 8-211-25, Grotto; 8-212-25, Grotto; 8-213-25, Grotto; 8-214-25, Grotto; 8-215-25, Grotto; 8-216-25, Grotto; 8-217-25, Grotto; 8-218-25, Grotto; 8-219-25, Grotto; 8-220-25, Grotto; 8-221-25, Grotto; 8-222-25, Grotto; 8-223-25, Grotto; 8-224-25, Grotto; 8-225-25, Grotto; 8-226-25, Grotto; 8-227-25, Grotto; 8-228-25, Grotto; 8-229-25, Grotto; 8-230-25, Grotto; 8-231-25, Grotto; 8-232-25, Grotto; 8-233-25, Grotto; 8-234-25, Grotto; 8-235-25, Grotto; 8-236-25, Grotto; 8-237-25, Grotto; 8-238-25, Grotto; 8-239-25, Grotto; 8-240-25, Grotto; 8-241-25, Grotto; 8-242-25, Grotto; 8-243-25, Grotto; 8-244-25, Grotto; 8-245-25, Grotto; 8-246-25, Grotto; 8-247-25, Grotto; 8-248-25, Grotto; 8-249-25, Grotto; 8-250-25, Grotto; 8-251-25, Grotto; 8-252-25, Grotto; 8-253-25, Grotto; 8-254-25, Grotto; 8-255-25, Grotto; 8-256-25, Grotto; 8-257-25, Grotto; 8-258-25, Grotto; 8-259-25, Grotto; 8-260-25, Grotto; 8-261-25, Grotto; 8-262-25, Grotto; 8-263-25, Grotto; 8-264-25, Grotto; 8-265-25, Grotto; 8-266-25, Grotto; 8-267-25, Grotto; 8-268-25, Grotto; 8-269-25, Grotto; 8-270-25, Grotto; 8-271-25, Grotto; 8-272-25, Grotto; 8-273-25, Grotto; 8-274-25, Grotto; 8-275-25, Grotto; 8-276-25, Grotto; 8-277-25, Grotto; 8-278-25, Grotto; 8-279-25, Grotto; 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# MUSIC WEEK CELEBRATED BY KFDM

Monday, April 27

(Continued from page 9)

**WFLT**, New York, (520), 10-11 p. m., "Americanization Day," Walter J. Levy; 8-10 p. m., "American Radio Hour"; Mrs. John Heath, 18-20-18-22; Mrs. Mary Harkness, 19-20; Captain Bill Ward, 18-19-20; Artie Matthews, 19-21; Charlie Givens, 18-19-21; Eddie Ralston, 18-19-20; Ruth Edwards, 19-21; Eddie Foy, 19-20; Eddie Flanagan, 18-19-20; Eddie Foy, Jr., 19-20; Eddie Flanagan, 18-19-20.

**WCOC**, Minneapolis, St. Paul, Minn. (446.4), 2 p. m., "Selections of Pictures, Pictures and Automobiles," Miss Dorothy Moore, Mrs. John Hobart Clegg and her students; 7, readers' club; 8-20, students' hour; 8, "Teaching and Training Seed Potions"; W. V. Langford, 9-15, "The Best Known Stories," Ruth Edwards, 18-19-20; Marlene Dietrich, 19-20-21; Eddie Foy, 19-20-21; Eddie Foy, Jr., 19-20-21; Eddie Flanagan, 18-19-20; Eddie Flanagan, 18-19-20-21.

**WCEC**, Elgin, Ill. (225), 14-20-22-23, "Musical Sunday," Alice Ferguson, Charles E. Nichols, Director; WTAS orchestra.

**WBAL**, Kansas City, Mo. (843.8), 6-7 p. m., "Circles of Friends," Frank Rosenfeld; 8-10, grand piano with WEAF; 11-12, a.m., "Merry Old Chai, Plantation Myths."

**WENR**, Berlin Springs, Mich. (295.5), 11 p. m., "Country Lightness," Mr. & Mrs. Fred J. Compagnon, bartons; D. M. Martin, pianist.

**WHAJ**, Madison, Wis. (524.4), 7-9 p. m., "Guest Party"; WHAD, Milwaukee, Wis. (273), 6-2 p. m., "dinner music," Milwaukee Athletic Club; 8-9-10, "Merrimac University Chorus," Frank Moran, Director; Katherine Reid, pianist.

**WHDH**, Boston, Mass. (608.2), 11 a. m., "organ recital," Mary E. West; 8-10 p. m., "Guitar Concerto," Macdonald's Early Birds symphony class; 8-15-3-15 p. m., "Choral Music," Mrs. Mary D. Kehan, organist; 4-12 p. m., "organ recital," Mary E. West; 10-13, "Vocal Recital," Mary E. West; 12-13, "Vocal Recital," Mary E. West; 13-14, "Vocal Recital," Mary E. West.

**WOR**, Newark, N. J. (405.2), 6-12-7-13, 8-10 a. m., "Harriet Macdonald's Early Birds symphony class; 8-13-3-15 p. m., "Choral Music," Mrs. Mary E. West; 8-10, "organ recital," Mary E. West; 10-13, "Vocal Recital," Mary E. West; 12-13, "Vocal Recital," Mary E. West.

**WWDL**, Detroit, Mich. (516.9), 4-12 p. m., musical program, "dinner music," Eddie Clegg Hotel; 7, musical program.

**WYTV**, Schenectady, N. Y. (225.2), 1 p. m., "New to You," James G. Wright; 7, 10-12 p. m., "Teenage Years of Farm Boys," L. A. Murphy, editor; 8-10, "radio program," Harry Clark, pianist; 9-10, "radio program," John E. McGehee, Bar; 11-12, "radio program," Eddie Foy, Jr.; 13-15, "radio program," George Alexander Lang and Senator Schulte.

**WHAZ**, Troy, N. Y. (273.3), 7-9 p. m., "Saratoga Polytechnic Institute orchestra," night; Symphony orchestra.

**WJBD**, Worcester, Ill. (510.1), 7-12 p. m., "Amateur Radio Hour," Jim Clegg, Director; 8-10, "amateur radio hour," Chet Carra, M. P. Adams, Director; 10-20, "Radio Service," Bert H. Belgrave, musicale; 11-12, "Radio Parade," diverse.

**WORD**, Batavia, Ill. (273), 7-8 p. m., "Unde Dan's hour," Norma Thurman, Guest reader; "The Mystery Reader," Bert H. Belgrave, musicale; 11-12, "Radio Parade," diverse.

**WQJ**, Chicago, Ill. (644.7), 3-4 p. m., "The Secret of Good Music," Helen Harrington Downing; "The Care of Your Voice," Madeline Hartshorne, Director.

**WWO**, Washington, D. C. (602.3), 1-2 p. m., luncheon program.

## Eastern Standard or Central Daylight Saving Time Stations

**CHNC**, Toronto, Can. (500.8), 8-20, "CHNC Little Sprouts," orchestra; "Paramount male quartet," Miss Gertrude Schubert, soprano.

**EWAC**, Western Can. (410.2), 1-15 p. m., "Hans Christian Andersen, his life and times," Einar Hauge, Director; 11-12, "Radio Broadcasts," Dr. Frank B. Tolson, Director.

**WBAY**, Columbus, Ohio (283.7), 8-19 p. m., WEAW orchestra.

**WCIL**, Detroit, Mich. (516.9), 4-12 p. m., musical program, "dinner music," Eddie Clegg Hotel; 7, musical program.

**WFYI**, Indianapolis, Ind. (812.3), 12-13 p. m., "Teenage Years of Farm Boys," L. A. Murphy; editor; 8-10, "radio program," Harry Clark, pianist; 9-10, "radio program," John E. McGehee, Bar; 11-12, "radio program," Eddie Foy, Jr.; 13-15, "radio program," George Alexander Lang and Senator Schulte.

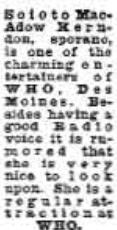
**WHAZ**, Troy, N. Y. (273.3), 7-9 p. m., "Saratoga Polytechnic Institute orchestra," night; Symphony orchestra.

**WJBD**, Worcester, Ill. (510.1), 7-12 p. m., "Amateur Radio Hour," Jim Clegg, Director; 8-10, "amateur radio hour," Chet Carra, M. P. Adams, Director; 10-20, "Radio Service," Bert H. Belgrave, musicale; 11-12, "Radio Parade," diverse.

**WORD**, Batavia, Ill. (273), 7-8 p. m., "Unde Dan's hour," Norma Thurman, Guest reader; "The Mystery Reader," Bert H. Belgrave, musicale; 11-12, "Radio Parade," diverse.

**WQJ**, Chicago, Ill. (644.7), 3-4 p. m., "The Secret of Good Music," Helen Harrington Downing; "The Care of Your Voice," Madeline Hartshorne, Director.

**WWO**, Washington, D. C. (602.3), 1-2 p. m., luncheon program.



Soloist Maude Kerns, soprano, is one of the charming entertainers of WO-Des Moines. Besides having a good radio voice it is rumored that she is very nice to look upon. She is a regular attraction at WWHO.

The Tromley trio, Dorothy Tromley, cellist, Marie Klyde, violinist, and Mrs. Gertrude Robinson, piano pianist, will appear this week at KDKA, "The World's Pioneer Broadcasting Station."



## Western Standard Time Stations

**KGAB**, Denver, Colo. (322.4), 7-15 p. m., "newspaper service," Bert G. Erkkila; 8, "vertical piano" of Elmo Abrahams; 9, dinner hour concert; 10, concert program; 11, Cecilia artists; 12, Delmer and his orchestra; 13, "Mountain Melodies," orchestra of Senor Macdonald; George Alexander Lang and Senator Schulte.

**WMAK**, Lockport, N. Y. (265.1), 5 p. m., musical program.

**WLIB**, Atlanta, Ga. (110.1), 10-11 p. m., "Good Music," Carter Bailey, director; 11-12, "Radio Parade," diverse.

**WWHO**, Des Moines, Iowa (512.3), 7-8 p. m., "Unde Dan's hour," Norma Thurman, Guest reader; "The Mystery Reader," Bert H. Belgrave, musicale; 11-12, "Radio Parade," diverse.

**WQJ**, Chicago, Ill. (644.7), 3-4 p. m., "The Secret of Good Music," Helen Harrington Downing; "The Care of Your Voice," Madeline Hartshorne, Director.

**WWO**, Washington, D. C. (602.3), 1-2 p. m., luncheon program.

## Mountain Standard Time Stations

**KGA**, Denver, Colo. (322.4), 8 p. m., "Radio Church" orchestra; 9-10, "Denver Music Company" (led by George J. Murphy); 11, "Radio and its Rainbows" (led by C. H. Muller); 12, "Modern English," T. A. Kropp; 13, "Current Social and Economic Problems," Dale Yoder.

**WTAR**, Worcester, Mass. (510.1), 9-10-19 p. m., "Vita Olivia Radio concert," WTAS orchestra; Cavasianas.

**WJBD**, Worcester, Ill. (510.1), 8 p. m., "The Boy Scout Project," John D. Bond.

**WTIS**, Allentown, Pa. (520.1), 9 p. m., "Georgians of Color," J. Gavin Lauder, 10-11, "Warner Seven."

**WTMV**, Freeport, Ill. (340.1), 12-13 p. m., "The Friendship Between Gothic and Classical Music," C. H. Muller; 14, "Modern English," T. A. Kropp; 15, "Current Social and Economic Problems," Dale Yoder.

**WYAT**, Elgin, Ill. (225), 7-8 p. m., "Vita Olivia Radio concert," WTAS orchestra; Cavasianas.

## Pacific Standard Time Stations

**KFAB**, Portland, Wash. (546.5), 7-8 p. m., "Portland Chorus," orchestra; Harter Wilson; Josephine Fitzgerald, "Art in Relation to Death," Nettie B. Jones; "How to Improve Your Health," Dr. Fred D. Johnson; "Are the Japanese Fair?" Dr. Fred D. Johnson; "Boys for the Farm Boys," A. H. Gruenberg, "The Right Way to Work," Dr. Roland S. McDonald's "most useful book," 12-13, "McDonald's Music Box"; 14, "McDonald's Health Book"; 15, "McDonald's Ranch House," dinner concert; 16-17, "McDonald's Ranch House," dinner concert; 18, "McDonald's Ranch House," dinner concert; 19-20, "McDonald's Ranch House," dinner concert; 21-22, "McDonald's Ranch House," dinner concert; 23-24, "McDonald's Ranch House," dinner concert; 25-26, "McDonald's Ranch House," dinner concert.

**KFTV**, Los Angeles, Calif. (520.3), 5-6-8 p. m., "Excursion" (host, Edith Bowes); 9-10, "Philosophical Club"; 11-12, "The National Civic League"; 13, "Cecilia artists"; 14-15, "Hollywood Film Critics' Association"; 16-17, "Maurice Chevalier"; 18-19, "Edith Bowes"; 20-21, "Edith Bowes," dinner concert; 22-23, "Edith Bowes," dinner concert; 24-25, "Edith Bowes," dinner concert; 26-27, "Edith Bowes," dinner concert; 28-29, "Edith Bowes," dinner concert; 30-31, "Edith Bowes," dinner concert; 32-33, "Edith Bowes," dinner concert.

**KFKN**, Hastings, Neb. (288.3), 8-19 p. m., "Impulsive Concerts," audience participation; 9-10, "Radio Program," W. H. Morris, "Dinner Hour Concert"; 11-12, "Radio Program," W. H. Morris.

**KFAB**, Lincoln, Nebr. (549.1), 7-8-9-10 p. m., "Collegians orchestra; Orville Andrews, Buck Wether, Van E. Price, Captain Harry H. Weston; 11, "Lillian Hall-Davis Miller, contralto."

**KFOM**, Amarillo, Texas (315.6), 9-10 p. m., "Wynona," W. H. Morris; 11-12, "Wynona," W. H. Morris.

**KHOU**, Houston, Texas (519.5), 7 p. m., "The Story of the Coal Fields," Fred W. Knobler; 7-8, "Shakespeare's 'Richard III,'" L. E. Seligman; 14-15, "Elementary English," Mrs. Ruth Morrison; 17-18, "Radio Stories," Shirley Sibley; 19-20, "Radio Stories," Jessie Powers, teacher; 21-22, "Radio Stories," Jessie Powers, teacher.

**KWAN**, Oklahoma City, Okla. (322.3), 7-8 p. m., "The Younger," Carl R. W. Kress; "Show Me More," Carl R. W. Kress.

**KHDZ**, St. Louis, Mo. (345.1), 7 p. m., musical group, "Grand Central Quartet," Eddie and Maxine Leibman; 8-10, "Pauline Schubert, soprano"; 11-12, "Lorraine Lee Williams, soprano"; 13-14, "Josephine Powers, Miss Lucille Schubert, soprano"; 15-16, "John Powers, tenor"; 17-18, "Lorraine Lee Williams, soprano"; 19-20, "John Powers, tenor"; 21-22, "Lorraine Lee Williams, soprano"; 23-24, "Lorraine Lee Williams, soprano"; 25-26, "Lorraine Lee Williams, soprano".

## Central Standard Time Stations

**KFAB**, Lincoln, Nebr. (549.1), 7-8-9-10 p. m., "Collegians orchestra; Orville Andrews, Buck Wether, Van E. Price, Captain Harry H. Weston; 11, "Lillian Hall-Davis Miller, contralto."

**KFOM**, Amarillo, Texas (315.6), 9-10 p. m., "Wynona," W. H. Morris; 11-12, "Wynona," W. H. Morris.

**KHOU**, Houston, Texas (519.5), 7 p. m., "The Story of the Coal Fields," Fred W. Knobler; 7-8, "Shakespeare's 'Richard III,'" L. E. Seligman; 14-15, "Elementary English," Mrs. Ruth Morrison; 17-18, "Radio Stories," Shirley Sibley; 19-20, "Radio Stories," Jessie Powers, teacher; 21-22, "Radio Stories," Jessie Powers, teacher.

**KFKA**, Hastings, Neb. (288.3), 8-19 p. m., "Impulsive Concerts," audience participation; 9-10, "Radio Program," W. H. Morris, "Dinner Hour Concert"; 11-12, "Radio Program," W. H. Morris.

**KFAB**, Lincoln, Nebr. (549.1), 7-8 p. m., "Radio Stories," Jessie Powers, teacher; 9-10, "Radio Stories," Jessie Powers, teacher; 11-12, "Radio Stories," Jessie Powers, teacher; 13-14, "Radio Stories," Jessie Powers, teacher; 15-16, "Radio Stories," Jessie Powers, teacher.

**KFAB**, Lincoln, Nebr. (549.1), 13-14 p. m., "Radio Stories," Jessie Powers, teacher; 15-16, "Radio Stories," Jessie Powers, teacher.

**KHOU**, Houston, Texas (519.5), 7-8 p. m., "The Younger," Carl R. W. Kress; "Show Me More," Carl R. W. Kress.

**KFAB**, Lincoln, Nebr. (549.1), 13-14 p. m., "Radio Stories," Jessie Powers, teacher; 15-16, "Radio Stories," Jessie Powers, teacher.

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KMN, feature program; 12-14, "Goodrich Silverstein Guest orchestra," Eddie Maxfield, leader; 15-16, "Mrs. Lee Lorraine's Oceanic Grove dinner orchestra" from Ambassador hotel.

**KFJC**, San Francisco, Calif. (500.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWB**, Fresno, Calif., (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWK**, Sacramento, Calif., (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWX**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWY**, San Jose, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWZ**, San Francisco, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWA**, Santa Barbara, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWL**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWO**, Bakersfield, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWP**, Fresno, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWQ**, San Diego, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWX**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

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**KFWZ**, San Francisco, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWA**, Sacramento, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

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**KFWC**, Bakersfield, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWD**, Fresno, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWF**, Sacramento, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWG**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWH**, San Jose, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWI**, San Francisco, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWJ**, Sacramento, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWK**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWL**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWM**, Fresno, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

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**KFWR**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWT**, Fresno, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWU**, Sacramento, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

**KFWV**, Los Angeles, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain Michael; 5-6 p. m., "Radio Shows," Captain Michael.

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**KFWC**, Sacramento, Calif. (540.5), 1-2 p. m., "Radio Shows," Captain Michael; 3-4 p. m., "Radio Shows," Captain

# BATS TO MEET THURSDAY AT KJR

Tuesday, April 28

(Continued from page 10)

**KSD**, St. Louis, Mo. (545.1), 8 a. m., Benjamin Rubin, conductor; **Red Spring National Park**, Ark. (272.2), 8:30-8:50 p. m.; Charles L. Fischer, Salmon hotel orchestra; Moyer's Music Store, Arkansas hotel orchestra.

**WHAI**, Fort Worth, Texas (472.3), 12:05-12:20 p. m.; "Bingo" copy service; 9:30-10:45 a. m.; Harry S. Seeger, "Troll Sisters"; 12:30-12:50 p. m., Harry S. Seeger, hotel orchestra.

**WMBF**, West Des Moines, Iowa (488.4), 2 p. m.; "A Garden of Patti Voices"; Mrs. Francis Pachier, "Alma Good House"; Mrs. Eleanor Fischer, "Sally." **WBAL**, Baltimore, Md. (1040.4), 9:30-9:45 a. m.; Monarch orchestra, Peabody Center, 11:30-11:45 a. m.; "Baltimore Week"; D. G. Valentine, 11:50, lecture; 3 p. m., "WBAL Review"; 3:30-3:45 a. m.; "Chicago Star" highlights daily program; "Baltimore Insider."

**WDAP**, Kansas City, Mo. (882.8), 8:30-8:50 a. m.; Tell Story Radio orchestra; 11:30 a. m., Mountain Little Theatre; 7:30-8 p. m., "Monarchs."

**WHAD**, Milwaukee, Wis. (720.3), 4:30 p. m., dance program.

**WHAS**, Louisville, Ky. (1080.6), 4:30 p. m., Louisville Conservatory of Music; 8:30-8:45 a. m., Eddie Rosso and his orchestra; 8:45-9:30 a. m., concert; Harry brothers.

**WBZ**, Boston, Mass. (630.6), 2:30 p. m., Indian Tailor, Boston; 11:30-11:45 a. m., Newman Highschool night.

**WHAO**, Milwaukee, Wis. (720.3), 4:30 p. m., dance program.

**WMC**, Memphis, Tenn. (480.5), 7:30-8 p. m., weekly health and beauty program; 9:30-10:15 p. m., George Murphy, director; H. Harry D. Nichols, program.

**WOAI**, San Antonio, Texas (834.5), 9:30 p. m., "All American program"; WOAI, entrepreneurs; 9-10 p. m., "West Western Show"; 11:30-12, dance program.

**WOC**, University City, Iowa (482.6), 8:30-9:30 p. m., stadium night; Val Mediansville; 8:30-9:30 p. m., WEAF, orchestra.

**WBIL**, Ames, Iowa (1270), 11:00 p. m., "The Forest of United States and Iowa and the Farmer"; Fred G. McDaniel.

**WSB**, Atlanta, Ga. (426.2), 8-9 p. m., Vick Myers Melody trio; 10:15, violin concert; Eddie Voigt, **WEAO**, Columbus, Ga. (1060), 11:00 p. m., "Patriot," 2nd Counter; A. J. Dickman.

**WTAS**, Elgin, Ill. (332.6), 8:30-9:30 p. m., WTAS orchestra; Caveman.

**Mountain Standard Time Stations**

**CNR**, Ogallala, Neb. (426), 8 p. m., Belvedere Studio orchestra.

**Pacific Standard Time Stations**

**KFT**, Los Angeles, Calif. (988.1), 5:30-6 p. m., Kermode's musical half hour; 6:30-7 a. m., "Mountain Melodies"; 6:45-7, Radiotel 101-7 orchestra; Billie Bruns, "Billie Bruns"; 8-8:30, "California Stars" band; 9-9:30, "California Stars"; 10:30-10:45 a. m., "Southern California Library program"; 9-9:30, California studio quartet; "Lemonade" by Alva, conductor; 9:30-10:30, "California Stars" band; "Gone With the Wind"; Billie Bill, Barnes Water.

**KFOA**, Seattle, Wash. (444.1), 6:30-7 p. m., Olympia Lodge Hotel orchestra; 7-7:30, musical revue; 7:30-8:30, "Happy Holidays"; 8:30-9:30, musical review; 8:30-9:30, "Happy Holidays"; 9-10, Eddie Hartman and his orchestra.

**KFWB**, Hollywood, Calif. (1232), 7:45-8 p. m., popular program; Billie Bruns, "Billie Bruns"; 8-8:30, "California Stars"; 8:30-8:45, musical revue.

**KGO**, Oakland, Calif. (601.2), 4:50-5 p. m., concert orchestra; Reid St. Fiacre, 6:45-7, "Hotel" at home; R. Adams Temple Shrine band; Kevin Union, tenor; William A. Smith, piano; Fred Arrighi, bass; Eddie Baker, trumpet; Frank Palmer, copper; Santa Claus Hotel band; 9:30-10 a. m., Henry Haileson, conductor.

**KQW**, Portland, Ore. (654.3), 12:30 p. m., Rose City Studio quartet; "Oregon Airways" college orchestra, director: Nedine; 8:30, concert; 10 p. m., Multnomah Hotel Orchestra.

**KHJ**, Los Angeles, Calif. (480.5), 6:00 p. m., Art Arns, violinist; hotel concert orchestra; Edward Flanagan, director; 6:45-7:30, "Billie Bill's American Masters"; Fred Walker Soprano, solo; middle voice of the "Patterson Singers"; 7:45, "Laurel and Hardy" and "Harpo Marx"; 8-8:30, "Flirtation"; Florence Thompson, soprano; 8:30, program; Master Chorus, "Circus" and "Circus" associations; 10:30, "Billie Bill"; Biltmore Hotel dance orchestra; Earl Hartman, leader.

**KJR**, Seattle, Wash. (584.0), 1-2 p. m., "Post-Standard" news broadcast; 2-2:30, "Seattle" orchestra.

**KMR**, Hollywood, Calif. (955-915), 8:30-9:30 a. m., "House Music program"; Red Hill's review; 8:30-8:45 a. m., "Dinner Night"; 9:30-9:45 a. m., Harry S. Seeger, "Troll Sisters"; 10:15-11, "Troll Sisters"; 11:30-11:45 a. m., Harry S. Seeger, "Troll Sisters"; 12:30-12:45, "Troll Sisters".

**KPO**, San Francisco, Calif. (428.5), 1-2 p. m., Radio Radio talk; musical sketches; dance orchestra; 2:30-3:15, "House Music"; 3:30-3:45, Harry S. Seeger's "Troll Sisters"; 3:45-4:30, Harry S. Seeger's "Troll Sisters"; 5:15-6:15, "House Music"; 6:30-6:45, "House Music"; 7:45-8:15, Radio Radio talk; musical sketches; 8-8:30, Harry S. Seeger's "Troll Sisters"; 8:30-8:45, Harry S. Seeger's "Troll Sisters"; 9:15-10:30, "House Music"; 10:30-11:15, "Johnnie Souza's Amphetamine."

**AMF**, Mill River, Conn. (1035), 1:30-2 p. m., "Fashion Talk"; fashion talk; Klemmer Concert; 2:45, "Bass Band"; 3:15-3:30, "Vocal Ensemble"; 3:45-4:15, "Pete Rydberg, concert director"; 4:15-4:45, "House Music"; 4:55-5:30, "House Music"; 5:45-6:15, "Wall Street Journal review"; 6:30-6:45, N. Y. T. V. all night; 7:30-8:30, "China Novelty Band"; 8:30-8:45, "House Music"; 9:15-10:30, "House Music"; 10:30-11:15, "Johnnie Souza's Amphetamine."

**WKAQ**, New York, N. Y. (500), 9:15-10 p. m., Municipal.

**Harmont Inn**; "Madeline"; Louise Eddie, Banjo; "Eligible Sisters"; Alfred Tracy, harmonica; violin; Fred Jackson, guitar; Johnnie Souza; 1-2, Harry Tracy, banjo; Eddie Williams.

**WRC**, Washington, D. C. (848.5), 1 p. m., band music; "House Music" ensemble; 2:15, "Kodak" sketches; 2:45-2:55, "House Music"; 3:15-3:45, "House Music"; 4:15-4:45, "House Music"; 5:15-5:45, "House Music"; 6:15-6:45, "House Music"; 7:15-7:45, "House Music"; 8:15-8:45, "House Music"; 9:15-9:45, "House Music"; 10:15-10:45, "House Music"; 11:15-11:45, "House Music"; 12:15-12:45, "House Music"; 13:15-13:45, "House Music"; 14:15-14:45, "House Music"; 15:15-15:45, "House Music"; 16:15-16:45, "House Music"; 17:15-17:45, "House Music"; 18:15-18:45, "House Music"; 19:15-19:45, "House Music"; 20:15-20:45, "House Music"; 21:15-21:45, "House Music"; 22:15-22:45, "House Music"; 23:15-23:45, "House Music"; 24:15-24:45, "House Music"; 25:15-25:45, "House Music"; 26:15-26:45, "House Music"; 27:15-27:45, "House Music"; 28:15-28:45, "House Music"; 29:15-29:45, "House Music"; 30:15-30:45, "House Music"; 31:15-31:45, "House Music"; 32:15-32:45, "House Music"; 33:15-33:45, "House Music"; 34:15-34:45, "House Music"; 35:15-35:45, "House Music"; 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# ANNIVERSARY PROGRAM OF INAUGU

## *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**

**Sunday, April 26:** 7:30, WCAE, WEAF, WEII; 10, WHN.

**Monday, April 27:** 8, WAHO; 8:30, WAHG; 9, WEAF, WEII; 9:30, WAHG; 10, WEAF; 10:45, WOR.

**Tuesday, April 28:** 7:30, WRAF; 7:55, WHN; 8, WGTS; 8:30, WCAE, WEAF, WEII; 9, WCAE, WEAF, WEII; 10, WHN; WGTS.

**Wednesday, April 29:** 6, WCAU; 7, WFIL; 7:30, WEII; 9, WAHG; 9, WAHG, WHN; 9:45, WAHO, WNYC; 10, WEII.

**Thursday, April 30:** 7:15, WEII; 8, WEAF; 9, KDKA; 9:30, WHN, WNYC; 11:45, WJZ.

**Friday, May 1:** 6:05, WIP; 6:15, WIP; 7, WEAF; 8, WEAF; 8:45, WAHG; 9, WEAF, WJAR; 10, WEAF.

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

**Saturday, April 25:** 6, WEAF; 6:15, WOR; 7:35, WFC; 8, WHN; 8:30, CBS; 9, 2, WHN; 9:45, WNYC; 10, WHBQ; 10:45, WRC; 11, WOR.

**Sunday, April 26:** 7:10, WWJ; 8, WBFM.

**Monday, April 27:** 11:10, WMKA.

**Tuesday, April 28:** 8, WRCN; 9, WBBH; 10, WGN, WQJ; 11, WEBH, WLS; 12, WLS; 1, WQJ.

**Wednesday, April 29:** 8, WBCN; 10, KYN, WEBH, WGN, WQJ; 1, WQJ.

**Thursday, April 30:** 8:15, WBCN; 9, WBBH; 10:30, WGN, WQJ; 1, WQJ.

**Friday, May 1:** 10, WDCN, WGN, WQJ; 10:30, WRC; 1, KYN; 1, WQJ.

#### **Central Standard Time Stations**

**Saturday, April 25:** 7:10, WLS; 8, WGN, WBB; WTAS; 9, KFRU, WOAW; 9:30, WTAS; 10, WCAU.

**Sunday, April 26:** 7:10, WWJ; 8, KFRU, WBB; WJJD; 12:30, WQJ; 1, WBBM.

**Monday, April 27:** 7:30, WMAK, KFRU; 9:30, WBB; 10:45, WQJ; 11, WBBM.

**Tuesday, April 28:** 7:10, KFRU; 9:30, WBB; 10:45, WQJ; 11, WBBM.

**Wednesday, April 29:** 8:15, WBB; 10, KFRU; 11:30, WBBM; 12:30, WQJ; 1, WBBM.

**Thursday, April 30:** 7:45, KFRU; 9:30, KFRU; 10:45, KFRU; 11, WBBM.

**Friday, May 1:** 7, KFRU; 1:30, KNX; 7:45, KFRU; 9, KFRU; 9, KFRU; 10:45, KFRU; 11, KFRU.

#### **Mountain Standard Time Stations**

**Monday, April 27:** 7:30, KOA.

**Tuesday, April 28:** 6, KOA.

**Wednesday, April 29:** 8, KOA.

**Friday, May 1:** 8, KOA; 8:10, KOA.

#### **Pacific Standard Time Stations**

**Saturday, April 25:** 7:30, KIIJ; 8, KFI, KFO; 9, KFI, KFWB; 10, KIIJ, KNX; 12, KIIJ, KNX; 1, KFI, KNX.

**Sunday, April 26:** 7, KFI; 8, KFI; KFI; 9, KFWB; 10, KFWB.

**Monday, April 27:** 8, KFI, KFWB; 9, KFWB; 9:15, KLX; 10, KFI, KFWB.

**Tuesday, April 28:** 7:45, KFWB; 8, KFI; 9, KFI, KNX; 9:30, KFI; 10, KFI, KFWB; KNX; 11, KFI, KFWB.

**Wednesday, April 29:** 7:45, KFWB; 8, KFI; 9, KFI, KNX; 9:30, KFI; 10, KFI, KFWB; KNX; 11, KFI, KFWB.

**Thursday, April 30:** 7:45, KFWB; 8, KFI; 9, KFI, KNX; 9:30, KFI; 10:30, KGW; WEBH; 11:30, WQJ; 1, KYN, WEBH; 2, WQJ.

**Sunday, April 26:** 7:30, WHO; 10, KTHS; 11, WBAP; 11:45, WDAF.

#### **Western Standard or Central Daylight Saving Time Stations**

**Saturday, April 25:** 8:10, KBS, KDFX; 9:30, KDFX.

**Sunday, April 26:** 8:10, KBS, KDFX; 9:30, KDFX.

**Monday, April 27:** 8:10, KBS, KDFX; 9:30, KDFX.

**Tuesday, April 28:** 8:10, KBS, KDFX; 9:30, KDFX.

**Wednesday, April 29:** 8:10, KBS, KDFX; 9:30, KDFX.

**Thursday, April 30:** 8:10, KBS, KDFX; 9:30, KDFX.

**Friday, May 1:** 8:10, KBS, KDFX; 9:30, KDFX.

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#### **Western Standard Time Stations**

**Saturday, April 25:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Sunday, April 26:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Monday, April 27:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Tuesday, April 28:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Wednesday, April 29:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Thursday, April 30:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

**Friday, May 1:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

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**Friday, May 1:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

#### **Mountain Standard Time Stations**

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**Sunday, April 26:** 8:10, KBS, KDFX; 9:30, KBS, KDFX.

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# JURATION OF WASHINGTON AT WJZ

velty stunts are much appreciated days and Fridays. Polly Butler stars of the "Keep Joy Radiating by the Post-Intelligencer and the M. Lockhart, a talented contralto, the Detroit News station.



WBUT, New City, Tues. (682.6), 12:30 p. m., "Contemporary Poetry"; Eddie Ford, Pines; WATB, Elgin, Ill. (202.05), 9-12 midnight, WATB orchestra; Frank Morris, piano and Eddie Cavanaugh.

## Mountain Standard Time Stations

KFI, Los Angeles, Calif. (602.6), 5-9 p. m., "Kingside," S. E. Lewis; KDFC, 6-12, MacDowell's "Vigorous Pictures"; 6-5-7, "Musical talk"; 7-8, "Gentleman," KDFC, 7-9; 9-10, "Music Box"; 10-12, "Orchestra," KDFC, 10-11, "The Old Guard"; 12-13, "Music Box"; 12-14, "Music Box" and Gil Rasmussen; 18-19, "Music Box"; 20-21, "Music Box"; 22-23, "Singing Brothers' dance orchestra."

**WCAE, Pittsburgh, Pa. (462.3)**, 6:30 p. m., dinner talk of Lauren Stromberg; 8:30-8:45, "Opera Hour"; 8:45-9:05, William F. Moran's "Musical Box"; 9:15-9:35, William F. Moran's "Musical Box"; 9:45-9:55, William F. Moran's "Musical Box"; 10-11, "Armenian time signals and weather reports"; 10-11, "Music Box"; 12-13, "Singing Brothers' dance orchestra"; 12-13-14, "Singing Brothers' dance orchestra".

**WCAU, Philadelphia, Pa. (270)**, 6 p. m., Hotel Pennsylvania concert orchestra; 7-8, Chester Verna's "dance orchestra"; 10-11, "Radio Sports"; Miss Olympia dinner orchestra; 11-12, "Cafe Concertante."

**WBWF, Providence, R. I. (440.6)**, 8 p. m., meetings and talks of interest; Faculty from Brown university.

**WBFL, New York, N. Y. (320)**, 1-2:45 p. m., "Musical Pictures" and "Hotel Talk"; 2-3, "Piano Concerto"; 3-4:15, "Musical Pictures" and "Hotel Talk"; 4:15-5, "Musical Pictures" and "Hotel Talk"; 5-6, "Musical Pictures" and "Hotel Talk"; 6-7, "Musical Pictures" and "Hotel Talk"; 7-8, "Musical Pictures" and "Hotel Talk"; 8-9, "Musical Pictures" and "Hotel Talk"; 9-10, "Musical Pictures" and "Hotel Talk"; 10-11, "Musical Pictures" and "Hotel Talk"; 12-13, "Musical Pictures" and "Hotel Talk"; 14-15, "Musical Pictures" and "Hotel Talk"; 16-17, "Musical Pictures" and "Hotel Talk"; 18-19, "Musical Pictures" and "Hotel Talk"; 20-21, "Musical Pictures" and "Hotel Talk"; 22-23, "Musical Pictures" and "Hotel Talk"; 24-25, "Musical Pictures" and "Hotel Talk".

**WBFL, Boston, Mass. (476)**, 8:30 p. m., "Big Brother" and "Sister"; 9-10, "Whitney Mills' column"; 10, "Kossoff's Ice cream parlor"; 11, "Home's Vegetable Garden"; 12, "The Daily Diet"; 13, "Oscar's Kitchen"; 14, "The Famous American Kitchen"; 15-16, "Musical Pictures"; 17-18, "Musical Pictures" and "Hotel Talk"; 19-20, "Musical Pictures" and "Hotel Talk"; 21-22, "Musical Pictures" and "Hotel Talk"; 23-24, "Musical Pictures" and "Hotel Talk"; 25-26, "Musical Pictures" and "Hotel Talk"; 27-28, "Musical Pictures" and "Hotel Talk"; 29-30, "Musical Pictures" and "Hotel Talk".

**WBFL, Buffalo, N. Y. (319)**, 2:30-4:30 p. m., "Buffalo Electric Show"; musical programs; 5-6, educational opera entertainment; 7-8, "Talk"; 9-10, "Educational Opera Entertainment"; 11-12, "Educational Opera Entertainment"; 13-14, "Educational Opera Entertainment"; 15-16, "Educational Opera Entertainment"; 17-18, "Educational Opera Entertainment"; 19-20, "Educational Opera Entertainment"; 21-22, "Educational Opera Entertainment"; 23-24, "Educational Opera Entertainment"; 25-26, "Educational Opera Entertainment"; 27-28, "Educational Opera Entertainment"; 29-30, "Educational Opera Entertainment".

**WBFR, Buffalo, N. Y. (319.2)**, 10-11 p. m., "Edith Turner" and "Talk"; 12, "Hotel Atlantic dance orchestra"; 12-13, "Hotel Atlantic dance orchestra"; 14-15, "Hotel Atlantic dance orchestra"; 16-17, "Hotel Atlantic dance orchestra"; 18-19, "Hotel Atlantic dance orchestra"; 20-21, "Hotel Atlantic dance orchestra"; 22-23, "Hotel Atlantic dance orchestra"; 24-25, "Hotel Atlantic dance orchestra"; 26-27, "Hotel Atlantic dance orchestra"; 28-29, "Hotel Atlantic dance orchestra"; 30-31, "Hotel Atlantic dance orchestra".

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## Friday, May 1

**Friday, chest night for: ATB, CHNO, CHOC, CHYC, CHAC, KFDN, KFVY, KFMG, KGO, PWX, WGY, WAZ, WHAF, WHAK, WBL, WMH, WMA, WOJ, WOI, WOB, WRE, WRL, WSC, WRL**

## Atlantic or Eastern Daylight Saving Time Stations

**KDKA, Pittsburgh, Pa. (320)**, 11 a. m., City Hours of America, 8:15, address, University of Pittsburgh studio; 8:30, "Reports".

**WABC, Richmond Hill, N. Y. (318.8)**, 8:15 p. m., "The Old Folks House," WCR malines project, 8:30, "Sunday

## Index to Classical Concerts

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

### Classical

#### Atlantic or Eastern Daylight Saving Time Stations

**Sunday, April 28:** 6:05, WCAU; 6:10, KDKA; 6:15, WCAE; 6:20, WJZ; 6:30, WOJ; 6:35, WGBS; 6:45, WHAG; 7:15, WCAI.

**Monday, April 29:** 6, WEAF; 6:15, WDKA; 6:30, WCAE; 6:45, WJZ; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WLT; 8:15, WNYC; 8:30, KDKA; WCAE; WEAF; WOR; 8:45, WAOH; WNYC; WJAR; 9:30, WEIT; WCR; 10, WEIS; WNYC; 10:30, KDKA; WJE; 11, WCAI; 12, WHAG; 13, WAOH; 14, WCHG.

**Tuesday, April 30:** 6, WCAI; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Wednesday, April 31:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Thursday, April 1:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Friday, April 2:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Saturday, April 3:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Sunday, April 4:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Monday, April 5:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Tuesday, April 6:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Wednesday, April 7:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Thursday, April 8:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Friday, April 9:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Saturday, April 10:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Sunday, April 11:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Monday, April 12:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Tuesday, April 13:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Wednesday, April 14:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Thursday, April 15:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Friday, April 16:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Saturday, April 17:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Sunday, April 18:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Monday, April 19:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Tuesday, April 20:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Wednesday, April 21:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Thursday, April 22:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Friday, April 23:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Saturday, April 24:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Sunday, April 25:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Monday, April 26:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Tuesday, April 27:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Wednesday, April 28:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Thursday, April 29:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Friday, April 30:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Saturday, April 1:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Sunday, April 2:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; WJZ; 7:30, WCAU; 7:45, WNYC; 8, KDKA; WCAE; WEEL; WFO; 9:15, WEIT; WCR; 10:30, WAOH; WNYC; WJAR; 11:30, WCAI.

**Monday, April 3:** 6, WEAF; 6:15, KDKA; WIP; 6:30, WCAE; WFO; 7, WEAF; W

# An Evening at Home with the Listener In

(FOR PACIFIC TIME BAND)

## STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
226	WHEM	225	WHAD	218.6	WGBB	205.6	WDAF	190.7	WBAR
223	WEBA	215	WORD	215	WGR	205.6	WHD	190.7	CKAC
221	WBBU	212	WLHC	205	WCAU	198	WCM	187.5	CYB
219	WOAX	212	WCAU	205	WCR	192	WEBH	181	KIAF
218	WABN	215	WLHL	200	WCRD	192	WGRN	182	WPAF
217	WBTB	210.5	WNAC	204.5	CFMX	195	WTAY	182.5	WPKM
216	WFTW	208.5	WEWC	200.5	WLAL	195	WTAY	182.5	WPKM
215	WKL	206.5	WERQ	200.5	WPKX	195	WPAK	182.5	WPKX
214	WKNT	205.5	KPKX	201	WRX	194.4	KY	182.5	WPKX
213	WMBB	205.5	WPKX	201	WRX	194.4	KY	182.5	WPKX
212	WVAT	205	WPKX	201	WRX	194.4	KY	182.5	WPKX
211	WOUA	204.5	WPKX	201	WRX	194.4	KY	182.5	WPKX
210	WPOI	204.5	WPKX	201	WRX	194.4	KY	182.5	WPKX
209	WQST	204	WPKX	201	WRX	194.4	KY	182.5	WPKX
208	WBRG	203	WRDC	198.5	WPKX	194.4	KY	182.5	WPKX
207	WTAY	202	WNAC	198.5	WPKX	194.4	KY	182.5	WPKX
206	WPAK	200.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
205	WFTW	200.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
204	WKL	200	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
203	WVAT	200	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
202	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
201	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
200	WPOI	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
199	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
198	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
197	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
196	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
195	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
194	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
193	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
192	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
191	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
190	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
189	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
188	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
187	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
186	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
185	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
184	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
183	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
182	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
181	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
180	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
179	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
178	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
177	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
176	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
175	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
174	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
173	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
172	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
171	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
170	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
169	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
168	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
167	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
166	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
165	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
164	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
163	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
162	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
161	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
160	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
159	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
158	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
157	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
156	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
155	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
154	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
153	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
152	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
151	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
150	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
149	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
148	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
147	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
146	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
145	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
144	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
143	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
142	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
141	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
140	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
139	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
138	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
137	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
136	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
135	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
134	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
133	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
132	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
131	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
130	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
129	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
128	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
127	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
126	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
125	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
124	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
123	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
122	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
121	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
120	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
119	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
118	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
117	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
116	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
115	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
114	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
113	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
112	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
111	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
110	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
109	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
108	WBRG	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
107	WTAY	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
106	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
105	WFTW	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
104	WKL	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
103	WVAT	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
102	WPAK	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
101	WOUA	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
100	WQST	198.5	CFMX	198.5	WPKX	194.4	KY	182.5	WPKX
99	WBRG</td								

# An Evening at Home with the Listener In

(FOR CENTRAL TIME BAND)

(FOR EASTERN TIME BAND)

Call	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
ATB	8L02Z	8L03Z	Silent	Silent	7:30- 8:20	Ellent	7:30- 8:20	ATB	Fort Bragg, N. C.	435	8L01- T-20	Silent	Silent	8:00- 9:25	Silens	8:00- 9:25	Silens	ATB
CFCN	7L04Z	8L05Z	Silent	7:35- 8:15	7:15- 8:15	Silent	7:35- 8:15	CFCN	Toronto, Ont.	456.5	8L05- 8:30	Silens	8:15- 9:15	Silens	8:15- 9:15	Silens	CFCN	
CHND	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8:15- 8:30	CHND	Calgary, Alta.	458.0	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CHND	
CKAC	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CKAC	Montreal, Que.	458.0	7:30- 8:15	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CKAC	
CKY	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CKY	Winnipeg, Man.	464.4	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CKY	
CNRD	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CNRD	Ottawa, Ont.	474.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CNRD	
CYB	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CYB	Mexico City, Mex.	370	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CYB	
CYL	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CYL	Mexico City, Mex.	380	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CYL	
CYX	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	CYX	Mexico City, Mex.	390	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	CYX	
KDKA	8L05- 8:10	8:00- 8:30	8L05- 8:10	8L05- 8:10	8:15- 8:30	8L05- 8:10	8L05- 8:10	KDKA	Pittsburgh, Pa.	378.1	8L05- 8:30	KDKA						
KFAC	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFAC	Lincoln, Neb.	345	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFAC	
KFAU	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFAU	Bethel, Conn.	475	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFAU	
KFCM	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFCM	Benton, Texas	341.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFCM	
KFNU	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFNU	Los Angeles, Calif.	408.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFNU	
KFWL	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFWL	Laramore, Kans.	270	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFWL	
KFXK	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFXK	Hastings, Nebr.	288.3	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFXK	
KFMQ	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFMQ	Fayetteville, Ark.	288.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFMQ	
KFMX	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFMX	Northfield, Minn.	309.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFMX	
KFNF	8L05- 8:10	8:00- 8:30	8L05- 8:10	8L05- 8:10	8:15- 8:30	8L05- 8:10	8L05- 8:10	KFNF	St. Catharines, Ont.	283	8L05- 8:30	KFNF						
KFGA	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFGA	Seattle, Wash.	454.3	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFGA	
KFJG	8L05- 8:10	8:00- 8:30	8L05- 8:10	8L05- 8:10	8:15- 8:30	8L05- 8:10	8L05- 8:10	KFJG	Boise, Idaho	262.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFJG	
KFUU	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFUU	St. Louis, Mo.	241	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFUU	
KFWB	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFWB	Chicago, Ill.	279	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFWB	
KFWD	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KFWD	Detroit, Mich.	261.2	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KFWD	
KGOF	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KGOF	Portland, Ore.	452.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KGOF	
KGO	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KGO	San Francisco, Calif.	452.7	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KGO	
KHAF	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAF	Seattle, Wash.	264.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAF	
KHAK	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAK	Oakland, Calif.	392.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAK	
KHAR	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAR	Hollywood, Calif.	333.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAR	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Denver, Colo.	322.4	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	State College, N. M.	242.6	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	San Francisco, Calif.	452.8	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Albuquerque, N. M.	452.9	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Chicago, Ill.	272.6	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Chicago, Ill.	269	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Baltimore, Md.	333.8	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Philadelphia, Pa.	453.3	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Bethesda, Md.	273.8	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Washington, D. C.	453.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	273.9	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.0	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.1	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.2	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.3	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.4	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.5	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.6	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.7	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.8	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.9	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.10	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.11	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.12	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.13	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.14	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.15	8L05- 8:30	Silens	8:15- 8:30	Silens	8:15- 8:30	Silens	KHAW	
KHAW	8L05- 8:10	Silent	Silent	8L05- 8:10	8:15- 8:30	Silent	8L05- 8:10	KHAW	Richmond, Va.	274.16	8L05- 8:30	Silens	8:15-					

# Radio Digest

**PROGRAMS  
Illustrated**

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## Increasing Amount of Features

THE fan of today is offered about one hundred features daily from which to select his Radio entertainment. This means over thirty thousand in the year. New stations are continually coming on the air and soon this number will be materially increased.

The broadcasters are facing a huge task in securing a hundred features daily. It is quite evident that considerable of the bad will be accepted. If the managers are not alert, program gaps will be filled in with a large percentage of poor material and this kind of broadcasting will weigh down on the programs until the existing system of intensive broadcasting is dropped. Until then, however, no particular station can be censored because of its presence in the programs, as all are guilty to a certain degree; some, of course, more than others.

While no station can become perfect, yet the ones who have a clientele of listeners know that when those stations are on the air they are assured excellent programs will be given precedence. These will be the stations that arrange their programs so that they conform, as far as practicable, to programs of the higher class.

## Radiating Receivers

MOST of the trouble that comes from radiating receivers is the direct result from those who do not know how to handle their set and from those who do not care for the rights of others. The ones who do not know never read papers or articles on this subject. There is only one way that this subject can be driven into the minds of those who will not read and that is through the broadcasting stations.

Perhaps station announcers can be of help in giving listeners relief if those offenders listening in will take heed to what is said. If the announcer will add to the subject announced each time something in this manner: "Some of your neighbors may want to hear this selection. Don't spoil their pleasure by allowing your set to oscillate," or, "If there were anything we could do to prevent our signals from fading sometimes, we would certainly do it, because we know that many operators in their attempts to counteract the fading put their sets in a radiating condition, thereby causing great interference among the other broadcast listeners in their neighborhood."

## Different Kinds of Interference

INTERFERENCE from power lines, violet ray machines, elevator motors, electric heating pads, door bells, gas engine plants, telephone bell ringers, street arc lights, trolleys and motors perplex hundreds of Radio listeners and many try to locate the cause in an effort to stop the effect in their sets. Others attribute all noises in a Radio set to static. They apparently do not realize that an elevator motor or an arc light on the street often sputters and mingles with the music of Radio concerts.

To determine whether the static is set up within the receiver or comes from outside sources connect the aerial and ground terminals on the set with a wire. If no noise is heard it comes from the set, if not and the noise comes in without the connection then it is not the set.

Many times the interference can be easily traced and the difficulty eliminated. Most owners of sets usually tell their troubles to the district supervisor instead of trying to locate their own difficulties.

## Advantages and Disadvantages

IF YOU are listening in to an uninteresting speaker, a tenor who slides and the soprano who bats, you can easily tune them out without any obvious dis-courtesy. It is much more comfortable than putting on wraps and making an elaborate and objectionable exit. It is to the fans advantage.

However, Radio has its disadvantages, for you cannot tell the amateur broadcaster what you think of him when he muddles up the air. It is impossible to describe a person's feelings when he cannot come back at the offender just at the time when the clumsy manipulator of the squealing set that is a half block or a half mile away cuts into a symphony concert.

## RADIO INDIGEST

### Station BLAH Practically Completed

WALLA WALLA.—The official photographer of the Walla Walla expedition is ready to shoot the pictures of the station—or anything else that may happen to be within the range of his camera lens. The station will be in operation next week, and a large number of guests—invited and otherwise—are expected to be present.

Chief Kokomo, will be master of ceremonies. He doesn't know what that means yet—but he'll find out. While watching the operator tuning up the set, the photographer snapped his picture. It is produced herewith as evidence. Not a bad looking chap, is he? His crown is an empty XXX peach can. The old boy is quite proud of it, as his enemy on the other side of the island has only a tomato can.

As darkness settled down upon the island, the chief decided to leave the station and go back to his hut. The chief's departure was touching. He was broke, so it was necessarily touching, very.

The Walla Walla Chamber of Commerce is planning to serve a light luncheon at the opening of the station. It will consist of bananas and balsa wood, so it will be very light.

### The Announcer

The concert was over, the artists had gone. The lights were turned low in the room; I sat at the switchboard, half dreaming, alone, For my life was overshadowed with gloom. A little "Love nest" way out south, I could see. We had been, Oh! so happy, out there; Till the "Reaper" intruded between "She" and me. Left me here, but my darling was—where?

Alone I sat staring with unseeing eyes, At the face of the microphone there; Till his black face seemed human, and to my surprise, It whispered, "She's waiting somewhere;" With hands that were steady, though no power of mine.

I tuned the broadcaster with care; Then I switched on the current, and heard the shrill whine,

Of the instrument "taking the air."

Up—a notch at a time—past the safety mark. The big motor screamed in protest; While the microphone's face, though still solemn and dark, Seem to say "Make her go her best!" Up again—UH! I saw by the gauge's face, "Would he folly to push her more?" But I knew she was searching through measureless space. Paths never entered before.

Then I opened the "Mike" and with heaving breast I uttered "Her" name, and OH! It seemed that soft fingers, my brow caressed, And her voice answered, sweet and low: "I am always near, and will come when you call, But you never can hear my reply,

Till you tune out the world, with its sin and all, Won't you promise, that you will try?"

Then "She" said "Good Bye," and I woke with a thrill,

Had I dreamed? That could hardly be, For the motor was shrieking its protest still, And I knew "She" had talked to me: "You must tune out the world, with its sin and all, And then to your call, I'll respond." Had I fathomed death's secret, and pierced the pall Between me and the great beyond?

R. H. RICHARDSON.

### My Radio Girl

She tuned in on my broadcast, She had my wave length right; She brightened up my filament, Received me with delight.

Love's current never faltered, Nor free from static strife; She was my super-heart-adyne, And amplified my life.

My soul ran on high voltage, And raced on unabated; Dan Cupid's arrowed amperes, Love's Diode radiated.

Her sweet lips formed the contact, A blinding post for mine; Our arms, a coil around us, Inductance just divine.

My heart's a burn-out tube now, Transformed from faith's believer; Love's circuit now is grounded. She switched off her receiver.

LEO LOEB.

### Hot Ice Cream!

My new girl is the Radio girl—With a broad cast in her eye; She's a pretty little girl, With a pretty little curl, And she bids me to stand by. She urges me to listen in While the whole wide world she'd tell That she's pretty lips And pretty hips—That taste (and shake), like—jell!

GEO. A. WRIGHT.

## Time for Action



## Condensed

By DIELECTRIC

After listening to KHJ the other night we are more convinced than ever that one of the prime requirements of the successful announcer should be a ready wit. Wit, in this instance, as distinguished from attempts at humor often go flat when told before the "mike." In less than one hour, "Uncle John" Daggett, the announcer and mainspring of that station, turned three rather embarrassing situations to his credit simply by the quick use of his head. While I am no authority on announcing and announcers I think many a young, promising announcer could well afford to tune his set to KHJ and listen to a master such as Uncle John.

Possibly you were not tuned to KSD, in St. Louis, at the time Mr. and Mrs. Ingalls were giving enjoyment to those of us who were. It is for your enlightenment that mention is here made of the singing of these two vocalists, singing which disclosed musically feeling. It would be unfair to omit mention of Mrs. Neal, the skillful accompanist.

Not all persons awake during early morning hours are DX-ers, for many are afflicted with insomnia and to them I offer a suggestion. Join the drowsy listeners who manage to keep near their sets until time for the Insomnia club program from KVW, Chicago, and you will find sleep closer at hand when the last rollicking selecting is completed. These programs are full of lively features sure to put you in good humor.

Our citizens are rapidly forging ahead in appreciation and performance of good music. As a nation we have been considered lacking in both respects—but not now! As an example of musical progress just note the number and ability of school orchestras in the country. Their development is markedly indicative. To cite one instance let me refer you to the high school orchestra appearing in the studio of KFKX, at Hastings, Neb. Training and natural ability were quite evident.

At times some of the stations to which we regularly listen are uninteresting, to say the least. One of these is Station WSAI, at Cincinnati, to which I listened when Perrine's orchestra droned its way through out-worn numbers followed by popular (?) songs. Spruce up!

We are on with another contest to see which of the many announcers secures the public's verdict of "best." This should be highly educational with results beneficial to all interested in broadcasting. If voters consider all phases of announcing requirements they will make intelligent decisions. Who do, or do not, respect your wishes?

It was difficult to realize so many were actively taking part in the choral singing in the concert of the Associated Glee Clubs of America, broadcast through WEAF, New York city. While the songs selected were above criticism the rendition was not, as the ensemble was poorly balanced with bassos and baritones predominating.

Few concerts are heard by Radio listeners more worthy of unstinted praise than that presented by the College of Music through Station WLW. Comparable to noted symphonic orchestras is this product of Cincinnati's institution of music. The singing of the waltz song from Romeo and Juliet was entirely commendable.

# Low Loss Tuned Radio Frequency Receiver

## Part I—Description and Winding of Coils

By George Walters

In THE January 21st issue of Radio Digest there was an article by Jacques Fournier on low loss radio frequency transformers that contained data for which the writer had been waiting for some time. Using the coils described by Mr. Fournier as a basis, and a breadboard layout on which to experiment, the receiver about to be described was developed.

### Losses vs. Low Loss

There are several known characteristics

LIST OF PARTS	
3 Variable condensers .0005 mfd.	\$15.00
1 Audio frequency trans., 4 to 1	5.00
1 Audio frequency trans., 3 to 1	5.00
2 Rheostats, 6 or 10 ohms	2.00
1 Lb. No. 20 dec. wire	1.00
1 Variable grid leak	.85
1 By-pass condenser, .5 mfd.	.50
1 Fixed mica cond., .002 mfd.	.40
1 Fixed mica cond., .00055 mfd.	.35
5 Sockets, enclosed	5.00
1 Two circuit jack	1.00
1 Open circuit jack	.70
1 Filament switch	1.00
7 Binding posts	1.00
1 Panel 7"x24"x1"	3.00
1 Panel 9"x24"x1"	4.00
Brackets, wire, screws, etc.	3.00
Cabinet 7"x24"x10"	8.25
Total cost.	\$58.55
Accessories	
1 Storage battery, G-40 to G-120.	
2 Battery units, 45 volts each.	
5 Vacuum tubes, type 201-A or 301-A.	
1 Lamp speaker.	
1 Antenna, inside or outside, 40' to 125'.	

of tuned radio frequency sets with which anyone who attempts to build such a receiver should be familiar. First of all it is not hard to build such a set if the elimination of losses is disregarded; as, if inefficient losses are inherent in the transformers and condensers there will be no tendency to oscillate at lower wave lengths and the amplification will be fair throughout the entire range. To offset this elimination of oscillation, however,

Figure 1  
Front view of the receiver showing the three large dials at the left end of the panel and the two rheostats at the right.

meters the range and volume are equal to the average tuned radio frequency set; above 475 the efficiency is not as great as might be desired and is probably

the large dial to the left is the output of the second stage. No means is provided for plugging in after the first stage of audio since it was found that when local

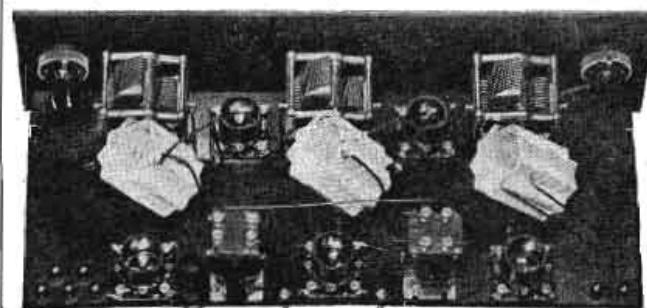


Figure 2

about the same as that obtained from a good three circuit regenerative receiver. On any wave lengths the tuning is far sharper than with ordinary tube form coils. It would be possible, by the use of switches, to increase the efficiency at the higher wave lengths so that, when one

stations are too strong for the second stage, the rheostat controlling the R. F. tubes served as an excellent volume control and the brilliancy of the two R. F. tubes could be reduced without impairing the quality.

Figure 2 shows the rear view of this set and the reader familiar with tuned radio frequency will see at once that the energy travels logically across from the antenna and the ground binding posts in the lower right hand corner to the first coupler, then to the tube between condensers, into the next coupler and then into the second R. F. tube which is between condensers. The coupler connecting the second R. F. tube to the detector is that at the left in figure 2 and from this coupler it goes to the detector tube which is in the lower left hand corner with the variable grid leak close beside it. Its progress is then across the back

of the sub base, in the foreground of the picture, and the tube socket in the lower right hand corner is the second audio frequency stage from which the energy travels beneath the sub base to the output jack below the first condenser. This arrangement makes for easy wiring and little tendency for interaction between various stages and the two types of amplification. A variable grid leak should be used by all means as the receiver was

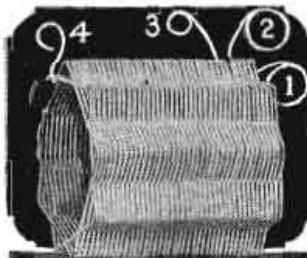


Figure 3

found somewhat critical in this respect, the final adjustment being at about six megohms. Cushion sockets are a very desirable feature as there will be no ringing noise from the microphonic construction of these tubes when the condensers are turned or the table is jarred.

The writer has presented this receiver frankly, giving its results exactly as found, with no claims that it will do "coast to coast" on any and all occasions, nor that it will bring in all stations with equal efficiency. It may be possible to develop a receiver in which the efficiency is 100 per cent on all wave lengths without a multiplicity of controls but the writer has not as yet seen or heard of such a circuit. We can now proceed to the actual construction of this receiver which many can use as a finished set and many others will use as the basis for further experiments. In this issue the writer will present the construction of the coils, and take up the panel and base board layouts next week.

### The Winding Form

The form for winding this transformer is shown clearly in figure 3. As will be seen, a square block of wood, bakelite, hard rubber or metal is necessary, 4 inches on a side and from  $\frac{1}{8}$  to 1 inch thick. A circle is drawn in the center of this,  $\frac{3}{4}$  inches in diameter and divided into nine parts so that holes will be drilled 40 degrees apart around the

(Continued on page 18)

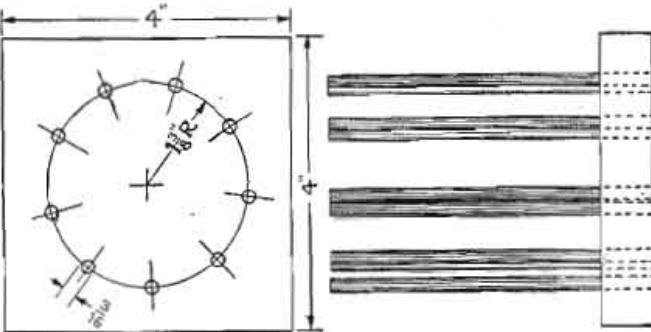


Figure 3

there are the disadvantages that the set is not selective and the range is considerably cut down. The writer has endeavored to develop a receiver in which all

wished to receive stations above 425 meters, he might throw in more primary turns in the second and third R. F. transformers which would bring the regeneration almost up to oscillation and the high efficiency of the lower wave lengths would also then be found at higher wave lengths. As the set stands, the writer can bring in all but one or two of the high wave length stations as this added feature was not considered sufficiently necessary to warrant putting it in.

The first layout followed the usual tuned R. F. practice of putting the three large dials at the left end of the panel and the two rheostats at the right, but, after studying the circuit and trying several layouts, an arrangement was found which permitted of symmetry on the front panel and also on the base board without loss of efficiency.

### Analysis of the Assembly

Figure 1 shows the front view of this set and in this illustration the rheostat at the left end of the panel controls the two R. F. amplifier tubes while the rheostat at the right end of the panel controls the detector and the two audio stages. The first large dial to the left is on the condenser in shunt to the secondary of the antenna coupler, the second dial is on the condenser in shunt to the secondary of the transformer connecting the first and second stages, while the large dial to the right is across the secondary of the transformer connecting the second stage to the detector. The filament switch will be soldered directly under the center dial, the jack below the right hand dial is the detector output jack, while the jack below

of the losses that it was possible to get rid of were eliminated, as low loss condensers and low loss coils were utilized and exceptional care taken in the layout and wiring.

The results as the receiver now stands might be summed up as follows: On wave lengths between 250 and 400 the range is exceptional and is not exceeded by super-heterodyne, from 400 to 475

## Why The Kane Antennae Eliminates Power Noises

All power lines, transformers, and other devices carrying or using electric power on a large scale are grounded, so that if any leakage develops it runs harmlessly into the earth without damaging or destroying property or life.

These leakages run through the earth back to the central generating stations, or to the sub-stations that control the distribution of electric power.

When your receiving set is connected to the ground, as most sets still are, these leakages cause noise to enter your set, thus ruining your reception.

Electric currents do not travel steadily along the power lines: They surge up and down, the current traveling in waves like the water in the ocean. When you are close to a power line these waves of electric current cause similar waves to be generated in your aerial, and these come out of your receiving set in the form of noise.

The Kane Antennae gets away from both these sources of noise by using a combination of two tried and proven principles: The use of the counterpoise, and the use of transpositions in the wires composing the aerial and counterpoise.

It is this particular combination of these two principles as developed for radio reception in the Kane Antennae which forms the basis of the patent application for which we now file.

The counterpoise takes us away from the ground and all the power noises travelling through it.

The transposition takes the currents generated in the aerial and counterpoise by nearby power lines to some distance out.

Ask your telephone engineer how they overcome power induction in the telephone lines. He will tell you in what manner they do this. That is the principle which has been successfully applied to radio reception in the Kane Antennae.

Therefore with this combination of two proven principles, all power noises are eliminated from your reception and no reducing switch is cut in.

### THE TWO MODELS OF THE KANE ANTENNAE

The Kane Antennae is made in two models, the Special Kane Antennae for use with Super-Hets, and the Regular Kane Antennae.

The Special Kane Antennae is designed for use with all receiving sets that are still getting "low-grade" reception. It is an adjustable aerial and ground system.

The Special Kane Antennae for use with Super-Hets uses the same basic principle as the Regular Kane Antennae to eliminate power induction with its accompanying noise.

When a Special is used with a Super-Het or Nafion Receiving Set, then the Regular Kane Antennae should be used with it.

Whether or not you are troubled with power noises you should use a Kane Antennae with your existing set. Because the Kane Antennae is the only form of antenna on the market that has been scientifically designed to give you the best possible opportunity to reduce all that it is capable of producing.

When you buy a Kane Antennae you will never hear before your set: No noise in yourself. Each set up to a Kane Antennae and hear as you have never heard before your set: No noise in yourself.

When you buy a Kane Antennae you are buying a tested, tried and proven product. The Kane Antennae is the standard of the Pacific Coast—you see it everywhere from British Columbia to the Mexican Boundary.

### SEE FOR YOURSELF JUST WHAT THE KANE ANTENNAE IS

We will tell you the working theory with instructions for erection and adjustment for a dollar.

If you are thinking over getting one, why don't you write us and let us know what you would rather have a factory-built Antennae than to build one yourself. We will take back the drawing and allow you full payment on an order for an Antennae.

The Special Kane Antennae for Radios, Super-Hets \$5.50

The Regular Kane Antennae for all other sets, using a ground connection \$13.00

Working drawing with instruction for erection \$1.00

(Stamps not accepted)

Please send to any part of the United States or west C. O. D. or C. O. when 25% of price accompanies order.

**THE KANE ANTENNAE COMPANY, Aberdeen, Washington**

## HOW TO OPERATE SET

(Continued from page 7)

posts marked "loud speaker" at the rear left-hand corner of the sub base, inside the set. Should more volume be desired, turn switch L to position 2, while turning it to position 3 will further increase the volume.

Considering now, the analysis of the set which formed the first part of this article, and considering also, the tuning procedure just concluded, it should be clear that one is endeavoring to bring three tuned circuits to resonance on a single wave length so that the program being broadcast on that wave length will be heard with maximum volume and clearness, to the complete exclusion of all other signals. The tuned circuit consisting of condenser D and the secondary of transformer C is adjusted to maximum response to the desired wave length by knob D. The two tuned circuits, one of which consists of condenser G and the secondary of transformer F, the other consisting of condenser J and the secondary of transformer I, are brought to resonance simultaneously by the use of knob GJ.

Due to slight differences which are bound to occur in the values of the four instruments included in these two tuned circuits, the vernier condenser H is provided and connected across the larger variable condenser G. The tuning procedure outlined first brings the circuit including D into resonance with the circuit including J and, of course, into resonance with the program it is desired to receive. Adjustment of the small condenser H then brings the circuit which includes condenser G into exact resonance with the other two just mentioned. The control E enables the operator to keep the first tube U at maximum efficiency and, while there may seem to be a great many controls and that a person has only two hands with which to manipulate them all, one quickly finds that two are used for preliminary coarse adjustment, two are then used for fine adjustment and only one is used for the final setting to maximum efficiency.

The next receiver to be considered for Analysis, Trouble Shooting and Operating, is the Freshman Masterpiece. Comment on these articles will be appreciated by the Technical Dept.—Editor's Note.)

As electrons in a tube flow from negative to positive, place a magnet against the tube on the plate side to increase sensitivity and signal strength.

### Distance

on the phones—with certainty and regularity—on the Crosley one-tube 50. The radio which told the world that the MacMillan North Pole expedition was safe and sound. The radio that kept communication open to Leonard Weeks at Minot, N. D., when all other receivers failed.

There is nothing better than the Crosley 50 for the radio beginner.

There is nothing to excel it in value, unless it be the larger and more expensive sets.

Stations always come in at the same place.

For sale by good dealers everywhere. Other models priced from the two tube \$1, at \$18.50, to the Tridyn Special with sloping panel, at \$45. All Crosley Radios are licensed under Armstrong Regenerator U. S. Patent 1,115,148. Prices quoted are without accessories.

Price West of Rockies—Add 10% Write for Complete Catalog

**The Crosley Radio Corporation**  
Fred Crosley, Jr., President  
4431 Broadway St., Cincinnati, Ohio  
Crosley owns and operates Broadcast Station WLV.

## LOW LOSS TUNED R. F.

(Continued from page 17)

circle. In the inductance which we are going to build, the one-over, one-under method is used. The rods on which the wire is wound may be either large nails or wood dowel pins as shown, and should be  $\frac{1}{8}$ -inch in diameter and  $1\frac{1}{2}$  inches long. If metal pins are used they can be soldered to the metal block which forms the base; if wood pins are used they can be glued to the wooden base; or, if metal pins are used with the bakelite or hard rubber base, they can be put in by mak-

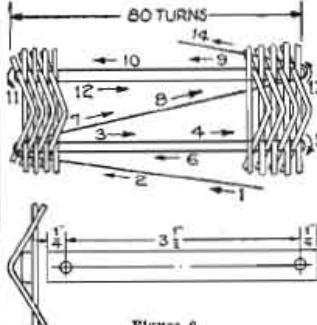


Figure 6

ing the holes a little small and driving the pins through.

### One-Over, One-Under

The method of winding is shown in figure 4, and, as will be seen, the wire goes under pin 1, over 2, under 3 and over 4. Since there are an odd number of pins, the second turn will go over the pins that the first turn went under. Eight turns are wound in this way and these form the primary of our transformer. At the end of the eighth turn make a large loop in the wire about 6 inches long and twist this loop so it will not loosen. Resume winding and add 72 more turns, which will be correct for use with a .0005 mfd. (500 mfd.) condenser.

The wire used is to be number 20 double cotton covered which will hold its shape well after the coil is completed. Using this number 20 wire, wound as shown, the length of the coil will be 3 inches and you will have a coil such as is shown in figure 5. This coil is to be held together with heavy thread, preferably waxed, and

the method of holding the wires in place with one continuous piece of thread is shown in figure 6.

### Securing with Thread

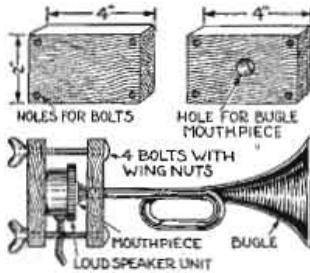
The alternate turns cross each other diagonally at 9 points around the coils and it is at these 9 points that the thread holds the turns together. Following the thread in figure 6, it will be noted that it goes across to the left under the odd turns, around the end of the wires and then under the even turns and over the odd turns to the opposite end of the coil where it goes around the last turn and comes back under the odd turns and over the even turns. Thus the thread forms one complete loop and is carried across as denoted by arrows 7 and 8 to the next intersection, where a loop is wound in the opposite direction as shown by arrows 9, 10, 11, 12 and 13. When this thread has been carried clear around the coil in this way and the ends tied together the coil can be slipped from the form either by removing the pins one at a time or slightly squeezing them together at the free ends and slowly sliding the coils from the pins.

A strip of bakelite or hard rubber is now cut as shown in figure 6 and measures 4 inches long,  $\frac{1}{4}$  inch wide and  $\frac{1}{8}$  inch thick. While the illustration shows two holes drilled in this strip, it is only necessary to drill one for the method of mounting used by the writer. Before slipping this piece of bakelite through one of the points of our 9 pointed star coil, it would be well to carefully smooth off the corners with a file so that the insulation on the coil will not be injured. After slipping this piece of bakelite into the coil, the loop made at the eighth turn can be untwisted and cut at its middle point. We will then have two separate windings, one of 8 turns and one of 72 turns.

(There is quite a discussion in the Radio field at this time as to whether losses are desirable or not in tuned R. F. receivers. This set as constructed by Mr. Waiters is an excellent example of low loss construction and the sharpness in tuning will be found remarkable. It is planned at this time to give the entire construction in three parts of which this is the first.—Editor's Note.)

### Bugle Makes Loud Speaker

The illustration shows how I made use of my bugle for a loud speaker. Two blocks of wood 4 inches long and 2 inches wide and  $\frac{1}{4}$  inch thick with two bolts



fitted with thumb nuts are the parts necessary. The parts are fitted to the horn as shown. The length of the bolts will depend on the kind of a loud speaker unit used.—John Crewel, Jr., Chicago, Ill.

A binder made by dissolving a powdered phonograph record in alcohol is better than shellac to coat coils.

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Low Loss Interference Eliminator

What Radio Users Have Been Looking For

For those who have had Interference Troubles this new auxiliary tuning device will trap out the undesired stations.

Select Your Stations at Will

The air is so crowded with music and voices that the average man fails to bring in the desired stations properly.

The Steinite Interference Eliminator shuts out local and other interference. You get one station at a time, whatever one you want, and can tune it in loud and clear.

Fred W. Stein  
Improved Results with Tube or Crystal

Try for yourself entirely at my risk the wonderful improvement that the Steinite Interference Eliminator makes in the reception of your set. Buy an absolute guarantee of satisfaction or money back and the greatest dollar's worth ever offered the radio user. The Steinite is a simple crystal and tube set that uses an indoor aerial, outdoor aerial or light socket; but with the Steinite you can have a system. Create up reception wonderfully and particularly selective results.

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Tube Set, \$15; Low Distortion  
Crystal Set, \$8; De Luxe Crystal  
Set, complete with headphones,  
set, \$12; Super Crystal Set, \$10;  
Set, \$14; 2 Tube Amplifier, \$16.  
FREE descriptive literature on  
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\$1 Amazing Satisfaction or Money Back

Put this interference eliminator on your set and note amazing improvement. No tools needed—installed in a moments time. Full directions with each instrument. Simply connect with set and feed into antenna. The Steinite is a super receiver. You must be pleased and delighted or you get money back promptly. F.I.O. passage to be paid in U. S. when cash with order. These two big Atchison banks will testify to my reliability: Exchange National Bank, Atchison Savings Bank. Order today—a dollar bill will do.

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1061 Radio Bldg., ATCHISON, KANSAS

# A. B. C. Course in Radio Fundamentals

## Chapter V—The Alternating Current Circuit

By David Penn Moreton

If a constant electrical pressure, both in value and direction, be impressed upon an electrical circuit, the current produced by this pressure will be equal to the value of the pressure in volts divided by the resistance of the circuit in ohms. In a case of this kind the opposition offered by the electrical circuit to the movement of electricity through it is due entirely to the resistance of the circuit, which depends upon the kind of materials composing the conductors, their length and size, and temperature.

If an alternating electrical pressure be impressed upon this same circuit there will be an alternating current produced in the circuit, and the current at each instant of time will be equal to the value of the electrical pressure at that instant divided by the resistance of the circuit provided there is no inductance or capacity present in the circuit. The pressure acting on the circuit may be represented by the curve marked E in figure 27, and the current may be represented by the curve marked I in the same figure.

The maximum value of an alternating electromotive force or current, is the value of the electromotive force, or current, represented by the maximum height

of an alternating current will be proportional to the average value of the instantaneous currents squared, and the effective current will be equal to the square root of the average value of the instantaneous current squared. The effective value of a sine-wave alternating current is equal to .707 of the maximum value as shown in figure 29.

The effective value of an alternating electromotive force bears the same relation to its maximum value as exists between the corresponding values of the current. The majority of alter-

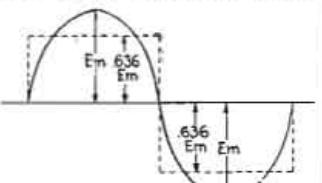


Figure 28

nating current ammeters and voltmeters indicate the effective values of the current and electrical pressure.

The above numerical relations apply to sine-wave currents and pressures and can not be used if the wave forms are other than sine waves. The ammeter and voltmeters, however, will indicate the values of the same quantities regardless of the shape of the wave. The form factor of a wave is numerically equal to the effective value divided by the average value and for a sine wave it is equal to 1.11. Sine waves will be assumed in the following discussion.

### Phase Displacement

It will be observed, in figure 27, that the current is zero where the electrical pressure is zero, that the current is a maximum when the electrical pressure is a maximum, or in other words, the current and pressure are passing through corresponding values of their respective cycles at the same time, and in such a case the two quantities are said to be in phase. The two curves shown in figure 28, represent an electrical pressure E and a current I which are displaced in phase. This phase displacement is usually measured in degrees. The total length of the line AC, corresponds to 360 degrees, or one cycle of the electromotive force; and likewise the length of the line DG, which is equal in length to the line AC, corresponds to one cycle of the current. The two curves E and I are displaced in phase from each other the same fractional part of 360 degrees as the length of the line AD is a part of the length of the line AC.

The time required for an alternating pressure or current to complete one cycle is called the period of the pressure or current. Thus the period of a 60-cycle electromotive force would be one-sixtieth of a second. The phase displacement of two curves with respect to each other is sometimes measured in time as well as degrees. The time displacement of the two curves shown in figure 28, will be such a part of their period as the length of the line AD is a part of the length of the line AC.

The current in figure 28 is said to lag

the electrical pressure because it passes through zero value in the positive direction after the electrical pressure passes through zero value in the positive direction. When the reverse relation exists between the current and the pressure the current is said to lead the pressure. Of course, if the current lags the pressure, the pressure will lead the current and if the current leads the pressure the pressure will lag the current.

### Capacity and Inductance

When capacity or inductance, or both, are present in a circuit the total oppo-

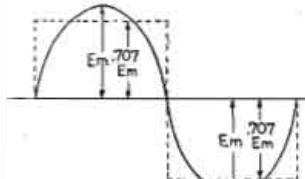


Figure 29

sition offered by the circuit to the flow of electricity through it will be greater than the ohmic resistance of the circuit unless the effects of the capacity and the inductance neutralize each other, in which case the opposition offered is equal to the ohmic resistance of the circuit. The combined effects of inductance, capacity and resistance is called the impedance of the circuit and it is measured in ohms just as the resistance in a direct current circuit is measured in ohms. The expression known as Ohm's Law for the alternating current circuit states that the effective current in amperes is equal to the effective pressure in volts divided by the impedance in ohms.

$\text{Effective current} = \frac{\text{Effective pressure}}{\text{Impedance}}$

or  
Ampères Volts  
Amperes Ohms

Using symbols for the above quantities we have

$$I = \frac{E}{Z}$$

The expression for the value of the impedance of a circuit in ohms is

$$Z = \sqrt{R^2 + \left[ 2\pi fL - \frac{1}{2\pi fC} \right]^2}$$

in which R is the resistance of the circuit in ohms; f is the frequency in cycles per second; L is the inductance of the circuit in henrys; C is the capacity of the circuit in farads and  $\pi$  is equal to 3.1416.

The portion of the above expression in parenthesis is called the reactance of the circuit and it is composed of two parts: one due to the inductance  $2\pi fL$ , called inductive reactance and one due to capaci-

ty  $\frac{1}{2\pi fC}$ , called capacity reactance.

From an inspection of the above expression for the impedance it may be seen that the inductive reactance increases with an increase in the frequency and an increase in the value of the inductance, while the capacity reactance decreases with an increase in the frequency and an

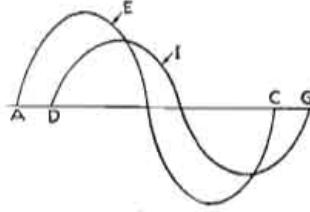
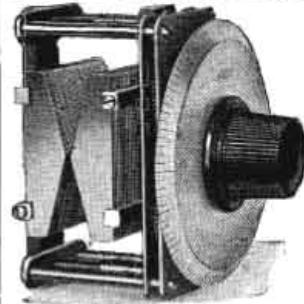


Figure 30

Increase in the value of the capacity. On account of the above relation and since the resultant reactance is equal to the inductive reactance minus the capacity reactance it is possible to make the resultant reactance zero by changing either

(Continued on page 20)

## No Body Capacity!



### Wade Grounded Frame Condenser

ADAPTED to all circuits and especially to regenerative and super-het circuits employing regeneration.

Wade condensers have an accurate square law or straight line wave length curve and the dielectric absorption loss is, by laboratory test, less than in any other.

This is the only condenser recommended for use in the now famous Hettduogen.

### Three Features

1. No Body Capacity. Separately grounded around individual frame and plate shields the condenser from body capacity effect.

2. No robesing electrical connections. The around frame and frame are entirely separate from the plate, assuring absolute noiseless operation.

3. One-piece plates. Skin resistance and skin effect losses are reduced to a minimum by using one piece brass plates soldered together in one unit.

All sizes complete with 4-inch silvered vernier dial. For short wave, .000125 mfd., \$7.50; for Tuna R. F., .00025 mfd., \$7.75; for Supers, .0005 mfd., \$8.00; for oscillators, wave meters, etc., .001 mfd., \$8.50.

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**pep up your set with good tubes**

TUBES make all the difference in the world. You'll agree with that statement the moment you switch to MAGNATRONS, the moment you notice how clearly and powerfully these tubes bring the concerts to you.

MAGNATRONS are for sale by the better dealers everywhere. The type DC-201 A, the DC-199, and the DC-199 with large base each sell for only \$3.

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**MAGNATRONS**

## A. B. C. RADIO COURSE

(Continued from page 19)

the frequency, inductance, capacity, or all of them. This relation between inductance and capacity is a very important one in connection with Radio circuits and for this reason one should have a clear understanding of the subjects of inductance and capacity.

### Inductance of an Electrical Circuit

The inductance of an electrical circuit is a property of the circuit which in effect is similar to the inertia of a stream of water in a pipe. The inertia of the water tends to prevent any change in the velocity of the water in the pipe, so the inductance of the electrical circuit tends to prevent any change in the velocity of the electricity or the current in the electrical circuit. When a current of electricity is established in a conductor, there is a magnetic field produced about the conductor, the intensity of which depends upon the shape of the conductor, the value of the current in the conductor, and the kind of materials surrounding the conductor. As the current is increasing in value, the magnetic field is expanding; and when the current is decreasing in value, the magnetic field is contracting. The magnetic lines of force composing the magnetic field are supposed to start at the center of the conductor and expand across the conductor into the surrounding medium as the current increases, and contract back across the conductor to the center as the current decreases in value. As a result of this movement of the magnetic lines across the conductor there will be an electromotive force induced in the conductor and the direction of this electromotive force will always be such as to tend to prevent a change in the value of the current. That is, with the current increasing in value, the induced electromotive force will be in the opposite direction to the current which tends to prevent the current increasing and with the current decreasing in value the induced electromotive force will be in the same direction as the current which tends to prevent the current decreasing.

Since the inductance depends upon the magnetic lines, or flux, cutting the conductor, it is apparent that any change in the shape of the conductor or the surrounding medium which results in a change in the magnetic flux being cut, due to a given change of current in the circuit, will result in a change in the value of the inductance. Thus a coil of wire will have a higher inductance than a straight conductor, and the inductance of the coil can be increased by inserting an iron core or by increasing the number of turns.

### Self Induction

When an electrical pressure is induced in a coil of wire due to a change in current in the coil itself, it is said to be due to the self inductance of the coil and the process is spoken of as self induction. When two electrical circuits are so located with respect to each other that there is an electrical pressure induced in one of them due to a change of current in the other, it is said to be due to the mutual inductance of the circuits and the process is spoken of as mutual induction.

The same unit is used for both self and mutual inductance and it is called the henry. A circuit has a self inductance of one henry, when there is an electromotive force of one volt induced in the circuit due to a uniform change in the value of the current of one ampere per second. Two circuits have a mutual inductance with

respect to each other when there is an electrical pressure of one volt induced in one of the circuits due to a uniform rate of change of current in the other circuit of one ampere per second.

The expression for the inductance of a simple solenoid, in henrys, is as follows:

$$L = \frac{4\pi N^2 A}{10^8 l}$$

in which  $N$  is the number of turns in the winding;  $A$  is the permeability of the material composing the core;  $A$  is the cross-sectional area of the core in square centimeters;  $l$  is the length of the coil in centimeters and  $\pi$  is equal to 3.1416. The above expression is not exact and the reader is referred to the Bulletin of the Bureau of Standards No. 74 for more exact expressions for the value of the inductance of coils of various shapes and sizes.

(Continuation of the alternating current circuit will be followed out in the next chapter. As Radio employs this current in large frequencies, it is well to know just how it is produced and used in a circuit.—Editor's Note.)

## The Reader's View

### Perpendicular Galvanized Wire Aerial

The following may interest your readers: I have been making experiments with different kinds of antennas with the following results: Copper wire antenna 135 feet long and 30 feet high, just medium results. Galvanized wire antenna 200 feet long, 30 feet high, very good results. With the copper wire antenna I had quite a lot of static. With the galvanized wire the static was much less. Directly back of my house is a 1-inch pipe line laying on the ground and is over a mile long. I am using my Radio to this pipe line. I picked up stations from Springfield, Mass., to Oakland, Calif., and no static at all. However, the results were very faint. I have 3 galvanized wires from my house to the mine, a distance of 600 feet, that are used for a call bell and they are only 7 feet from the ground and with the Radio attached to these wires I get everything from Boston to Los Angeles very clearly and with very little static. Now the queerest experiment I made was to put a 36-foot pole in the ground with a piece of galvanized wire from top to bottom, thus having a perpendicular antenna instead of horizontal and with this antenna only 36 feet long, I get Springfield, Mass., which is the

farthest station east from this point to Oakland, Calif., which is the farthest west, also Havana and San Juan, Porto Rico. All these stations I get very plainly without any static whatever. I have a super-heterodyne and this point is 56 miles southwest of Guadalajara, State of Jalisco, Mexico. Due to the fact that I can pick up the stations farthest away very clearly with an antenna only 36 feet long and without a particle of static, I would like to hear from some of the fans in the states who have the means of putting an antenna on the sides of their houses from top to bottom instead of horizontal and to see if they get the same results that us I get here.

I have picked up very clearly 79 stations in the U. S., 6 in Mexico, 3 in Cuba, 1 in Porto Rico and 1 in Canada, G. E. McCormick, Ameca, Jalisco, Mexico.

### That Unusual Interference

I have just finished reading the article in your January 19 issue, by Mr. Taylor South, of Chanute, Kansas.

Can it be possible that these conditions do exist and that I have missed all the excitement? I assure you that I have been "listening in" regularly for the last three years and have never experienced any of the interference he notes. No doubt that his set is constructed of the very best parts—they all are (?). What I cannot understand is why he cannot separate stations that are at least 12 meters apart as WOS and WBB. A short time ago I noticed a sign in a Radio store window, which read as follows: "Most of the trouble in a Radio set is in not knowing how to tune it."

If Mr. South would care to write to me, I would be very pleased to give him the hook-up of a one, two, or three tube set similar to one that I have used and which he can build for less than \$10. A set that has one control and can be logged, a real DX getter and where he can cut as close as 2 meters and have no interference except a powerful local within five miles. I logged 57 stations on the loud speaker from New York to Oakland, and from Calgary to Atlanta, in one evening as a test. If he wants something that will go through them all and is willing to spend a little real money for good parts, I have another that will do the trick. I am located just three blocks from WCCO, and in an apartment block, and bring in coast to coast on a loud speaker while the local is broadcasting. Elsewhere I listen in, and I assure you all they have some real programs.—R. D. Lewis, 1168 Nicollet, Minneapolis, Minn.

## London, Madrid Newcastle, Aberdeen--

*that's just a few of them*

**AGAIN** Elgin Super-Reinartz leads all others! Every trans-Atlantic report investigated was found to be ABSOLUTELY authentic! Many happy owners of Elgin sets again tuned in the European stations.

## ELGIN Super-Reinartz The Ford of Radio

will give you the selectivity and distance it has given others. And you can save \$50.00. Let us tell you how—

### FREE

Mail the coupon TODAY for the complete working drawings of the famous Elgin Super-Reinartz, and then get the distant stations. They are free—no obligations, just a stamp for postage, please!

**tear out this  
coupon—**

ELGIN RADIO SUPPLY CO. Dept. A, 107 S. Calico St., Elgin, Illinois.
Send the FREE drawings of the Elgin Super-Reinartz at once. Also info on how I can save \$50.00 on this set. I enclose a stamp for postage.
Name _____
Address _____
(Please PRINT in pencil)

## New Standards for Old

All of us have an instinctive preference for excellence. But the standards of excellence change—progress.

The old standards of radio excellence—selectivity, volume, clarity and richness of tone—are now accepted as qualities to be expected from a superior five tube set. The standard of excellence has progressed to that of SIMPLICITY of control and operation, as best portrayed in MECO sets.

The MECO is a five tube set with two dial control and ONLY ONE DIAL TO LOG.

MECO sets are made in three models—cabinet and console—by the manufacturers of the famous Meco Tubes. Sold by recognized radio jobbers and dealers.

Write us for the name of our dealer nearest you.

**METROPOLITAN ELECTRIC CO.**  
DES MOINES, IOWA

Some territory now open for recognized radio jobbers.

**MECO  
RADIO RECEIVERS**

### Taken Exception to Mr. Henkel

The writer wishes to call your attention to the letter purporting to have been written by Mr. O. H. Henkel, Chicago, and published by your "Radio Digest" issue of January 10, 1925.

The writer is taking exception to that portion of Mr. Henkel's letter in which he states that there were a number of broadcasting stations which had hampered the international testing during the week of November 24 to 30, 1924, and specifically mentions KHJ, the Times, Los Angeles. He goes on to state that they (KHJ, the Times) went so far as to give a "Scotch" program during the specified silent period.

It is quite evident that Henkel has been sadly misinformed, or else he does not know what he is talking about because even the most inexperienced listener, in not to mention the amateur, could distinguish the difference between local and international broadcasting.

The writer is undoubtedly voicing the sentiments of a large majority of listeners in to KHJ, Los Angeles, particularly by those west of the Rockies, when he states that the policy of KHJ has been to fully co-operate with every movement that tends to improve Radio and also that KHJ, Los Angeles, did not "cut in" with a "Scotch" program or any other program during their allotted time to be silent in the international test week of November 24 to 30, 1924.—E. D. W., Whitaker, Calif.

### Announce Slogan with Letters

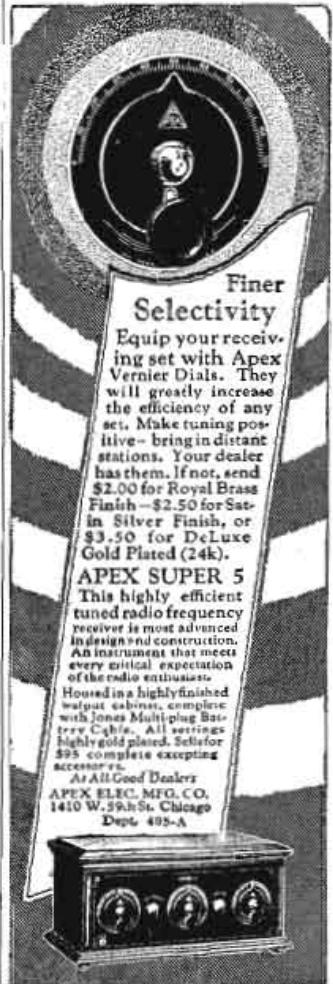
I read with a great deal of interest your article in the January 10 issue of Radio Digest entitled "Offers Suggestion to Clarify Letters."

The suggestion is pretty good, but I think that if every station would adopt a "slogan" to be used after the letters that would go a long way to clear matters up.

When you hear this is station WOC, Davenport, Iowa, "Where the West Begins," or this is station WEBH, Chicago, Illinois, "The Voice of the Great Lakes," if you do not catch the letters you would sure know who it is from the slogan.—H. B. Warner, Ashland, Wisconsin.

### Use of Spaghetti Tubing

The use of spaghetti tubing will not improve the reception of broadcasting in the slightest, but it sometimes greatly improves the looks of a set. Not only that, but it will positively eliminate the possibility of a short circuit of any kind, which might damage the vacuum tubes.



# Hook-Up Good for Foreign Reception

## Set Built from Parts Found in Junk Box

The illustration shows a circuit for the fans to try. I made the hook-up while trying other hook-ups. It is a DX owl.

### WORKSHOP KINKS EARN A DOLLAR—

HERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every 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

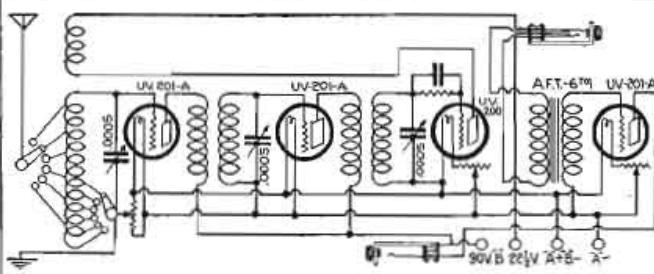
During the Transatlantic tests I picked up Newcastle, England, and Madrid, Spain, and have verification of both. They have also been successful in getting the coast on it and have picked up every territory in Canada except one. It is not difficult to tune and it can be built from parts found in most fans' junk boxes. The condensers are 23 plate of .0005 mfd. and the Radio frequency coils are homemade. They are wound as follows: Eighteen turns on the primary and 55 on the secondary. It is a fairly low wave tuner. I have picked up many amateur stations on it and daylight reception is sometimes good for a thousand miles. The loud speaker is used on almost anything that the phones give reception.—John Mullikan, Washington, D. C.

#### Aerial Support

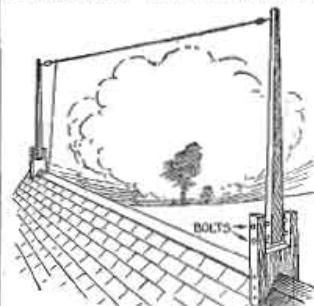
Two heavy pieces of wood are cut in U-shape, one for each staff. If these are to be used on a flat roof or the ground a flat base is attached. A triangular base is used when staffs are to be used on a gable roof. The size and strength of the pieces and supports depend on the weight and length of the staffs. Two holes are drilled through the two arms and through the lower end of the staff, one at the top and the other about 1 foot below the first hole. Each set of holes must run true. The aerial and guy wires are measured to exactly the distance between the centers of the pieces when they are mounted on the roof or ground.

The aerial being made fast to the staff ends, one staff is placed between the arms

### TWO R. F., ONE AUDIO FREQUENCY



—the top toward the other staff—and the upper bolt is inserted through the holes and locked. Then the staff is raised. If the staff is very high a rope slung about the center will aid in lifting it. The staff turns on the bolt as an axle. When the staff is erect the other bolt is slipped in and locked, holding the staff in a vertical position. When the other staff is



similarly raised the aerial will scratch taut, if it has been measured correctly.

The U-shaped pieces, of course, are parallel, the openings facing each other, and, in case of a gable roof, running in line with the ridge. When it is desired to lower the aerial, take out the lower bolt and allow the staff to swing inwards

### DUNLAP'S RADIO CALL BOOK

Listing all Broadcasting Stations  
Always Up-to-Date

Changes Mailed to you  
Each Month for a Year

Up-to-date international call book compiled by Orrin E. Dunlap, Jr., Radio Editor, The New York Times. Includes 4 columns for dial readings, owners, wave lengths, power and slogans.

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Complete

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5-Tube Tuned Radio Frequency Receiver that performs sets four times as well.—D-R-C. WIRELESS INC.—  
Tuners are built to exact standards.  
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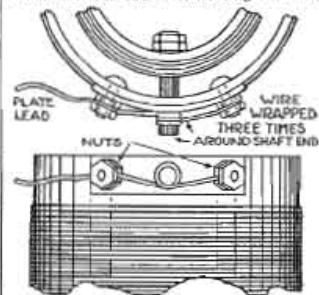
Look  
for  
the  
name



WD-11  
**Radiotron**

### Perfect Contacts for Rotor Shaft Bearings

Where pig tails are not used and a brush or bearing contact makes the connection for rotors, considerable scratching will be heard when the rotor is turned. To make a good contact for such a bearing I used the method as shown. A wire is run between the bolts holding the shaft



bearing, the wire being given three turns around the shaft and drawn tight. The wire grips the shaft as it is revolved.—W. A. Meyer, San Antonio, Texas.

#### Give Grid Leak Attention

Usually the grid leak does not get enough attention or else it is constantly being changed. It should not be touched unnecessarily, but some arrangement should be made so that different values of resistance may be employed when necessary. For local stations a comparatively low and a low resistance grid leak would do that the surplus charge may readily leak from the grid. When distant stations are being tuned in, the signal strength is low and a low resistance grid leak would lose almost all of the energy.

#### Useful Soldering Hint

Place a piece of paper over the windings of coils when soldering a connection which lies directly over or near the coils. This will prevent solder or soldering paste from spattering on the windings.



#### RADIO Storage "B" Battery

Lasts Indefinitely—Pays for Itself

Economy and performance unheard of before. Recommended by all leading authorities. Approved by Standardized by the Radio Broadcast Association, Technical Pub. Radio Laboratories, Pro. Soc. for Standards, Radio Engineers, and other associations against all other batteries. Same heavy glass jars. Heavy base against acid. Extra storage capacity. Extra long life.

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1219 So. Wabash Ave., Dept. 76, Chicago, Ill.  
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Designed and manufactured completely by user years of careful experimenting. It is not to be confused with imitations hastily assembled from mediocre parts. Price is \$2.00. Equipment is made Ferbond Co. O. D. and packed on cartons on receipt of money. Order today.

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Co.

# Questions and Answers

## Radio Frequency with Honeycomb Coil

(13111) PLH, Stratton, Maine.  
I am interested in the Radio frequency circuit shown on page 22 of the March 7, 1925, issue using three honeycomb coils of 50 turns. Will you please tell me what size wire is used in the coils, as I want to make my own coils? What is the capacity of the resistance between the grid and the ground? How much B battery current? Can I use Amperites instead of rheostats? A definite answer will be appreciated as I want to build a set for a camp that will be semi-portable.

A.—We would not advise winding the coils at home as this requires special machinery to accomplish a good job. The coils are best bought ready wound. However, straight coils may be wound that will do quite as well. Wind them on a 2-inch tube with the same number of turns for equal results. The wire used in the honeycomb coils is usually number 20. The capacity mentioned represents a grid leak, the size of which depends on the tube used. If you use a UV-201A a 2 megohm is correct. While Amperites may be used, it is best to use a rheostat on the detector tube. If the same kind of tubes are used throughout one rheostat will be sufficient. It should be of the 6-ohm type.

## Wire for Ground Antenna

(13239) JNC, Camden, Ala.  
I have read very carefully your instructions for installing a ground antenna. Will the ordinary number 14 triple-braided weatherproof wire be sufficiently insulated? My aerial is 80 feet and the lead-in and ground is 45 feet, making over all about 135 feet. My set is about 6 feet from the ground. If I use about 75 feet of "ground" antenna that will give me about 81 feet. Will that have sufficient length to get the longer wave lengths from the broadcasting stations? Referring to figure 23 in the article Is the cut left loose—the one distant from the receiving set? Should it be shielded?

A.—The weatherproof wire you mention will be all right. You will need to cover the lead-in above the ground with lead. The end of the wire should be covered and cemented with the insulator so that no part of the bare wire can touch the ground. The length of the wire you mention should be long enough to get all the wave lengths.

## Interference from Farm Lighting Plants

(13238) MAR, Ireland, Texas.  
We have been told that by connecting six 2 mfd. bypass condensers in multiple, running one side to the main line light wires on a farm lighting plant and the opposite side to the ground that it would eliminate the interference. We saw a set hooked up to a Kohler light plant in this manner and it did eliminate the noise but we tried it on a Delco plant that was giving considerable trouble and it did not work as well.

It is my belief that this interference is picked up through the antenna and not over the electric light wires leading into the house where the Radio set is installed. Would it not be advisable to connect three or four of these condensers in series running one side to the ground wire and the other to the lead-in wire. Do you think this would accomplish the desired effect?

A.—The most of the noise experienced with the farm lighting plant comes from the sparking generator for the gasoline engine. The only way to prevent this interference is to put a grounded cage made of fly screen wire around the generator.

## REFLEX SET for \$7.75

Build a tube set that brings in stations with Crystal receivers, over 1000 miles away by using Twoser Radio Plans. Everything clearly explained. Satisfaction guaranteed or money refunded. Send \$1 for plan or self-addressed envelope for further information.

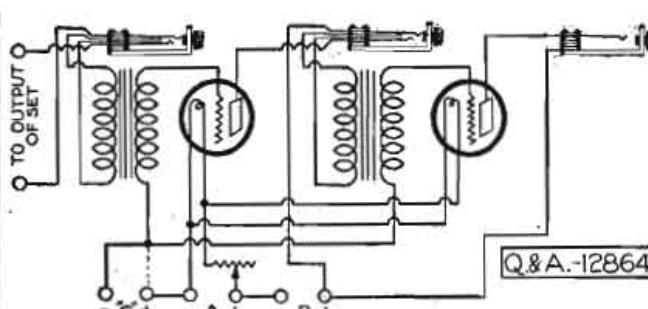
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2220 Vista St., Kansas City, Mo.

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No A Batteries No B Batteries  
Sensitivity, Distance, Volume, Distortionless, Reception Perfected, Amplifier Used, Oscillator System, Complete Working Drawings and full instructions. PRICE \$1.00  
Your Money Refunded if not Satisfied.

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PERFECT REPRODUCER  
Tone loud and pleasing. Hand-made material and design.  
Black-\$25.00 Shell-\$25.00  
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## Amplification Added to Reflex Circuit

(12864) RCT, Amboy, Ind.  
I have built the reflex circuit as shown on page 24 of the February 14 issue of Radio Digest, the one shown in figure 1 and it works fine, but I would like to add two stages of amplification with double circuit jacks on the first two tubes. Will you please show a circuit for this work?

A.—The accompanying hook-up shows a way to add two stages of audio frequency to a circuit of this design.

## Two Tube Neutrodyne

(13156) CS, Indianapolis, Ind.

I have a hook-up for a two tube neutrodyne set and I wish to know if it will give more volume on DX than the one tube regenerative set? Will a three circuit set give as much volume as a single circuit? How many turns of wire should be on the primary and secondary of the three circuit set?

A.—We wish to advise you that a three circuit regenerative set will give as much and very often more volume than a single circuit set of the same number of tubes. The secondary of a three circuit tuner if tuned with a .0005 condenser should consist of about 40 turns on a 1/4-inch tube, or of 60 turns on a 3/8-inch tube. The primary may be aperiodic and can consist of about 5 to 10 turns.

## Loud Speaker Volume with Neutrodyne

(13245) MN, Dover, Idaho.

I have a five tube neutrodyne set which uses the Hamline patents. I have followed instructions in detail and still the set will not operate a loud speaker, neither will it neutralize, for when the second Radio frequency tube is removed nothing can be heard. I use five 293 tubes with 90 volts on the plate, three dry coil A batteries and a 1 1/2-volt C battery on the audio frequency stages. The audio frequency transformers are 3 1/2 to 1 ratio. I have received stations up to a thousand miles on the head phones. Can you help me out of my trouble?

A.—We are not surprised that your set does not operate a loud speaker. Most of the neutrodynes are designed to be used with 201A tubes. If you turn out one of the Radio frequency tubes and the signal disappears, it is a sign that the set is properly and completely neutralized.

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WHOLESALE AND RETAIL

## Three Circuit Tuner

(12931) GM, Ellsworth, N. J.

I desire to construct a three circuit tuner from an old variacoupler which has the following specifications: The stator coil is 3 1/2 inches in diameter and is wound with 58 turns of number 20 enameled wire. The length of the stator coil is 7 1/2 inches, the rotor is 3 inches in diameter and 1 1/4 inches long which has 65 turns of number 26 wire. It revolves inside of the primary coil at 180 degrees angle. Tell me how many turns to remove from each coil in order to use it in the three circuit tuner which is in conjunction with a 23 plate variable condenser. I want it to reach all of the wave lengths.

A.—You do not need to remove any of the wire turns to adapt this coupler in the tuner circuit you wish to use. We would suggest that you wind about 56 turns of wire right over the stator, using the stator as secondary and the 5 turns as primary. You will have a three circuit tuner and an aperiodic primary which will not need any tuning. With a .0005 mfd. condenser across the secondary of the coupler you will have no trouble covering the broadcast range.

## Interference from High Tension Lines

(12761) OS, Stanton, Iowa.

Am in the Radio business, being a dealer of sets and parts, but I have a puzzle perhaps you can solve for me. I have a five tube set located close to the high tension electric light lines. The aerial is placed so that it runs at right angles to the lines, but on distant stations the noise from the lines is greater than the signal and consequently reception is poor.

Please advise me if there is anything that I can do to overcome this difficulty.

A.—If the noise is due to a power leak the best thing you can do is to tell the company about it and they will see that the lead is repaired. We recommend that you try the Kane aerial advertised in our columns.

## PATENTS

Time counts in applying for patents. Don't risk delay in protecting your ideas. Send sketch or model for instructions of rights for FREE book, "How to Obtain a Patent" and "Record of Invention" form. No charge for information on how to proceed. Communications strictly confidential. Prompt, careful, efficient service. Clarence A. O'Brien, Registered Patent Attorney, 2099 Security Bank Bldg. (directly across street from Patent office), Washington, D. C.

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Postage extra. Please postage if you prefer to pay with order. MONEY REFUNDED if not satisfied. Send order today. Send \$1.00 postage. Postpaid. Post Office Box 121, W. M. SEYBART, Dept. 604, 360 Wrigley Bldg., Chicago.

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Grebe Dial Spacing

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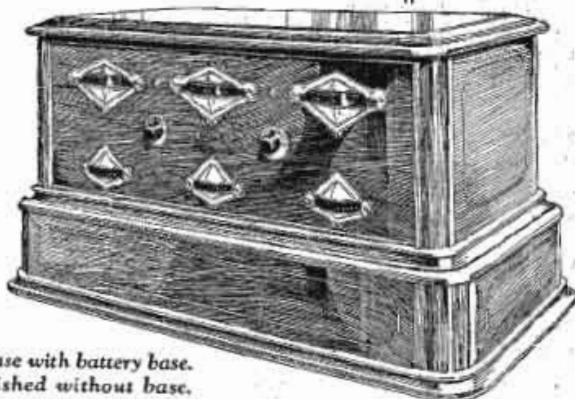
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