Work with Oscillating Crystals; Suppr E S T—*Illustrated* 3
Pictures; Gold Cup Standing; The A-B-C

Radio

EVERY WEEK 111 PROG WST

REG. U. S. PAT. OFF.

Vol. XIV Copyright 1925 By Radio Digest Publishing Co. SATURDAY, A

CHASE THEMSELVES AROUND THE WORLD

MINNEAPOLIS—Last Thursday night WAMD attempted to get a long distance record by testing in themselves. They hoped to hear their own program as it returned from around a world tour, having passed over Asia and Europe and sailed across two oceans and several lakes. The operators, station directors, and assembled guests became so confused by signals and static that were unable to tell whether they heard an outgoing or an incoming program.

IN RADIO DEBUT

WJR, NEW DETROIT PLANT, OPENS SOON

STATION OF JEWETT RADIO HAS 5,000-WATT RATING

Transmitter Is Located in Pontiac, Michigan; Studios Are in Automobile City

DETROIT.—The inaugural program from WJR, the new 5,000-watt broadcasting station of the Jewett Radio and Phonograph company, located at Pontiac with control studios here, will be worthy of the station's ideals; and the date—August 15—should be marked down on the listeners' calendar as one of the important days of the summer season.

Beginning at 7 o'clock in the evening, the best talent available will pass before the microphone in the studio of the station at the Book-Cadillac hotel. A varied entertainment of character and appeal will be provided.

One of the features to be presented to the Radio audience will be the Detroit Symphony orchestra, generally conceded as one of the finest symphonies in the country.

LECTURES ON EVOLUTION

ASKS LEGAL ACTION TO SILENCE STATION

NEW YORKER HOLDS WNYC POLITICAL MOUTHPIECE

Says Mayor Uses Municipal Station to Broadcast Propaganda at City's Expense

By Jack Forrest

NEW YORK.—Action has been started by the Citizens' union of this city to close the municipal broadcasting station, WNYC, on the grounds that it is being used by Mayor Hylan for disseminating political propaganda.

Application for the closing order was made by Leonard M. Wallstein, counsel for the Citizens' union, based on affidavits of Henry Fletcher, vice-chairman of the organization. The court's order requires the mayor and Commissioner Mills, the joint defendants, to show cause why an injunction should not be issued against the further operation of the station.

Three grounds, justifying a court order for closing the station were cited by Mr. Wallstein.

"That the city is without legal authority to spend money for the purchase, construction or operation of a broadcasting station.

"That the law makes no provision for the broadcasting of propaganda on behalf of the defendants or any other person or persons.

"The such acts constitute a waste of city funds and other property of the city of New York and cause an irreparable injury to the city."

When the station was opened a little more than a year ago at an estimated cost to the taxpayers of $50,000, the then commissioner of plants and structures, Grover Whalen, speaking for the mayor, issued a statement in which he said:

(Continued on page 5)

Some people say that Chicago juries do funny things when they try gunmen but after looking at the little lady pictured above you will have to admit that the body of Windy City men who pronounced Mary Brogdon guilty of being pretty enough to assume the titles of "Miss Chicago" and "Miss Illinois," in a recent contest, were correct in their decision. Miss Brogdon is heard frequently from WMT. Madame Olga Petrova (left) now appearing in "Hurricane," recently talked about the stage from WIP. Madeleine Hulsizer (right) is oft times heard from WOR.

HARVARD MAN TO BROADCAST BASIC THEORY

Man Comes From Ape

Professor Holds Man Can Believe Darwin and Still Be a Christian

BOSTON.—Dr. E. A. Hooton, professor of anthropology at Harvard university, will endeavor to explain the theory of evolution to Radio listeners in an hour's lecture which will be broadcast from Westinghouse Station WBZ Friday evening, August 7.

Dr. Hooton will go on the air at 9 o'clock, Eastern time, and, although it will be impossible to cover at length this vitally interesting and absorbing subject in such a short time, he will explain to his vast audience the basic facts of the evolution theory.

"One of the greatest events in the history of the world took place when the ancestors of man descended from the trees and started to walk on their hind legs," declares this noted scientist who demonstrates how changing methods of moving about, of fighting and of living

(Continued on page 3)

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McNAMEE REMAINS LEADER IN CONTEST

EASTERNER TOPS G. D. HAY BY NEARLY 18,000 VOTES

Fourth and Fifth Place Holders Have Changed; Barnett Seems to Help Leader

Only three more ballots counting the one published above to be marked for the best announcer and the 1925 Gold Cup contest will be decided! As before, Graham McNamee, WEAF, is still leading the field and seems to be gaining more strength with each trip of the mailman to the Digest offices.

George Hay, WLS, is now over 17,000 votes behind the leader and unless there is a sudden exodus of voter from the great open spaces where the contest drawn is a close that year's cup winner's only chance to see the cup will be when it leaves Chicago on the Century on its way to Manhattan. However, it must be remembered that the 40 vote bonus that goes to every batch of 22 consecutively numbered ballots may have much to do with altering the final standing.

Barnett Seems to Help

That Stanley Barnett is making good his promise to keep from getting votes and throwing his support to McNamee is evidenced by his dropping to last place among the sixteen leaders and having added but two votes to his last week's total.

Goss Russell is still in the third position but his spurt of last week has not carried through into this week with as much strength as before. The Woodmen's announcer gained some four thousand votes last week but only managed to boost his total by 1,555 on the latest count.

Hired Hand Gaining

Down Texas way things are beginning to pick up and the Hired Hand of WBAP is gaining on Henry Field, KFNF, who holds the fourth position by barely over two hundred counters. The corn cut in Iowa is growing rapidly now and it may be that the farmers are too tired when evening comes to listen in on the Shenandoah station and hear Field. At the same time, though, it looks like the Fort Worth station will be off the air for a period while they are completing their new station. In this case, the Hired Hand will not be heard for several evenings and the Iowa seed man may have an opportunity to strengthen his hold on fourth place.

Many stations are boosting their own announcers in replies to fan letters and there is a possibility of swaying the fans toward a dark horse when the time comes to submit the bonus votes. In that case the deadline on the story announcing the choice for the best announcers may contain a name never before mentioned there.

Lane Passes Arlin

There have been no new contestants to break into the leaders' group but unless some of those down towards the bottom of this list do not watch out someone may come up from the enlisted list below in time to be counted in the final standing and thus receive the certificate of merit. Those certificates will be awarded this year as last to the fifteen announcers immediately below the winner.

Although "Bill" Hay, formerly of KFKX, has severed his connection with the announcing end of Radio and is no longer heard from the Nebraska station he still continues well up on the list. He was recently heard from WLS, where George Hay introduced him.

Frank Lane, KFRU, and H. W. Arlin, KDKA, are vying neck and neck down at six and seven. Lane passed Arlin in the balloting of the past week.

N. Dean Cole, WHO, took quite a jump and passed Lambdin Kay again. Cole is now tenth and Kay is eleventh. The only other change in standing occurred at the bottom of the list where O. H. Becker went over Barnett to fifteenth place.

The latest standings are:

The Sixteen Leaders

Position	Name and Station	Votes
1.	Graham McNamee, WEAF	[illegible]
2.	George D. Hay, WLS	[illegible]
3.	Goss Russell, WSAI	[illegible]
4.	Henry Field, KFNF	[illegible]
5.	Hired Hand, WBAP	[illegible]
6.	Frank Lane, KFRU	[illegible]
7.	H. W. Arlin, KDKA	[illegible]
8.	Lee Fitzgerald, WHAS	[illegible]
9.	W. C. Grill, Jr., KFKX	[illegible]
10.	N. Dean Cole, WHO	[illegible]
11.	Lambdin Kay, WSB	[illegible]
12.	Robert Keene, WSAI	[illegible]
13.	Charles Dressler, WFAA	[illegible]
14.	Jerry Sullivan, WGY	[illegible]
15.	O. H. Becker, WGR	[illegible]
16.	Stanley Barnett, WOC	[illegible]

How to Vote and Get Bonus

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

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

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

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

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

Station Receives 55,000 Fan Messages Since April

NEW ORLEANS.—More than fifty-five thousand letters and telegrams have been received by the management of WSMB broadcasting station since its inaugural, April 21 of this year, the station statistician reports. Letters and telegrams have been received at the rate of 600 a day, and the summer season, which often thins out a station's mail, has had no effect on WSMB's volume of mail, except to increase it.

Official statistics show that the number of Radio users in Germany is increasing rapidly.

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Looking Ahead

A Bridge Circuit from Nicaragua will be presented in the next issue, together with detailed instructions for building a set incorporating it. While Mr. R. N. Skeeters, who sent in the data, had not read Milo Gurney's articles, his hook-up forms a bridge that permits of high amplification.

WHAS, "Down in Old Kaintuck," will be pictured and described in the next issue of Radio Digest. The Courier-Journal and Louisville Times station has made its city famous for something besides Derbies and Colonels. Pictures of the studio and members of the staff will be shown.

The End Is Close in the Gold Cup Contest, and the next to the last ballot will appear next week. The contest closes August 22, and if you want to see your favorite at the top of the list do not fail to clip and send the next two ballots.

Single Circuit Set Owners Will Be Interested in the non-radiating stage of tuned R. F. that will be outlined next week by Mr. J. A. Thatcher of the Toronto Radio Research society, as it adds selectivity and range, yet eliminates them as offenders in the matter of wheating interference.

Characteristics of the Three Electrode Tube form the basis of Professor Moreton's next article of the A. B. C. Series. The beginner in Radio is often confused by such terms as Mutual Conductance, Amplification Constant and Plate Impedance. Here is a chance to have their significance cleared up.

Newsstands Don't Always Have One Left

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Radio Digest

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BROADCASTS APE TALK

(Continued from page 1)

are believed to have altered prehistoric man's physical structure as such ways were abandoned.

How Use of Hands Aided Man

The rising of man's ancestor to his feet aided in his progress in many ways, according to Dr. Hooton, and by a chain of circumstances it indirectly brought about a condition which allowed his brains to grow.

To begin with, his hands were freed from the business of locomotion. They were used for grasping food and subduing his enemies. The result was that his jaws were released from their ardious labor as weapons. They gradually diminished in size causing less pressure of muscle on the cranium as Dr. Hooton illustrates by comparison of the skulls and jaws of the other primates of today with those of man and which he will endeavor to explain to his vast unseen audiences when he broadcasts from WBZ.

Many people feel that the evolutionary theory should not be taught—that it is a blow aimed at their religious faith. They regard scientists as demons in human form who would take from them the last vestige of the faith which comforts their souls and substitute a mechanical, materialistic code.

Religion Cannot Fight Anthropology

Dr. Hooton cannot see the logic of their attitude. He holds that religion has no real quarrel with anthropology.

"I do not regard evolution as a religious dogma or as a political theory," says this prominent scientist. "One does not believe in facts—one accepts them. I see evolution and religion in two different categories; one is an interpretation of facts, the other a belief in certain supernatural phenomena, an emotional reaction to that belief, and a philosophy of life. But if I thought that a wide dissemination of the facts of evolution would remove the fear of hell-fire in the popular mind, then perhaps I would agree with those who oppose its teaching.

"I feel that a man can honestly accept the facts of evolution, and at the same time be devoted to Christianity and guide his life by its principles."

The chief complaint of the extreme fundamentalists is that the study of evolution is destructive of religious faith. To that charge Dr. Hooton has given his answer and expressed a viewpoint held by many people who are both intellectual and religious.

ACTS AGAINST STATION

(Continued from page 1)

"Editorial writers are now concerning themselves with possible misuse of the broadcasting station. Let me assure these gentlemen no administration would be foolhardy enough to invade the sacred precincts of the homes of its people with any political propaganda. The programs broadcast from the municipal station must first of all be of a very high-class character; they must be free from politics; they must be educational and instructive."

1925 WNYC Budget $44,000

Leo J. McDermott, an attorney associated with Mr. Wallstein, sets forth in an affidavit of many pages the history of WNYC. He shows that in addition to the original cost of the station, its maintenance and personal service payroll had grown until the 1925 budget called for $44,000 yearly. Mr. McDermott, after showing that the station is used mainly for political propaganda, says:

"As to the supposed use of this station for the purpose of the fire department, deponent cannot find that there is even a pretense that it has ever been used for such a purpose. An inspection of the many programs published for Station WNYC discloses nothing whatever relating to the fire department.

"As to the supposed police department's use of such broadcasting station, deponent has often listened to the broadcasting of said Station WNYC, and although he has heard the broadcasting of the so-called 'police alarms,' has never yet heard any broadcasting from said station which in his opinion was of any real value as a police department activity."

In explanation of this action, the Citizens' union made a public statement, in which it said:

"The maintenance of the broadcasting station at city expense for any purposes, in the view of the Citizens' union, is unauthorized by law. But if the city officials had used it properly, merely as an adjunct of the police department or even for the broadcasting of music and educational non-political talks, no objection would have been made."

Boost Greater Movies by Radio

NEW YORK.—In connection with the "Greater Movie Season" movement all the orchestras and artists of Broadway's picture palaces united in a grand Radio pageant which was broadcast by New York stations last week. In addition to this associated talent, many notables of national prominence appeared before the microphone.

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NEWS BRIEFS FROM THE BROADCASTERS

INVITE MONKEY TRIAL MEN TO SPEAK FROM SHOW

Cuba Joins Argentine to Entertain; Army Band Heard on Four Station Hook-up

Officials of the Radio World's Fair have invited Bryan and Darrow to use their special broadcasting hook-up to address 21,000,000 people on the evolution question during the show in New York.

* *

Maria Montero, pre-eminent dancerine; Juan Pulido, Spanish recording baritone of the National theater, Havana, Cuba, and Carlos Calzia's Argentine orchestra combined to delight WOR afternoon listeners recently.

* *

New York, Washington, Philadelphia and Providence heard the music of the United States army band on July 28, when it was broadcast from WEAF, WCAP, WOO and WJAR from 7:58 to 9 p. m., Eastern daylight time. Capt. William J. Stannard conducted the concert, playing in the army barracks, Washington.

* *

A series of golf talks from Station WSAI, of the United States Playing Card company, Cincinnati, are being given Wednesday evenings by George Bowden, professional at the Mokenewah Country club, Cincinnati. Mr. Bowden is one of the leading professionals in the United States.

* *

On August 3 Station 2LO, London, will transmit the first real broadcasting play ever produced in Britain. It is a mystery play in modern style by a new author, with the underlying motive of the Christ running through it.

* *

A novel feature of the ten weeks series of band concerts given by the Goldman band on the campus of New York university will be the tournament for boys' bands to be broadcast through WEAF and others on Friday, August 14, beginning at 9 p. m.

* *

During the absence of Mrs. Ellen Rose Ditchey, home adviser of the Sears-Roebuck Agricultural foundation on her vacation, her work over WLS will be carried on by Mrs. J. C. Scully, of Brookings, S. D. Mrs. Scully, who is a graduate of the South Dakota Agricultural college, has been instructor in home economics for five years at the high school at Clark, S. D.

* *

Hawaiian music seems especially popular in summer with the Radio audience, so Station KDKA gave another of its series by the KDKA Hawaiian players on August 7.

* *

Open-air band concerts and special late dance programs during the next two months are the newest hot-weather features to be slated for long distance Radio listeners by KOA, Rocky Mountain broadcasting station of the General Electric company at Denver.

* *

Of special interest in the Northwest was KPQA's recent program which had for its principal subjects the principals in this year's production of "The Wayfarer," being held at University of Washington stadium in Seattle.

* *

Kistine Tecumseh, an Indian inter who has been a WLS staff artist, broadcast recently from KJR, Seattle. Steven Oliver, an Eskimo pianist from Unalaska and Tecumseh's partner, accompanied the chief.

* *

"Radio Breezes," by Kenneth C. Boston, known to millions of newspaper readers as K C B, is now heard as a regular KGO Tuesday evening feature. K C B will speak at 8 o'clock.

* *

Two new ideas are to be broadcast from KTCL, Seattle. One is a "friendly aid" service which is to be directed by George H. Crandall, a well-known lawyer. The service will offer friendly advice and counsel on legal troubles that everyone runs into. The other feature is known as the "Voice of Seattle" and will be broadcast from a downtown street intersection. Harold Grazin, program director of KTCL, will give a description of the streets of Seattle and several novelties are to be introduced.

Universal Company Takes Over WCAU, Philadelphia

PHILADELPHIA.—Station WCAU, located at the Hotel Pennsylvania, formerly operated by Durham and company, has been taken over by the Universal Broadcasting company. Stanley A. Bross, a member of the firm well known in broadcasting circles, has been appointed director of studio and programs, and has arranged some elaborate new features and surprises for the Radio audience for the coming season.

ABDEL KRIM WANTS RADIO—NO CAN DO!

PARIS.—A neutral journalist who has recently returned from a visit to Abdear, the capital of the Riff, noticing that the Riffian method of communication between general headquarters and local commands was the field telephone, asked him why he did not use Radio also. The Riff Sultan replied: "In the first place I have no apparatus. I dare say I could get that easily enough, but I have no one at present who understands the working of Radio."

CHASE THEMSELVES AROUND THE WORLD

MINNEAPOLIS.—Last Thursday night WAMD attempted to get a long distance record by tuning in themselves. They hoped to hear their own program as it returned from around a world tour, having passed over Asia and Europe and sailed across two oceans and several lakes. The operators, station directors, and assembled guests became so confused by signals and static they were unable to tell whether they heard an outgoing or an incoming program.

GRACE DRAYTON IN RADIO DEBUT

It is well and fitting that the first talk over the Radio to the kiddies given by Grace Drayton from WBCA should be entitled "Loving Children." She has won international fame as an artist with her "Kiddy" drawings, verse, and prose.

Why Worry About Time Used When We Work It Out For You Weekly?

DENVER, Colo.—Broadcasting experiences at Denver further reveal that static is not the only problem of Radio fans.

To compute the correct time elsewhere and to know when and how to calculate differences between Eastern, Central, Mountain and Pacific coast time, to say nothing of daylight saving, when "DXing," is a unique problem in itself.

The puzzle is made all the more complex by the growing number of broadcasters. Government records, it is said, now indicate in excess of 160 class B stations in this country alone.

"How many hours difference between here and Honolulu, Chicago and Dallas, Sitka, Alaska, and Richmond, Va?" are typical of the many questions raised by inquirers among KOA's audience.

Astronomers, science professors, railroad officials and weather forecasters as well as broadcasting officials, declare an everlasting avalanche of time-questions has been raised since the overwhelming popularity of Radio as a summer diversion.

"I am a profound Radio enthusiast," reads a recent communication to the General Electric station at Denver from a student of a leading western university. "My greatest bugaboo, however, is knowing when to listen for a 10 o'clock program in Wisconsin or a 6 p. m. program in Mexico.

"I am fully aware that 6 p. m. in London and Paris is around 12 o'clock noon, Standard time, in New York, 10 a. m. in Denver and 9 a. m. in Oakland, Calif., but now am I to know which of the other cities are embraced in the Eastern time group and which in the Central, Mountain and Pacific coast groups?"

(The time standards in use by each station is listed in the "Radiophone Broadcasting Stations" list, published weekly by Radio Digest on the last to last page.—Editor's Note.)

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One of the features to be presented to the Radio audience will be the Detroit Symphony orchestra, generally conceded as one of the finest symphonies in the country.

Music from Belle Isle

At the time the orchestra is broadcast it will be playing in a new $50,000 shell which was built this summer on the city's beautiful Belle Isle park, in the Detroit river. This program will be followed by a varied studio entertainment presenting vocal and instrumental groups assisted by vocal and instrumental soloists. During this studio program a number of famous men will be presented in short talks incidental to the inauguration of the station.

Popular entertainment will have its place on the program, since it is the station's intention to please every member of the Radio audience, and in following out this intention it is necessary to present all of the various entertainment called to broadcasting.

WJR in the station; 7 p. m., Eastern time, is the hour; 517 meters is the wave length, and 5,000 watts the power; the date—August 15.

'BIG BROTHER' ON VAUDEVILLE BILL

Bob Emery Shows Boston Keith's Audience How He Entertains Kiddies

BOSTON.—For the first time so far as is known, a Radio announcer has held a week's engagement at B. F. Keith's theater in Boston. On July 27, Bob Emery, Big Brother to 25,000 members of the Boston Edison Big Brother club forewent the microphone at WEEI's studio for one week to meet the children face to face on the stage and show his audience how he entertains the kiddies nightly at WEEI.

The routine of Big Brother's act consisted of a brief flash of motion pictures showing views of the recent Big Brother club outing, ukulele songs, monologues, and a brief Radio sketch in which Bob Emery was the principal.

The Radio sketch was entitled "The Program Director." It was in two parts and depicted the troubles of a program director in his office and then some of the trying situations in the studio before the microphone. This sketch was written by Charles Burton, superintendent of broadcasting at WEEI, showing the Radio audience exactly how broadcasting is done. The audience not only saw Emery in action on the stage, but heard from amplifying horns exactly how his voice comes to them over the air.

New Stations

WGBU is the new Florida station which has been puzzling fans for the last few weeks. This new 500-watt Western Electric 1B station, operating on 384.4 meters, is located at Fulford By-the-Sea, nine miles north of WIBF, Miami Beach. The chief announcer is Robert H. Nolan.

WCAU, Philadelphia, formerly operated by Durham and company, is now owned and operated by the Universal Broadcasting company.

The following limited commercial class "A" stations were licensed into week: KQP, Hood River, Ore., 188 watts, 370 meters; KFCC, Helena, Mont., 10 watts, 248 meters; KFWO, Avalon, Calif., 250 watts, 311.1 meters.

San Francisco is to have its first superstation when KPO, Hale Brothers, goes on the air soon with its new 4,000-watt transmitter.

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'BWS' LEAVING WOC FOR EASTERN 'MIKE'

PALMER SCHOOL TO LOSE POPULAR ANNOUNCER

Stanley W. Barnett Goes to Baltimore Soon to Help Start High Power Plant

DAVENPORT, Iowa.—According to an announcement made public here by the Palmer School of Chiropractic, Stanley W. Barnett, studio director of Station WOC, and known to the Radio audience as "Announcer BWS," has resigned his position with the Chiropractic Fountain Head Radiophone station, the resignation to become effective some time in August. According to his present plans, he will connect with a new high-power station which is under construction in Baltimore, Md., and which will go on the air about October 1. The Gas and Electric company of Baltimore will operate the new station. It will have a capacity of 5,000 watts.

Frederick R. Huber, manager of the station, in outlining the policy said:

"Everything that is of the best in Baltimore will be broadcast. Baltimore's best instrumental and vocal talent, her best attractions, her best artists. It may be that the Baltimore Symphony orchestra, the Park band and the Municipal band may give concerts. Or, some of our leading organists, or members of the Peabody conservatory faculty. New discoveries at the Johns Hopkins university can be given to the world through us. The possibilities of our new station are unlimited."

With WOC Over 2 Years

Mr. Barnett has been connected with Station WOC since its inception three and a half years ago, and has seen one of the best and most powerful stations grow up from a small, insignificant beginning; and in this development "BWS" has played a very prominent part. WOC, about eight months ago, installed the latest type 5,000-watt transmitter.

When interviewed at WOC recently concerning his change, Mr. Barnett stated that for some time he had felt a desire to make a change, primarily, to be nearer his former home in Pennsylvania.

"You know," he said, "my folks never go to bed at night without hearing me sign off at WOC, but I rarely get to see them on account of the distance and the time that I would be absent from the studios at WOC."

"What are your other reasons?" he was asked.

"Well," he confided with pleasing modesty, "I have been told that I have played a responsible part in making WOC's organization, reputation and enviable record of service what it is, and when I was approached by another Radio station to do the same thing for them, and in view of the other factors, I decided to make the change, much as I dislike the idea of leaving WOC, Davenport, and all the friends I have among the station staff, and the artists who frequently come here. As for the Radio audience, I don't think they will miss me so very much because I will be on the air again within a few weeks, and they and I will at that time be able to renew our acquaintances. I really believe, though, that I, personally, will feel the change much more than the listeners in will feel it," he concluded.

Sorry to Lose 'BWS'

When Dr. B. J. Palmer, president of the Palmer School of Chiropractic, was interviewed concerning Mr. Barnett's resignation, he stated that while sorry to lose the services of "BWS" he was at the same time glad that Mr. Barnett was being called upon to help in building up a similar organization in another part of the country. In regard to the future personnel at WOC, Dr. Palmer stated that they were at present selecting from a number of applicants a man who would satisfactorily fill the position of announcer and who, at the same time, would be as highly acceptable and pleasing to the Radio audience as was Mr. Barnett.

"We also intend to put on several new features in our broadcasting program which we feel sure our Radio audience will find more than ever attractive, pleasing and profitable. It will be some days, however," concluded Dr. Palmer, "before we shall be in a position to make public our choice of a successor."

Before coming to the Palmer School of Chiropractic—from which, incidentally, he is a graduate, besides being their chief announcer at WOC, and one of the pioneer announcers in the country—Mr. Barnett was a first-class electrician (Radio) in Uncle Sam's navy, and saw service during the World war.

Landlord Cannot Refuse Radio

VIENNA.—The right of a tenant to set up a receiving outfit despite the opposition of his landlord was the subject of a recent test action in the Austrian courts and resulted in the complete victory of the tenant.

BIDS WEST GOODBY; GOES TO BALTIMORE

Stanley W. Barnett, former "Announcer BWS" at WOC, Palmer School of Chiropractic at Davenport, Iowa, has resigned from his post there to take a position with the new 5,000-watt station of the Gas and Electric company at Baltimore, Md. The new station will take the air October 1, it is planned.

WIP to Have Home on $18,000,000 Building

Gimbel Brothers Soon to Start New Store

PHILADELPHIA.—Gimbel Brothers of this city, operators and owners of Station WIP, are having plans prepared for the erection of a 1,000-watt station on the top floor of their new twelve-story department store building, construction of which starts soon. The building will cost $18,000,000.

Richard Gimbel, a member of the firm, and who has taken an active interest in the operation of the station, has made a tour of all the principal stations of this country and abroad in an effort to learn just what will make WIP one of the most attractive, as well as most powerful, broadcasters in the United States.

Edward A. Davies, director of WIP, states that the new station will be put in operation as soon as the new building is completed.

JACK DEMPSEY HELPS OPEN NEW WOK STUDIO

Terrace Garden Is Site of New Hotel Plant

CHICAGO.—WOK, at Homewood, a suburb near here, opened its new Chicago studio in the Terrace Gardens, Morrison hotel, recently and celebrated its increase in power with a dinner-dance for friends and Radio artists.

One special feature was a talk by Jack Dempsey.

The station is owned by the Neutrowound Radio company and has 5,000-watt equipment. Only 1,000 watts will be used for the time being. Batteries supply the transmitting power.

George W. Allen, a new voice to Radio, is announcer and director. Harry Waters, formerly at WHT, is assistant director and announcer. Robert North, pianist, who has been heard from many stations, is also on the station staff.

Silver Cup Is Award for Most MacMillan Messages

NEW YORK.—A silver cup has been offered as a trophy to the amateur Radio operator who picks up the largest number of messages from the MacMillan expedition from now until September 15, by the Second Radio World's Fair, through U. J. Herrmann, managing director, in letters addressed to the National Geographic society and the Amateur Radio Relay league.

EVEREADY HOUR
EVERY TUESDAY
AT 8 P.M.
Eastern Standard Time

For dial radio information, tune in the "Eveready Group." Broadcast through

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WJAR Providence
WEEI Boston
WFI Philadelphia
WGR Buffalo
WCAE Pittsburgh
WEAR Cleveland
WSAI Cincinnati
WWJ Detroit
WCCO Minneapolis St. Paul
WSAI Cincinnati
WRC Washington

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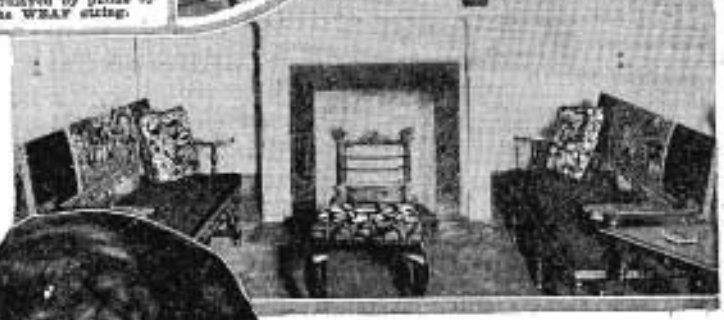
WEAF, "Chief of the Link Stations"

The input control board where voices from the microphone are amplified and relayed by phone to the WEAF string.

Two views of reception room. Door in the upper photo leads to studio pictured at page bottom.

"Smiling" Betty Lois, the day hostess at WEAF.



Here is one of the most popular quartets ever heard in America, the four genial announcers of WEAF. At the top is Graham McNamee, whose voice has been heard over as many as fourteen stations at once and who has headed the Gold Cup Announcers' contest list for weeks. Next we have Phillips Carlin, also heard over the WEAF link. He always smiles they say! The gentleman with the dreamy eyes always radiates joy over the "mike," perhaps because his name is Leslie Joy. At the bottom is James Hawpe, who has made good use of his excellent musical selection to make the programs he announces more interesting.

Left, Winifred Barr (upper) and Kathleen Stewart (lower) are evening hostess-accompanists at WEAF.

EMBODYING the latest developments in studio acoustics, in studio arrangement and many technical improvements in broadcasting equipment, WEAF's studio and remote control facilities in New York city, are the last word in this important phase of broadcasting.

Years of broadcasting by WEAF have indicated desirable features in studio design, which improves the quality of Radio programs. Minute attention to detail is responsible for much of the improvement in acoustic properties. The parquet floors are laid in pitch and are insulated from the walls of the studio. False walls are used between the studios and the hall to introduce a dead air space, making them practically impervious to sounds in the hall.

The draperies on the walls are so arranged that they can be adjusted to give the correct degree of deadening for the particular music being transmitted. For instance, heavy brass bands require more deadening than a quartet or a pianist. A speaking voice requires the least deadening for good transmission. In every case the studio director can make his corrections and adjustments without loss of time.

The permanent feature of the studio installation is the use of two studios, a small one for singers, speakers and small groups of instruments and a second large studio for bands, large choruses and orchestras. Between the two studios is the monitoring booth from which the programs are directed.

WEAF has four announcers on the staff. They are well known to the audiences throughout the country, due to the linking of stations with WEAF for their varied programs. When you hear, "Good evening, ladies and gentlemen of the Radio audience," you can be sure that it is the voice of Graham McNamee, ready to deliver his announcement of the forthcoming attraction. He has covered most of the national events that have been broadcast through WEAF, and is noted for his well modulated voice. To him falls the honor of announcing the Kresnady hour and Victor presentations.

To those who are familiar with the introduction and announcements of "The Man in the Silver Mask," the "Silvertown Cord Orchestra," or the "Happiness Candy Boys," the voice of Phillips Carlin is a source of real enjoyment. Among many of his friends he is known as the "Orator of WEAF." His smile is continuous.

When a delay occurs in any of the programs, Leslie Joy, announcer steps in and fills the gap with a baritone solo. He has had a wide and varied career, though still under thirty years of age.

(Turn to page 6)

No wonder WEAF's voice is always cheery. Look at the announcers.

At the photo, O. H. Hanson, chief engineer, "the man behind the screen."

Left, S. E. Ross, director of programs that are programs. Right, a glimpse at the corner of one of the principal studios.

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MATRIMONY NOTES SWAMP KOA PLANT

SPINSTERS-BACHELORS, ASK AIRLINE TO ALTAR

Station Refuses Cupid Role; Requests Continue to Come from Coast to Coast

DENVER, Col.—Radio may be faced with the wholesale responsibility of solving matrimonial problems for enterprising spinsters and bachelors of the country, if the spring rush on KOA here is any criterion.

Regardless of growing demands from correspondents in the unmarried state, officials of the Rocky Mountain broadcasting station, have adopted the strict matrimonial policy of "hands off," in declining the responsibility of finding mates. Likewise, they are holding out hopes that the situation will become less acute with the expiration of summer.

Ohio Leads All

Ohio ranks first in the number of correspondents appealing to the station for guidance in the matrimonial field, with Iowa taking second place and Washington third.

An Illinois girl gives her age as 19 and advises she could settle down with "any nice man, if such a creature exists." She adds further, "I never have been able to run across one yet." A Cincinnati matron declares she is "very good looking and quite popular among the younger set," and a high school girl in Iowa suggests, "I suppose I am counted as old-fashioned because my hair is not bobbed."

Women Scarce There

From an Oregon lumber camp a bachelor writes, "Women are very scarce here and I am looking for someone to write to. Please forward some names." An unsolicited note KOA is to supply him with names of pretty Denver girls and a Colorado rancher wants to hear from a girl who cares about living in the country.

A Hartford, Conn., lady correspondent wrote a lengthy letter to the broadcasting station after finishing a book of romance which "has such a beautiful ending," and a Frankfort, Ky., correspondent advises that she is "just past 16, loves and loves music and good books."

Expects Half Billion to Be Spent on Radio

Radio Fair Head Bases Estimate on Government Reports

NEW YORK.—Half a billion dollars is likely to be spent by the American public for Radio apparatus within the next year, in the opinion of U. J. Herrmann, managing director of the Second Radio World's Fair, who bases his conclusions on government reports and the estimates of leading manufacturers.

"One of the greatest gains in Radio sales this year will be among the farmers," Mr. Herrmann declares. "A considerable proportion of our agriculturists, for one reason or another, was slow in developing the Radio fever; but now Radio has become an indispensable factor of farm life, not only from the standpoint of entertainment and general education but in view of the invaluable information on market conditions and on agricultural improvements and advice.

"Everything points to a prosperous year for the farmers. Large sums will be expended in the chief agricultural states for Radio installations."

Mr. Herrmann states that representatives of several leading groups organizations would be in New York the week of September 14-19 to view the exhibits of new Radio products at the Second Radio World's Fair in the 25th Field Artillery Armory, the largest hall in the world.

"Lopez Speaking" Is Again Heard from Manhattan Isle

NEW YORK.—Vincent Lopez has returned to the good old U. S. A. and is back on the air again playing through WEAF every Tuesday, Thursday and Saturday from the roof of the Hotel Pennsylvania.

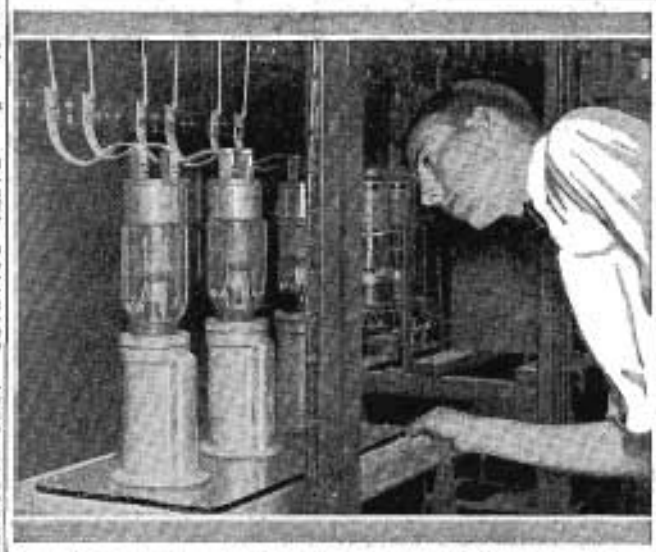
One of the pioneers of broadcasting, whose "Lopez speaking" is famous throughout the country, he returned to New York on the S. S. Paris following an unusually successful engagement at the immense London "Hippodrome" and at the famous Ciro Kat club.

Although the sole attraction in a theater ordinarily the home of spectacular operettas, the Lopez orchestra proved a sufficient drawing card to fill more of the 3,000 seats daily.

New Mike at KGB

TACOMA, Wash.—Local Station KGB, in having its station recently overhauled, has added the latest type of improved microphone with accompanying amplifiers. The wave length remains 249.7 meters.

WPL USES WATER COOLED TUBES



Some of the giant water-cooled tubes in the transmitter of Station WPL, the broadcasting plant of the Paulist Fathers, New York city, soon to open as the first Radio church directly connected with the Roman Catholic church

WEAF, CHIEF OF LINK

(Continued from page 5)

Those who listened to WEAF's "house talent" program which was broadcast by WHAP and seven other stations are probably not aware that the entire presentation was conceived by James Hauge, one of WEAF's popular announcers and familiarly known to the entire staff as just plain "Jimmie." His forte is to his fundamental knowledge of music which leaves outlet in the planning of such programs as the "Fireside Hour" and the "WEAF Light Opera Quartet."

Upon entering the reception room at WEAF, a visitor is greeted at the door by Miss Betty Lutz. She is the day hostess, and is noted for her charming manner and big smile that is given to everyone. During the evening, Kathleen Stewart and Winifred T. Barr act as hostess-accompanists. Their names are perhaps mentioned more than the call letters of the popular New York station itself.

A large and comfortable reception room with doors leading directly into each studio provide a waiting room for a large number of artists. A special loud speaking equipment furnishes them with entertainment while they are waiting for their turn to perform.

The plant department, or transmitting room is adjacent to the studio. Here all studio and remote control circuits terminate in a power input panel and are connected with the special line to the transmitter located at West street. A system of adjustable distortion net works is located in the plant department so that the attenuation of lines controlling broadcasting from remote control points can be suitably equalized for Radio broadcasting purposes. All remote control will thus be handled at one point by a specially trained crew.

A special ventilation system has been installed in both studios, which changes the air within them every seven minutes. This assures cool, clean air even in midsummer. In order to eliminate street noises during broadcasting the windows in the street may be kept closed without interfering with the comfort of the artists.

All of these facilities result in a marked improvement in the conduct of the programs and practically eliminate long waits between numbers in the program, and those waits occasioned by switching from one studio to another or to remote control points, when broadcasting is done from the outside.

WEAF has broadcast some of the largest and most notable events in the history of the country. The Democratic convention and the inaugural address of President Coolidge being two of the most important.

During the broadcasting of the Defense Day test, broadcasting was accomplished over the largest link of stations that ever was attempted. The success of this test showed the remarkable possibilities of broadcasting when the nation is in the throes of a catastrophe. "The Daddy of 'em all—WEAF—"

The French academy has just decided to admit the word "haut-parleur" (loud speaker) into the dictionary, thus sanctioning its use.

Pittsburghers Seek Time to Search Ether for DX

PITTSBURGH.—This city will have a Radio silent night if the plans of the local Retail Credit Men's association are carried through to a successful conclusion. This organization has recently formed a committee with a view to bringing about a silent night at least once or twice a month here. It has arranged conferences with other trade bodies and with local broadcasters in order that they can find periods when they may tune their sets for out of town stations and thus check up on the capabilities of these instruments.

ERECT NEW STATION AS A 'TRAFFIC COP'

WILL OBSERVE 'JAMMING' OF EUROPEAN STATIONS

Believe New Detector Plant Will Aid in Clearing up Difficulties of Broadcasters

LONDON.—An "interception station"—a sort of central listening post—is the latest development of the British Broadcasting company for improving and developing the broadcast services both of Great Britain and the continent.

It is being constructed near Bromley, Kent, and will be working in six weeks. It is the first station of its kind to be erected.

By the use of a supersensitive and powerful receiver working on four high frequency, one detector and two low frequency tubes, the station will be able to pick up signals from all continental and many American transmitting stations. It will be able to tell if one station is jamming the transmissions from another. By the use of a direction-finding apparatus the operator will be able to tell in a few minutes what stations are at fault.

"Charleston" Taught by Radio in Chicago

Dancing Master Instructs Fans in Fundamentals

CHICAGO.—"The Charleston" is all the go this month! Not the sleepy old town "down Carolina way," but the dance that is said to have originated on the banks of the Ashley and Cooper rivers that flow past that quaint Palmetto city. In order that Radio listeners might be up to date on this latest dance craze, WMBB, in cooperation with a local morning newspaper, will broadcast lessons telling how the fundamental steps might be mastered. The lessons will be given by the dancing master of the ballroom where the station is located.

Diagrams published in the paper each morning are explained via Radio at 8:30, Central Standard time. By studying the cuts and then tuning in on the Radio, all who really care to may learn the dance.

Make Sure of Receiving Your Copy Each Week

and receive the best service from Radio Digest. Requests for missing copies are numerous. You cannot afford to miss a single issue. Your best protection is a mail subscription. Now is the time to get on the weekly mailing list.

One of the popular Radio Broadcasting Stations writes:—* * * "We find the trouble in this locality is the fact that our listeners are having difficulty in securing copies of Radio Digest." * * *

Many readers miss some of the issues of Radio Digest. It is a disappointment to reach a newsstand sold out. Readers become dissatisfied and Radio Digest loses a reader. Our best efforts are being put forth to have copies always on newsstands. Frankly, we admit that the job is very strenuous.

YOU CAN HELP

Advise us promptly of any difficulty you have in getting your copy. Give us the name and address of the dealer who is sold out.

Your mail subscription will solve your problem.

You will find a coupon in each issue.

Today fill out the coupon and mail at once.

This insures your copy each week, delivered on time.

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RADIO MAY HELP IN PASSING NEW LAWS

NEW YORK GOVERNOR USES WGY FOR REFERENDUM

Broadcasting Discussions On Important Legislation Will Obtain Views of Voters for Representatives

SCHENECTADY, N. Y.—The Radio referendum may, in a few years, be provided for by legislative enactment. Until the result of such a referendum becomes binding on elected representatives, the Radio appeal for the sentiment of the voters may be so acted to have an important part in interpreting the wishes of the electorate and in influencing the action of the law maker.

Governor Alfred E. Smith of New York has several times appealed to the voters on matters of importance to them and he is convinced that Radio broadcasting has entered on a new and almost limitless field of public service.

Governor Smith says: "The American democracy covers so vast a territory that we must heartily welcome an art that brings its executives and legislators into the most immediate contact with the public they have been elected to serve. The advantages is double. It expedites the sending of an intimate message to the whole body of citizens and it secures to the speaker a more prompt and frank expression of general opinion than he could obtain in any other way. Thus there is preserved a mutual relationship that is of especially high value as new problems arise which can best be solved by a renewed meeting of minds.

Officials Close to People

"Recent experiences in broadcasting matters of public moment through the medium of WGY have given me a new sense of close fellowship with my fellow citizens; their many replies have been a help and an inspiration in seeking a solution to the questions which an executive can conscientiously answer only in the full light of the common thought."

WGY, one of three powerful stations of the General Electric company is located at Schenectady, within sixteen miles of the capital at Albany, which is connected to the Radio enclosure by wire lines. From time to time the governor, legislators and department heads have called on WGY for the privilege of using its facilities to reach the citizenry. Wherever this could be done consistently and with fairness to those already scheduled on the program, the Schenectady station has given of its time. The health department offers weekly talks; the highway department, during the summer months, furnishes the automobile owner with a report on road conditions; the agricultural department, as well as the department of farms and markets, issues frequent bulletins of interest to the farmer, including in this bulletin service special harvest weather reports. Last fall when fires in the Adirondack mountains forced a suspension of hunting, WGY was used by the governor and by the conservation commission in warning those already in the woods that an emergency existed and that hunting was banned. One of the first and most interesting of Albany programs was the broadcasting of the inauguration address of Gov. Nathan L. Miller.

Referendum Already Taken

Governor Smith, as well as the Republican leaders whom he has opposed, have recognized the growing importance of Radio in legislative matters and have used the facilities of WGY to take a Radio referendum on pending legislation.

In March of this year when Governor Smith found his plans on a financial program opposed he appealed to the people by Radio discussing the subject, "Spending the People's Money." The response from the audience, conveyed directly to the elected representatives, resulted in harmonizing the views of the governor and the legislature.

A second Radio referendum on matters legislative was taken in June after Governor Smith had called a special session of the legislature to reconsider the park program.

Before the legislature convened in special session Governor Smith broadcast his views from WGY. His voice, amplified by the Radio power station, was carried to every part of the state. Wire lines also carried it to WJZ, in New York, and this station broadcast the speech. Two nights later Senator John Knight, leader of the majority, replied to the governor and presented his side of the controversy. Still later Judge Alphonse T. Clearwater, a member of the Niagara State Reservation commission, gave a Radio discussion on the issue.

The voters were thus able to hear both sides of the question and many of them wrote to their representatives in Albany requesting action on one side or the other.

Much of the distortion, howls and squeals in multi-tube sets can be eliminated by the use of matched tubes.

BEAUTIFUL STUDIO IS INSPIRATION

"BETTER broadcasting begins with better studios, and that means environment and atmosphere," said Lieut. Comdr. E. F. McDonald, Jr., president of the National Association of Broadcasters and the Zenith Radio corporation, "and we propose to prove the point." The new superpower station, WJAZ, of the Zenith company, now being built, will have probably the most beautiful studios in the world. The decorator's painting of the studios, with an insert photograph of Mr. McDonald, are shown above.

After being elevated briskly to the twenty-third story of the new Stevens building, Chicago, where the Zenith studios are located, one first comes into a reception room of unusually large dimensions, set with costly tapestries and carpeting and furnished in period furniture. To the right is an artistic archway within which a massive art metal gate fills in the enclosure. Flanked on either side by smaller archways are wrought iron grazings beneath which artistically built in benches are positioned. This room being given over exclusively as a lounge for visitors and artists.

Passing through a great arcadway and into the studio proper one first comes upon a great wide veranda—giving the impression of having left the drawing room of a chateau and out into the garden.

In the center stands a massive art fountain of stone which adds a touch of realism with its tiny spray of water noiselessly sparkling and enlivening the Japanese goldfish within its spacious reservoir. The opulent tiled flooring are here and there offset by an occasional oriental rug or other appropriate settings all of which lends a touch of ancient days and a silent effect that plays upon the emotions.

The Zenith Station, WJAZ, however, has not left any details to the artists' imagination. Elaborate lighting apparatus is positioned scientifically to produce certain effects—the operator believes the theme of the selection being broadcast, and with flood lights, fadeins and fadeouts, he produces the effect of sunrise, sunset, moonlight—and likewise calms and storms—all with such faithful effect and reality as start the emotions and inspires the artist's greatest effort.

'Oklahoma Pepper Bird' Guest at KTHS, Hot Springs

HOT SPRINGS NATIONAL PARK, Ark.—Roy C. Grifis, known to Radioland as the "Oklahoma Pepper Bird" and originator of the famous "Brown Derby" club of Station KFRU, Stevens, Oklahoma, was a visitor at Station KTHS, the New Arlington Hotel, Hot Springs, Ark., for several days recently. Mr. Griffis broadcast "The Voice of Oklahoma" through the KTHS "mike" and was shown the wonders of the National Park and its million dollar bath house row by Director G. C. Arnold and Chief Technician H. L. Gibb.

FORD AND GLENN BEGIN TRIP HOME

Lullaby Boys Drive Eastward to WLS and Leave Jazz Behind

CHICAGO.—Ford Rush and Glenn Rowell, the Lullaby Boys of WLS, Sears-Roebuck station here, who left in June for the Pacific coast on a tour of the stations, are on their way home to Chicago, where they expect to arrive August 13 and resume their popular programs, it has been announced today by Edgar L. Hill, director of the station.

Ford and Glenn, with their families, started June 2 in two automobiles on their transcontinental trip. On their way to the coast they broadcast many of their WLS features. From Seattle, where they broadcast over KJR, they have just sent word that the WLS listeners may expect to hear their voices slightly again in Chicago about the middle of August.

Little Glenn writes that he is tired listening to jazz programs in the West. "It's jazz everywhere," says Glenn, "and we found little of the human interest features we try to give over WLS."

Artificial Larynx in London

LONDON.—The most novel mechanical voice yet broadcast from a British station was the sound generated on an artificial larynx recently invented by Sir Richard Paget, the famous throat surgeon. Sir Richard declares the use of this device will enable dumb people to talk.

(Hugh P. Gass, an American, recently demonstrated a new similar invention of his from WCX, Detroit.—Editor's Note.)

BRITISH ANNOUNCER MUST BE VERSATILE

ENGLISH COMPANY WANTS WELL QUALIFIED MEN

After Landing Position It Is Weeks Before New Announcers Speak Over Microphone

LONDON, Eng.—The British Broadcasting company, which requires several additional announcers, points out that applicants for the posts must have very exceptional qualifications. The following are the qualifications the B. B. C. lays down for the ideal announcer:

"He must have a pleasant, refined voice.

"He must possess a general knowledge of so many subjects as almost to make him a walking encyclopaedia. Consequently, university men are most suitable for the work.

"He must have personality so that 2,000,000 listeners receive the impression of having a friendly chat with him.

"He must be able to deal adequately and sympathetically with every subject broadcast.

"He must be musical and know how to be interesting on such a subject as chamber music, and be able to discuss plays and the hundred and one things that concern the microphone's evening.

"He must keep listeners happy through the whole program.

"He must be witty without being funny, and smart without being sarcastic."

With only twenty-one stations to supply, the B. B. C. does not deem advisable to follow America's lead and inaugurate a proper announcer's course. When a suitable man is found he first spends his time listening to others and watching how they work. It is weeks before he is entrusted with reading a few items of "local news" into the mike.

Just to make his job a little more difficult, the B. B. C. expects its announcers also to be showmen. They must describe the items so that fans want to hear them.

KFVL Demolished by Fire

SEATTLE.—The telephone and Radio schools and station KFVL, Vancouver, Wash., were destroyed when the building which they occupied was burned down by a fire of undetermined origin. The building was at Vancouver Barracks.

A Revelation in Tone-Volume-Clarity

Here is a "loud speaker" that brings the artists into your very room, so realistic is its reproduction.

Piano music, the most difficult to reproduce, sounds so natural that you are carried away by its beauty.

Vocal selections retain all of the colorings of the artist.

Orchestra music is a treat, every instrument can be heard, clear and full.

Magnetic diaphragm control—used exclusively in the Kellogg Unit—is the new principle that performs these wonders in radio reception.

No excess vibration, no chattering, every tone true.

The Kellogg Unit is available for use with a phonograph, and will reproduce voice or music with a full, sweet, clear tone.

A popular instrument. The Kellogg Symphony Reproducer is a revelation in Tone—Volume—Clarity.

At all good dealers

"Not Merely a Loud Speaker"

At your dealers for $20 — Hear one today

KELLOGG SWITCHBOARD & SUPPLY COMPANY, Chicago, Illinois

Kellogg Symphony Reproducer

With every Kellogg Radio part, Use—Is The Test

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YE OLDE TYME QUARTET SINGS AT CNRT

Saturday, August 8

Sunday, (last night for CNRT, KFAE, KFJM, KFMQ, KFUL, KFWB, KLDS, KLN, KSL, KSD, WDAF, WHAY, WHZ, WCAH, WCBD, WCX, WDWF, WEAF, WEBJ, WEEI, WFI, WHA, WHAS, WHAZ, WHN, WHO, WIT, WKAQ, WLII, WMAC, WMAK, WOC, WOAI, WTIC, WWJ.

Atlantic or Eastern Daylight Saving Time Stations

CNRO, Ottawa, Ont. (435). 7:30 p. m., Chateau Laurier orchestra; 8, Kenny Gallant, tenor; Mrs. Evelyn May Sandwich, Contralto Fiddlers, soloists; 9, Harry Ross, violinist; Dennis Hallinan, Scottish Chanson Lassie; Ross orchestra.

WBRE, New York, N. Y. (272.8). 8 p. m., Gosser Trio (Jack), violinist; 8:15, Marion Brown, soprano; 8:30, Rita Spatola, 'cel soprano, Julia Schapiro; 8:50, L. Alvin Brown, baritone; 9:30, George Tomasch, violinist.

WCAE, Pittsburgh, Pa. (461.3). 8:00 p. m., studio program.

WEAF, New York, N. Y. (492.2). 7:00 p. m., Chase and Sanborn hour, Nickel-Amos; 7:45, British Silver Prince; 7:30-1:30, Colonial Studio program; 7:30-8:15, WEAF Male Quartet; 8:15-8:45, Dentel's Famous Five; 8:45-10:15, concert, Robert Quick Arrow Band, Stanton of Dublin; 10:15-11, Jack Kennedy; 10:15-11:30, Louis Cross, tenor; 10:30-10:45, Arthur Tolmsen, xylophone; 10:45-11, musical program 11-12, Vincent Lopez' Hotel Pennsylvania orchestra.

WGBS, New York, N. Y. (315.6). 8-1 p. m., T. M. A. Orchestra, Gordon of Finer Goods; 8:30, Hyde and Hyde, 8:30-1, Beaumont Hotel orchestra; 7:7:30, opera; 8:30, Jane Jorgen; 8:15-8:30, Jewish Holidays; 7:30-8, E. Flemmer Discovery; 8:8:30, Flemmer Hits; 8:30-9, Ed Fitzgerald Vitaphone hits; 9-9:30, "The Beautiful Bride," Capitol Light Opera Company; 9:30-9:45, Cosmo Sinclair Music Review; 9:45-10:30, Charlotte Robinson, soprano; 10:30-10:45, Charlotte Robinson, soprano; 10:45-11, Jacob Darby, Appian Hotel 'cel orchestra.

WGR, Buffalo, N. Y. (319). 6:15-10:15 p. m., T. S. Arny Trio; Kaufmann, 'cel; 7:30, Program WEAF.

WHAS, Louisville, Ky. (399). 7:30 p. m., Indiana period; 8, Kentucky Days; 10.

WIP, Philadelphia, Pa. (508.2). 5 p. m., Rose of the Rest; 5:30, Central Philharmonic orchestra; 6:30, Rosemary Concert ensemble; 7, Uncle Wiggily bedtime stories; 8, Clarence Philharmonic orchestra; 9:30, Hour of Pep Night; 9:30, Twinkle Band; 10:30, Alberta Hunter Band; Jazz Quintette.

WJZ, New York, N. Y. (454.3). 7:45 p. m., Dodge Show Hotel Pennsylvania dance music; 8:15-9:45, talk, Homer Heroes; 9:45-10:30, studios concert; Rudolph Lino, violinist; 10:30-11:30, Jessie Bradley Wilder, soprano recitals.

WOR, New York, N. Y. (349.1). 8:30-10 p. m., Bert Hanna and his Nutty Aristocrats; 8-8:15, News review; Joseph H. Cline, baritone; Frank Adams, tenor; 8:30-9:30, Robert E. Chase and David Ballin.

WNYC, New York, N. Y. (526). 7-7:30 p. m., Alpine concert; 7:30-11, open-air music, "Food for Your Health Week."

WOS, Jefferson City, Mo. (440.9). 7:15-7:30 p. m., weather talk, 811 Wireless.

WPG, Atlantic City, N. J. (299.8). 8-12 p. m., Arthur Pryor Band, soloist; 7, Paul Tremaine, chorus soloist; 8, Chalfonte Hotel orchestra; 9:30, Chalfonte band; 10, Knickerbocker Hotel Dance orchestra; 11, concerts.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1). 5:30 p. m., Westinghouse band.

KFW, Omaha, Neb. (526.4). 7-7:30 p. m., Omaha hotel; 8:30, Boyer Hotel, Kitchen; Dolly Madison quartet.

WBBM, Chicago, Ill. (536). 8:5 p. m., Hamilton orchestra; Dave and Charlie, Jerry Cornell, Jerry Sullivan, Harry Smith, Harry Smith, Smith Wilson.

WBCN, Chicago, Ill. (360). 6-11:15 p. m., Jack Perlow, tenor; Jerry Wright, narrator; Jimmy Marvel, Jim Jones, Frank Wright; Mystery Dancing orchestra (or) Nine Musicians; 8:15 tenor; Perry O'Neil, narrator; 11-12:15, John Smith's Blue Clouds quart.

WCX, Detroit, Mich. (516.8). 7:25 p. m., Hotel Statler Club; 8:15, concert; 8, classic concert, Hotel-Cadillac Hotel.

WEAR, Cleveland, Ohio (389.4). 7-8 p. m., novelty dance music.

WEBH, Chicago, Ill. (370.4). 7:30-8:30 p. m., Drake orchestra; soloist, Alfred Hesse; Cole-Porter, tenor; Jerry Wright, narrator; Mills Kelly, reader; Fleder & Fleder, violin duet; Vaudeville; 11:30-1, all-night Cafe Venetian; Fleder Myers.

WEEI, Oak Park, Ill. (266). 7-7 p. m., Hotel Morrison, Frank Cheel, leader; Alice A. Patterson, soprano; Dave Jones, violinist; Charlotte Vitous, violinist; Jerry Lucas, reader; 12:30 L. Fall Wiring; Gail Bandel, pianist and Vocal; Samuel Wanke Jazz Marionettes.

WGN, Chicago, Ill. (370). 6-12 p. m., Drake concert ensemble; Hartmann salon concert; 8:30-9:30, Drake Hotel Tonight Drake program.

WGY, Schenectady, N. Y. (379.5). 7:30 p. m., New York Philharmonic orchestra; 9:30, Hotel Van Rensselaer orchestra.

WHT, Deerfield, Ill. (266). 7 p. m., musical program at Chicago, specially Grainger's swing trio; 7:30, Jean Bedell, pianist; Jessica Vernier; 8, Leslie Wilson, violinist; Irma Marion, soprano; 8:30, (EST), Riverside orchestra; 10:30, Jack Kennedy Revelers; 11:30, Fred Aunt, tenor Dave Wright, soprano; 12, Leslie Stevenson, flutist; Weaver and Gaudette; 12:30, Al Carter, pianist.

WJJD, Mooseheart, Ill. (370.4). 4:30-5:30 p. m., music, Mooseheart orchestra; Lyric Trio; 7:30-7:45, Kenney Kent; 8:30-9:15, Sand studio, Charlie Wright's orchestra; Alfred F. Dorn, soloist.

WKRC, Cincinnati, Ohio (422.3). 10 a. m., Marion McNally's Band; 12:1 Hotel Gibson; 10:30, popular song contest, Dorothy Lynn, Lee Leonard; 11, Herbert Wolfe's band 320 Hotel orchestra.

WLS, Chicago, Ill. (344.6). 6-1 a. m., Midnight Jamboree, Willie Pearson, Chubby Parker; Pappy and Hezzie, Cincinnati; Tony Cabanna, Sunshine and Hilltop Twins; Arthur Gregory, Grace Wilson, Bohn Bowman, Richard Hunter.

WLW, Cincinnati, Ohio (422.3). 7 p. m., opera medley, Jacques Gottlieb, violinist; Bernard Sanders, vocalist; Dorothy Lynn, soprano; Harry Kinney, xylophonist; John B. Forest, baritone; Hotel Gibson, orchestra; 8:30-11:30, Tribune orchestra; Cecil and Sylvia Fleet, pianists; Woolbert Sweet Pianist concerts; Fisher and Wiener Charles Jones, baritone soloist; Gretchen Dietz, soprano.

WMAQ, Chicago, Ill. (447.5). 7 p. m., concert; 7:30-8, Fremont Hotel dance orchestra; 10-11, organ recital.

WOAK, Chicago, Ill. (447.5). 8 p. m., Tuesday's (Old) Coach of Artists; 8:30, Jack Gregory Armstrong; 9, Fred Dee, Russell Yost; 9:30, "Mothers Office," Julia C. Vernon; 9, Orlando Dwyer.

WMBI, Chicago, Ill. (293). 7-4:30 p. m., Tribune ensemble; Lyman Hoffman, soloist; Bernard Sanders, vocalist; Dorothy Lynn, soprano; Harry Kinney, xylophonist; John B. Forest, baritone; Hotel Gibson, orchestra; 8:30-11:30, Tribune orchestra; Cecil and Sylvia Fleet, pianists; Woolbert Sweet concert organist; Fisher and Wiener; Charles Jones, baritone soloist; Gretchen Dietz, soprano.

WMAF, Round Hills, Ill. (384.4). 7 p. m., concert; 7:30-8, Fremont Hotel dance orchestra; 10-11, organ recital.

WOQ, Kansas, Ill. (322). 8 p. m., Webster hotel orchestra; 10, Palmer hotel and Palace orchestra.

WRA, Chicago, Ill. (447.5). 7:2 p. m., Helen Williams (by Helen Gordon orchestra); Frederick Moulton, baritone tenor; Kimball Brownbeck, violin; Ken Moyer, violinist; Clarence Sabin, flutist; 10-3, Hugh Williams and his Edelle Ballads; Jack Robbins Rare Vaudeville, pianist; Melodiers; Williams Brothers; Ernest Sears Bath, leader Clarence Theiss, violin; Ken Moyer and Gertrude.

WREO, Lansing, Mich. (285.5). 10-12 midnight, Samuelson studio concerts.

WSAI, Cincinnati, Ohio (325). 7:15 p. m., Gilliam's orchestra; Mrs. Ethel Adams Morrison; 8, Wall Radio dance program; 8:15, Phelps marine band concert; 9, 9:30; 9:30, Phelps marine band concert; Noon G. Holden; 10, Wall Radio dance program.

WTAM, Cleveland, Ohio (389.4). 7-7 p. m., Hotel Statler concert orchestra; 8-9, studio program; 9-10, Hotel Statler Club Van Dyke; 10-1 a. m., site concert.

WTAS, Elgin, Ill. (285.5). 6-10:30 p. m., Florida Orchids orchestra; Sarah Hilm; Marion Mansfield, Paul Wilson.

Central Standard Time Stations

KFAB, Lincoln, Neb. (340.8). 6-1 a. m., Dance music.

KFNF, Shenandoah, Ia. (266). 7:00 p. m., old time music, Harry Kessler, violinist.

KFKX, Hastings, Nebr. (288.5). 7:30-8 p. m., Sunday concert; 8:15, music.

KFVE, University City, Mo. (340). 10 a. m., North Side V. M. C. A. Boys Club; Lucile Grafula Parrish; concert; 8:15 p. m.

KGIL, Gamble Hills, Iowa (526). 7:00-8 p. m., Pantomimic program, American Legion; 9:15, Harry Tuttle.

KFHA, Hot Springs National Park, Ark. (374.8). 9:15-9:30 p. m., Dance music.

WCCO, Minneapolis-St. Paul, Minn. (416.4). 8:30 p. m., Dorothy Gordon's Minnesota band soloists; 8, musical program; 10, Wedding Anniversary celebration.

WDAF, Kansas City, Mo. (365.6). 6-1 p. m., organ recitals by student; piano, Henry W. Hensel; Thirty-Ninth A-Sharp Lady; Hotel Gregory orchestra.

WFAA, Dallas, Tex. (475.9). 7:30-8 p. m., Carl D. Green and his Violin duet; 8:30-9:30, Tony Sarg's puppets; 9:30-10:30, Dr. Lois program.

Mountain Standard Time Stations

CNRD, Regina, Sask. (336). 7 p. m., Mrs. R. Taylor and sports talk.

KGA, Denver, Colo. (337.4). 8 p. m., Denver municipal band.

Pacific Standard Time Stations

KFDM, Beaumont, Tex. (434.3). 6-8:30 p. m., baseball results; piano soloists, 6:30-10, Three Gallo sextette; 10-11:30, Eddie Harrison and his orchestra.

KFWB, Hollywood, Calif. (252). 5-9 p. m., Roy Dalby's orchestra; Jack Fulton, tenor; Ed Lapreste, violin; Sonny Dennis, cello; Frank Sarno, baritone, and Fred Tell, accordion; 8-10, Walker Bros. Stringsters, Joe Harris, leader; 10-12, Walker Bros. Bells, Charlie Wilkins, director.

KGO, Oakland, Calif. (361.2). 6-10 p. m., children's program; Claire Deane Wilson, director; Frances Wilson, soloist; Daisy Rabenhorst, pianist; Ella Mae Hall, reader; Ada Kessel, pianist; Evelyn Dodd Norris, song recital; Lois Wilson Miller, soprano; Florence McDonald, accompanist; Lorenzo Gibson, 'cel-soloist; 8, Duke Ellington, concert; 9:15-11, Hill Station concert orchestra; 8-9, studio program; 9-10, Jack Del Cos Trio; 10-1 a. m., site concert.

WCAL, Northfield, Minn. (461.3). 7:30 p. m., Carleton Glee Club; Dorothy Gordon, Elsie Harrison; Bruce Rankin, organ; Mrs. Arthur Franklin (?); Irene, accompanist; 10-1, Charles Wilson's Hotel St. Paul's dance orchestra.

KGW, Portland, Ore. (491.5). 8-9 p. m., Jackie Coogan's orchestra; 10-12, Jackie Coogan's orchestra.

KHJ, Los Angeles, Calif. (405.2). 5:30-6 p. m., Jackie Coogan's dance orchestra, Jack Donahue, leader; 8-9:30, KH Entertain's Ethiopia band concert orchestra, Edward Fitzgerald, director; 9:30-11:30, Radio Ad Club Club with Hippie Phil, organ; Jerome; Jack Gregory Sayre, violinist; Anita Donahue, soprano; Ad skiers; Gordon Kaye, violin; Cecil Duke; 9-11, Orpheum Summer Stadia concerts, directed by J. Russell Jackson; 11-12, Art Hickman's Biltmore hotel dance orchestra, Earl Burnett, leader; 12-2 a. m., Jack Jacobs of KHJ, Walter W. McKee, chief Reporter; Phoebe Lynn, Bud Green, Harold Hyman and other frolickers; Lad Angel orchestra.

KPO, San Francisco, Calif. (423.1). 6:30-8 p. m., Vaudeville; 8:30-9:30, Hotel St. Francis orchestra.

KTCL, Seattle, Wash. (455.9). 6:30-7:15 p. m., Marion Milne and his orchestra; 8:15-9:30, Marion Milne and his orchestra; 9:30-12, Radio night.

Sunday, August 9

Sunday, (last night for) CNRC, KFDM, KFAE, KFMQ, KFDA, KGO, KHJ, KVW, PWX, WABC, WBAY, WCAE, WCAU, WCBL, WCX, WDAF, WDWF, WEAF, WEAR, WEBH, WFI, WGN, WGR, WGY, WHAS, WHAZ, WIP, WJZ, WMAC, WMAK, WOC, WOAI, WOR, WRC, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CFCA, Toronto, Ont. (356). 11 a. m., Winter Issue English church; 7 p. m., St. Paul's Anglican church.

WBBR, New York, N. Y. (322.3). 10 a. m., Wissmann orchestra; 10:30, Jack Kennedy; 11:30, Rita Spatola, soprano; 11:15, Wolodarsky orchestra; 8 p. m., chorus; 8:30, Wolodarsky orchestra; 9:30, chorus; 9:30, Hyde sisters, Julia Schapiro; 10, Jessie Bradley, duet; 10:30, Wolodarsky orchestra; 11 p. m., chorus; 11:30, Wolodarsky orchestra; 12:30, chorus; 1:30, Wolodarsky orchestra; 2:30, chorus.

WCAE, Pittsburgh, Pa. (461.3). 8 p. m., Presbyterian church service; 9:30, Sand studio, Charlie Wright's orchestra; Alfred F. Dorn, soloist.

WCAU, Philadelphia, Pa. (395.5). 7 p. m., concert, Fairmount Park concert orchestra; 8:30-10, Ellen Rodgers, soprano; 10-11, Jack Gregory, violinist; 11-12, Jack Gregory and his Ethiopian Serenaders.

WCBD, Zion, Ill. (344.6). 11 a. m., Zion Tabernacle service; 7 p. m., Zion Tabernacle service.

WCBL, Chicago, Ill. (370). 6:30 p. m., Hawaiian serenaders; Lorna Wallace, Lorna Wallace, Charlie Harland, Robert Hale, guitar; 8:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 9:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 10:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 11:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar.

WCBS, Chicago, Ill. (266). 7:30 p. m., Harold Sear; 8-11, Jerry Lucas, violinist; Jessica Jessica, soprano; Unknown Trio; The Serenaders; Serenaders; Serenaders; Jerry Wright, The Serenaders; Serenaders; Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders.

WCX, Detroit, Mich. (516.8). 7:30 p. m., Hotel Statler Club.

WEZ, Kenosha, Wis. (315.1). 7 p. m., "Harbor and Roberts, Chicago Tax Payment; Milton Bidell Band, soloist; Gertrude Ryder, violinist.

WGN, Detroit, Mich. (516.8). 6 p. m., dance concert, Hotel Statler Club; Hotel Statler orchestra.

WLAF, Cleveland, Ohio (389.4). 7:30-8:30 p. m., Hotel Statler string trio; 7-8, Hotel Statler concert orchestra.

WEBH, Chicago, Ill. (370.4). 7-8 p. m., artist program.

WEEI, Oak Park, Ill. (266). 8:2 p. m., O. S. Gulbert, baritone; Jesse Red Hunter, cornetist; Francis Karas, violinist; Hale Karas, violinist; Jim Kaufman, tenor; Hard Grey, cracker; Jim Kaufman, tenor; Harris, 'cel-artist; Pat Ward, harmonica; Sunny Wilson, tenor; Gerald Wilson, tenor; Sunny Wilson, tenor.

WEN, Chicago, Ill. (370.4). 8 p. m., Studio York band concert; 8-10, Drake concert ensemble.

WGY, Schenectady, N. Y. (379.5). 8:30 p. m., Albany Symphony Orchestra; Herbert J. Ross, soloist; concerto from G12; 7:30, Hudson-Mohawk Power concerts; Clifton Ladies quartet, 9:12.

WHT, Deerfield, Ill. (266). 12-12:30 p. m., Tom Brown.

WJJD, Mooseheart, Ill. (370.4). 6:45-7:15 p. m., Gilbert Hilliard; 10-11:30, Harrison orchestra; 11, new Hotel Gibson orchestra.

WKRC, Cincinnati, Ohio (422.3). 10 a. m., Christian Science.

WLS, Chicago, Ill. (344.6). 7:30 p. m., Bible Program, sermon; 8-9:30, Wild Life Program.

WLW, Cincinnati, Ohio (422.3). 9:30 a. m., School Religious Hour of Radio; School Dedication; Mother Jones Bell, speaker; 11, Sunday Church of Radio; 11:30, Hotel Gibson, orchestra; 8:30-11, The Fleet Quartet; 8:30-9, The Fleet Quartet; 9:30-11, Hotel Gibson, orchestra; 11, The Fleet Quartet.

WMAQ, Chicago, Ill. (447.5). 7 p. m., Sunday Vespers; John H. Ewen, organist; Claude Lee Hamilton, tenor; 8, Ernest Kinsey, violinist; Mrs. Ethel Adams Morrison; 8:30, Hotel Gibson, orchestra; 9:30, Hotel Gibson, orchestra; 10:30, Hotel Gibson, orchestra; 11, Hotel Gibson, orchestra.

WMAK, Lockport, N. Y. (285.5). 10:30 a. m., Church of Christ; 7:30, Lockport Band concert; 8:30, Lockport Band concert.

WOAI, San Antonio, Tex. (395.5). 8:30 p. m., Mexican band.

WOR, Newark, N. J. (405.2). 7:30 p. m., Radio Vespers; Gilbert Hall and his orchestra; 7:30 (EST), Harry Kerr, tenor; Gertrude Fletcher, soprano; 11, Arthur Hays (EST) on sports talk.

WOS, Jefferson City, Mo. (440.9). 8:15 p. m., Gene Rubes orchestra; Gene Rubes, violin; Frank Wiley, cello; Frances Ayres, pianist; 11-12, Jefferson Hotel orchestra; Peter Jacobson, violinist.

WRC, New Orleans, La. (526). 10:30-12:30 p. m., orchestra; 8:30-10:30, Dr. Lois program.

Mountain Standard Time Stations

CNRD, Regina, Sask. (336). 7 p. m., Mrs. R. Taylor and sports talk.

KGA, Denver, Colo. (337.4). 8 p. m., Denver municipal band.

Pacific Standard Time Stations

KFDA, Seattle, Wash. (454.3). 6-8:30 p. m., baseball results; piano soloists, 6:30-10, Three Gallo sextette; 10-11:30, Eddie Harrison and his orchestra.

KFWB, Hollywood, Calif. (252). 5-9 p. m., Roy Dalby's orchestra; Jack Fulton, tenor; Ed Lapreste, violin; Sonny Dennis, cello; Frank Sarno, baritone, and Fred Tell, accordion; 8-10, Walker Bros. Stringsters, Joe Harris, leader; 10-12, Walker Bros. Bells, Charlie Wilkins, director.

KGO, Oakland, Calif. (361.2). 6-10 p. m., children's program; Claire Deane Wilson, director; Frances Wilson, soloist; Daisy Rabenhorst, pianist; Ella Mae Hall, reader; Ada Kessel, pianist; Evelyn Dodd Norris, song recital; Lois Wilson Miller, soprano; Florence McDonald, accompanist; Lorenzo Gibson, 'cel-soloist; 8, Duke Ellington, concert; 9:15-11, Hill Station concert orchestra; 8-9, studio program; 9-10, Jack Del Cos Trio; 10-1 a. m., site concert.

WCAL, Northfield, Minn. (461.3). 7:30 p. m., Carleton Glee Club; Dorothy Gordon, Elsie Harrison; Bruce Rankin, organ; Mrs. Arthur Franklin (?); Irene, accompanist; 10-1, Charles Wilson's Hotel St. Paul's dance orchestra.

KGW, Portland, Ore. (491.5). 8-9 p. m., Jackie Coogan's orchestra; 10-12, Jackie Coogan's orchestra.

KHJ, Los Angeles, Calif. (405.2). 5:30-6 p. m., Jackie Coogan's dance orchestra, Jack Donahue, leader; 8-9:30, KH Entertain's Ethiopia band concert orchestra, Edward Fitzgerald, director; 9:30-11:30, Radio Ad Club Club with Hippie Phil, organ; Jerome; Jack Gregory Sayre, violinist; Anita Donahue, soprano; Ad skiers; Gordon Kaye, violin; Cecil Duke; 9-11, Orpheum Summer Stadia concerts, directed by J. Russell Jackson; 11-12, Art Hickman's Biltmore hotel dance orchestra, Earl Burnett, leader; 12-2 a. m., Jack Jacobs of KHJ, Walter W. McKee, chief Reporter; Phoebe Lynn, Bud Green, Harold Hyman and other frolickers; Lad Angel orchestra.

KPO, San Francisco, Calif. (423.1). 6:30-8 p. m., Vaudeville; 8:30-9:30, Hotel St. Francis orchestra.

KTCL, Seattle, Wash. (455.9). 6:30-7:15 p. m., Marion Milne and his orchestra; 8:15-9:30, Marion Milne and his orchestra; 9:30-12, Radio night.

WCBD, Zion, Ill. (344.6). 11 a. m., Zion Tabernacle service; 7 p. m., Zion Tabernacle service.

WCBL, Chicago, Ill. (370). 6:30 p. m., Hawaiian serenaders; Lorna Wallace, Lorna Wallace, Charlie Harland, Robert Hale, guitar; 8:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 9:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 10:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar; 11:30, Hawaiian Serenaders; Lorna Wallace, Charlie Harland, Robert Hale, guitar.

WCBS, Chicago, Ill. (266). 7:30 p. m., Harold Sear; 8-11, Jerry Lucas, violinist; Jessica Jessica, soprano; Unknown Trio; The Serenaders; Serenaders; Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders; Jerry Wright, The Serenaders.

WCX, Detroit, Mich. (516.8). 7:30 p. m., Hotel Statler Club.

WEZ, Kenosha, Wis. (315.1). 7 p. m., "Harbor and Roberts, Chicago Tax Payment; Milton Bidell Band, soloist; Gertrude Ryder, violinist.

WGN, Detroit, Mich. (516.8). 6 p. m., dance concert, Hotel Statler Club; Hotel Statler orchestra.

WLAF, Cleveland, Ohio (389.4). 7:30-8:30 p. m., Hotel Statler string trio; 7-8, Hotel Statler concert orchestra.

WEBH, Chicago, Ill. (370.4). 7-8 p. m., artist program.

WEEI, Oak Park, Ill. (266). 8:2 p. m., O. S. Gulbert, baritone; Jesse Red Hunter, cornetist; Francis Karas, violinist; Hale Karas, violinist; Jim Kaufman, tenor; Hard Grey, cracker; Jim Kaufman, tenor; Harris, 'cel-artist; Pat Ward, harmonica; Sunny Wilson, tenor; Gerald Wilson, tenor; Sunny Wilson, tenor.

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WKRC, Cincinnati, Ohio (422.3). 10 a. m., Christian Science.

WLS, Chicago, Ill. (344.6). 7:30 p. m., Bible Program, sermon; 8-9:30, Wild Life Program.

WLW, Cincinnati, Ohio (422.3). 9:30 a. m., School Religious Hour of Radio; School Dedication; Mother Jones Bell, speaker; 11, Sunday Church of Radio; 11:30, Hotel Gibson, orchestra; 8:30-11, The Fleet Quartet; 8:30-9, The Fleet Quartet; 9:30-11, Hotel Gibson, orchestra; 11, The Fleet Quartet.

WMAQ, Chicago, Ill. (447.5). 7 p. m., Sunday Vespers; John H. Ewen, organist; Claude Lee Hamilton, tenor; 8, Ernest Kinsey, violinist; Mrs. Ethel Adams Morrison; 8:30, Hotel Gibson, orchestra; 9:30, Hotel Gibson, orchestra; 10:30, Hotel Gibson, orchestra; 11, Hotel Gibson, orchestra.

WMAK, Lockport, N. Y. (285.5). 10:30 a. m., Church of Christ; 7:30, Lockport Band concert; 8:30, Lockport Band concert.

WOAI, San Antonio, Tex. (395.5). 8:30 p. m., Mexican band.

WOR, Newark, N. J. (405.2). 7:30 p. m., Radio Vespers; Gilbert Hall and his orchestra; 7:30 (EST), Harry Kerr, tenor; Gertrude Fletcher, soprano; 11, Arthur Hays (EST) on sports talk.

WOS, Jefferson City, Mo. (440.9). 8:15 p. m., Gene Rubes orchestra; Gene Rubes, violin; Frank Wiley, cello; Frances Ayres, pianist; 11-12, Jefferson Hotel orchestra; Peter Jacobson, violinist.

WRC, New Orleans, La. (526). 10:30-12:30 p. m., orchestra; 8:30-10:30, Dr. Lois program.

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WOR, Newark, N. J. (405.2). 7:30 p. m., Radio Vespers; Gilbert Hall and his orchestra; 7:30 (EST), Harry Kerr, tenor; Gertrude Fletcher, soprano; 11, Arthur Hays (EST) on sports talk.

WOS, Jefferson City, Mo. (440.9). 8:15 p. m., Gene Rubes orchestra; Gene Rubes, violin; Frank Wiley, cello; Frances Ayres, pianist; 11-12, Jefferson Hotel orchestra; Peter Jacobson, violinist.

WRC, New Orleans, La. (526). 10:30-12:30 p. m., orchestra; 8:30-10:30, Dr. Lois program.

Mountain Standard Time Stations

CNRD, Regina, Sask. (336). 7 p. m., Mrs. R. Taylor and sports talk.

KGA, Denver, Colo. (337.4). 8 p. m., Denver municipal band.

Pacific Standard Time Stations

KFDA, Seattle, Wash. (454.3). 6-8:30 p. m., baseball results; piano soloists, 6:30-10, Three Gallo sextette; 10-11:30, Eddie Harrison and his orchestra.

KFWB, Hollywood, Calif. (252). 5-9 p. m., Roy Dalby's orchestra; Jack Fulton, tenor; Ed Lapreste, violin; Sonny Dennis, cello; Frank Sarno, baritone, and Fred Tell, accordion; 8-10, Walker Bros. Stringsters, Joe Harris, leader; 10-12, Walker Bros. Bells, Charlie Wilkins, director.

KGO, Oakland, Calif. (361.2). 6-10 p. m., children's program; Claire Deane Wilson, director; Frances Wilson, soloist; Daisy Rabenhorst, pianist; Ella Mae Hall, reader; Ada Kessel, pianist; Evelyn Dodd Norris, song recital; Lois Wilson Miller, soprano; Florence McDonald, accompanist; Lorenzo Gibson, 'c

TWO-IN-ONE PLAYERS AT WGR MONDAY

Sunday, August 9

(Continued from page 8)

WOAF, Kansas City, Mo. (365.6), 4-5 p. m., Vespers (ord), Portuguese (Italian) 8-9.30, Italian street music, Dr. Walter L. Wilson.

WFAA, Dallas, Tex. (476.8), 6:30-7:30 p. m., Dallas Band concert, Dr. William M. Anderson, B.D., City Temple lecture; 8:30-11, Mac Donald Minkin.

WHAD, Milwaukee, Wis. (275), 2-3 p. m., Milwaukee Park Board band.

WHAS, Louisville, Ky. (399.8), 11 a. m., Christ Church cathedral.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., Bankers' Life trio.

WOAI, San Antonio, Tex. (599.8), 11 a. m., First Presbyterian church; 8 p. m., Christian church; 9:30-10:30, musical program, Palmolive Radio.

WOAW, Omaha, Nebr. (526), 3 p. m., choral service, Rev. E. S. Brown; 7 p. m., choral service.

WOC, Davenport, Iowa (483.6), 1:15 p. m., Junior Little symphony, Paul J. Tibbetsen, tenor; 8-9.30, Rev. H. F. Hamp, organ.

WOQ, Johnson City, Mo. (440.9), 8 p. m., Orlan Angel, organ.

WSUI, Iowa City, Iowa (484), 9 a. m., Sunday morning.

Mountain Standard Time Stations

KGA, Denver, Colo. (322.4), 10:30 a. m., Assumption Lutheran church; 4 p. m., Sunday afternoon music.

Mrs. Claire Murphy, left, will play the leading role Monday in "Her Engagement Ring," given by the Two-in-One players at WGR. Marion Hooper, above, is one of the popular blues singers who appear regularly at KDKA. Philip Ashcroft is the soloist for the First Baptist church whose services are to be broadcast Sunday from KDKA.

Auxiliary Lutheran church; 8, Augustana Lutheran church.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 5-11 p. m., Late news and Warner Brothers' news reels, with annual Warner Brothers' 1925 program.

KGO, Oakland, Calif. (361.2), 11 a. m., sermon, First Baptist church; 3:30 p. m., CBS band concert program; 7-11, First Baptist church.

KGW, Portland, Ore. (491.5), 10:30 a. m., First Presbyterian church; 7-11, First Church of Christ, Scientist.

KHJ, Los Angeles, Calif. (405.2), 6-8.30 p. m., Lafayette Avenue Presbyterian church, Jack Crawford, baritone; 7:30-9, Air Revelers' Orchestra hotel concert direction Ed. Edward Grabowski, director; 7-7.30, song recital, Arthur Kinney, soloist; 10, program, Martin Lewis' Blue Serenaders, accompanied by J. Dwight Johnson, Hank Fox, manager, John Alvino, pianist.

KJR, Seattle, Wash. (384.4), 11 a. m., First Methodist church; 7-9, St. Paul's Episcopal Episcopal church.

KNX, Hollywood, Calif. (336.9), 7-9 p. m., First Presbyterian church of Hollywood, Rev. Samuel W. Martin, speaker; 8-9, Ambassador hotel concert, orchestra, Jack Ramsdell, director; 8:30-10, sketches, Marvel Hill, soprano, presenting Sir Dabney Lobenstein, violinist.

KPO, San Francisco, Calif. (428.3), 6-8.30 p. m., Wolfsohn and the Main Embassy orchestra; 8:30-10, Palace hotel concert, orchestra; 8:30-10, Mary Adams Kirwan hotel concert, orchestra.

KTCL, Seattle, Wash. (360.8), 7:30-9:30 p. m., First Church of Christ, Scientist; 8:30-10:30, Interstate Bank Studio's orchestra.

Monday, August 10

Music start said for: GRAC, GHST, KFAE, KFDM, KFMQ, KGW, KHJ, KLDS, KYW, PWX, WBAP, WCBM, WCBS, WCAL, WDAF, WEAO, WEBC, WGI, WGY, WGN, WGRS, WHAS, WHAZ, WHB, WHK, WJAX, WJAR, WJZ, WLW, WMAQ, WMBB, WEC, WOAI, WOI, WEC, WRCO.

Atlantic or Eastern Daylight Saving Time Stations

CHNC, Toronto, Can. (356.7), 8 p. m., CKNC orchestra.

WABI, Richmond Hill, N. Y. (322.6), 7:30-7:15 p. m., Yon La Ge trio, violin, harp and saxophone; 7:45-8, quartet talk, Thursday Friday; 8:45-10, Mme. Rosenna, soprano; 9:15-9:30, Raymond Maher, baritone; 9:30-9:45, contralto, Marion J. Taylor; 9:45-10, harmonicon, violin; 9:15-9:30, Raymond Maher; 9:30-9:45, Von La Ge trio; 9:45-10, Mme. Rosenna (Russian); 10-10:30, Symphonette (CBS) 370; 10:30-10:45, dance selections; 11:30-11:35, time signals.

WBBR, New York, N. Y. (272.6), 8 p. m., Sydney Deboral monologist; 8:30, World News Digest; 8:35, instrumental selections; 8:50, Sydney Deboral, monologist.

WCAU, Philadelphia, Pa. (461.3), 6:30 p. m., William Penn hotel dinner concert; 7:30, Uncle Stephen; 8:30, concert by Gardner's Lyric dance music.

WEAF, New York, N. Y. (492.2), 4-4:15 p. m., Bobby Jones, pianist; 4:15-4:30, Lotta Gallagher, pianist; 4:30-4:45, Bobby Jones, pianist; 4:30-4:45, Lotta Gallagher; 4:30-5, "The Dream Ride of Kinnie Shapard Sixth Cent; 6-7, dinner music, Waldorf-Astoria; 7-7:15, Albert Edward Greenlaw, Canadian tenor; 7:15-7:30, program, Mark Sheed tenor and violin, direction of Jessie Flower; 8:30-9:45, Lucky Strike Orchestra (Jos Pasternak conductor) 8:45-10:15, Goldman band concert; 10:30-10:30, Thompson Orchestra, tenor; 10:30-11:30, Saint Regis Roof orchestra.

WEEI, Boston, Mass. (476.8), 7:30 p. m., Jilbert Ray Anderson and his Kapiolani Garden orchestra; 10, Gov. Thomas Andrews message.

WFI, Philadelphia, Pa. (394.5), 5 p. m., Lorenz Hart, pianist; 6:45, Delmore Rosebud Soul Garden orchestra; 8:30, Dance.

WGBS, New York, N. Y. (315.9), 8-9, Duke Yellman's orchestra; 8-8:25, Uncle Gaston; 8:25-8:30, Pioneer club orchestra.

WGR, Buffalo, N. Y. (319), 8:30-9:30 p. m., Gordon orchestra; 8-8:45, recital, Jessie R. Hall; 8:45-10:15, "Her Engagement Ring"; 11-1 a. m., super dance music, Clarence Lewis' Blue Serenade orchestra, Harold Gomez, Jordan.

WHAR, Atlantic City, N. Y. (270), 7:30 a. m., Hickory recital; 8, Weekly food talk.

WHN, New York, N. Y. (360.8), 8-8:30 p. m., Dance music, dance orchestra; 8:30-9:30, songs and chats, Dreaming and Odiarie; 10-11:30, dance music, Leighton Beaux; 12-12:30 a. m., Club Rainbow orchestra.

WIP, Philadelphia, Pa. (508.2), 5 p. m., Song of the Sail; 7:30, Gordon's orchestra, concert; 8:30, Benjamin Franklin concert ensemble; 9, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.8), 7:40 p. m., Dinny Dunne Dance band.

WJZ, New York, N. Y. (454.3), 4:15-4:55 p. m., John S. Dunne, recital; 6:30-6:50, First Hall's Band Dance orchestra; 7-8, Sergeant Lenhart's Hotel Commodore dance concert; 8-9:10, Wall Street Journal report; 9:10-9:30, WJZ air school; 9:30-9:50, concert, Lenny Hale; 10-10:15, Jerome Green and his Club Deauville orchestra.

WLIT, Philadelphia, Pa. (394.5), 7 p. m., Arcadia cafe concert orchestra; 7:30, Dixie Dodgers bedtime stories; 8, Sunday Station hour of music; 10, Arcadia cafe dance orchestra.

WMCA, New York, N. Y. (340.7), 6:30-7:30 p. m., Dixie Golden and his Hotel Madison quintette; 7:30-8 p. m., organ, Charles Adams; 8-8.15, Dixie Golden (Selection); 8:15, Classical male quartet; 8:30-9:15, Classical male quartet.

WNYC, New York, N. Y. (526), 6:30-7 p. m., dance orchestra; 7:30-7:45, dance music; 7:45-7:55, news of the day; 8:30-8:55, dance recital; 8:55-10:15, band concert, Sousa's band; 10:15-10:30, "Tread of the Pioneers," Dr. Rodney H. Dodge.

WOO, Philadelphia, Pa. (508.2), 6:45 p. m., organ recital, Harry E. Yost; 7:30, A. Gordon's Hotel Garden orchestra; 8, Mark Kinney, tenor, accompanied by Mrs. Kinney; 8:30, Gordon's Hotel Garden de Danseuse, tenor; 10:30, Hotel Bossert Station Band orchestra; 11, A. Gordon's dance orchestra.

WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., Duke Kirkham's Cinderella orchestra; 7:15-7:30, sports talk, Bill Wallace; 8-10, 21 Club's band.

WPG, Atlantic City, N. J. (299.8), 6:45 p. m., Arthur Pratt, Hawk, organist; 7, Hotel Marlen trio; 8:30, "Wagon at Sixteen," Mrs. Wilbur Lelacker; 8:30, Hotel Ambassador (Brian Gerard) 9, Hotel Traymore orchestra; 10, Hotel Ambassador Garland; 10:30, Dance orchestra; 11, The Pavilion.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m., organist, Harry Springfield, Mass. (322.1), 6 p. m., Capitol dance orchestra, Maurice Tilles, soprano; 8, Alpine Dream orchestra; 8:30, Nine Voice, tenor; 9:15, Bob Barbour, baritone; Lillian Kaplan, violinist; 9:15, Mario Dorina, saxophonist; 9:45, 21 Bar Boulevard; A. L. B. Ward.

WCX, Detroit, Mich. (516.8), 4:15 p. m., concert, 8, dance concert, Book-Cadillac hotel; 8, Detroit Symphony orchestra.

WEAK, Cleveland, Ohio (389.4), 7-9 p. m., Lord's Hotel Cleveland.

WGY, Schenectady, N. Y. (379.5), 6:15 p. m., Jazz Dance, Professor Leslie Kinney; 6:30, Mrs. Charles W. Clark, soprano; Charles W. Clark, singer; Richard G. Hawes, pianist; Clarence Grancowski, Steve Rodier, saxophonists.

WHAZ, Troy, N. Y. (379.5), 8:15 p. m., Frank Sylvester, pianist; Mr. Harold Wadsworth, saxophone; 9:15, Carl B. Kline, tenor; Harold E. Wile, pianist.

WKY, Oklahoma City (322.3), 7-10:30 p. m., Al Gerson, soloist; Brighton's string trio; Hidden Knowledge Orchestra; Lucile Gaby soloists of melody; Hugh Anderson, tenor; program a la carte; Pop Sweet, tenor; Sandy Grob, tenor; Harry Gordon; Dave Kiel; Harland Morris; Gertrude Hanford; Al Gerson, organist.

WLIS, Hempstead, L. I. (303.8), 6:45-7:15 p. m., dance concert; 7:15-8, Monmouth Novelty orchestra; Jacques Jacobs, violin; 10-10:30 a. m., Charles Stewart and his orchestra; Albert F. Brown, organist.

WLWC, Cincinnati, Ohio (422.3), 8 p. m., dance music, Cleveland and Dorsey, Orphan Annie Rose; 9, program, Jack Rose; 9, Sunday Fred, Mr. 20, 22, Kathryn Sheldon; Dorothy Hill, Rose orchestra.

WLW, Cincinnati, Ohio (422.3), 7 p. m., dinner hour concert, Herbert Hoover orchestra, Robert Wagner, director; 10, Harry Sheard, contralto in dance music, Harold Clair Hoover; 10:30, organ recital, Cecil Hawkins; The Famous Little Star Quartet; instrumental trio.

WMAK, Lockport, N. Y. (285.5), 6:30-10:15 p. m., organ, Max Freedman.

WMBF, Miami Beach, Fla. (394.4), 7 p. m., sunset; 7:30, Fleetwood Hotel dance orchestra; 10-12, entertainment.

WOHS, Atlanta, Ga. (270), 8:30 p. m., Dixie quartet and organist; 8:45, Kapelle band concert.

WSAI, Cincinnati, Ohio (325), 10 p. m., Charles Stokes, violinist; Kelly Stoughton, soprano; Ray Bennett, baritone; Tom Horne, guitar; Jim Jewell, Hawaiian, banjoist.

WTAM, Cleveland, Ohio (389.4), 5-7 p. m., Cabana Pleasure orchestra; 8-9, Holland Orchestra; 9-11, concert; 11-12, Roxie Dance orchestra.

WTAS, Elgin, Ill. (341.8), 8:30-10 p. m., Tuesday Orphan orchestra; Hector Sinta, Tenor Soloist; Sidney Garon, Maurice Marcellus, Art Hickey, Harper Hollingsworth.

WTIC, Hartford, Conn. (384.9), 7 p. m., Soul Sisters, Sunset Band; 8:30, Mme. Margaret Campbell, soprano; 9:30, dance music.

WWJ, Detroit, Mich. (352.7), 6 p. m., dance music; 7:30, outdoor band concert.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.8), 6-7 p. m., dinner concert; 7:30-8, Schubert's dance orchestra; 8-9:30, Jack Greenwood, soloist; Richard Lane, Chinese baritone; Clyde Davis, violinist.

KFBF, Shenandoah, Iowa (266), 7:30 p. m., Band house concerts.

KFDZ, Boise, Idaho (384.5), 7-8 p. m., Orphanes musical hour; 8-10:30, pupils and entertainers.

KFUO, St. Louis, Mo. (545.1), 8 p. m., "Seasonal Reflection."

KFVE, University City, Mo. (340), 10 a. m., Unknown Soloist.

KFJ, Lincoln Nebr. Iowa (270), 7:30-9 p. m., John G. Woolley and company; Art Dyer and his band, organist, Hazel Bell; 11-12, Betty Tyler.

KTHS, Hot Springs (Nebr) Park, Ark. (374.8), 8:30 p. m., Joe Arlington-Manor Duets, instrumental quartet.

WEBO, Elm, Ill. (344.6), 7 p. m., mandolin and guitar band; band 10; dirtied, Ind. Bachelder, Elmer; Wednesday orders; Mrs. Dorbert Fitz, Piano Popular; Esther Wickman, soprano; Madge Lee, violinist; Mrs. Louis Wickman, violinist, violinist.

WLS, Minneapolis, St. Paul, Minn. (416.4), 6:30 p. m., p. and B. family.

WLBF, Kansas City, Mo. (365.6), 6-7 p. m., dinner music in concert; Charlie Dorsey, tenor; Phil Dorsey, Harry Lade, Physician musical; 8-9:30, concert the best with WOAF.

WMAK, Buffalo, N. Y. (475.9), 6:30-7:30 p. m., Little Curtis and his Jazz Pirates; 8:30-9:30, Mrs. A. F. Gray.

WMAQ, Milwaukee, Wis. (370), 8-7 p. m., Artist Dance, organist; 8:15, Marquette university radio program.

WOI, Des Moines, Iowa (526), 7:30-9 p. m., program, Dean Holmes Cooper, director; 11-12, Chris Sauer orchestra.

WOAI, San Antonio, Tex. (394.5), 8:30 p. m., Mengel Hall Glee.

WOAW, Omaha, Nebr. (526), 6 p. m., Parlin Orpheum band, director; 6:30, Mulvey's popular artists; 6:45, Hot Mixer's Clover Lake club orchestra; 8, dance music; 10, orchestra.

WOQ, Johnson City, Mo. (440.9), 6 p. m., "Far Pioneer Days in Missouri," Gen. E. Jones; Kansas City Mayor Walker.

WSMB, New Orleans, La. (319), 4:30-7:30 p. m., entertainment; 8:30-10:30, The Lucy program.

WSUI, Iowa City, Iowa (484), 9 p. m., musical program.

Mountain Standard Time Stations

KDA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Jazz Band orchestra; 8, KDA hour (322); Reade; "Our Vanishing Flowers," Colorado Mountain club.

Pacific Standard Time Stations

KFDA, Seattle, Wash. (384.3), 6-6:45 p. m., concert orchestra; 7:45-8:15, Sherman Clay and company radio program; 8:30-10, Third night program.

KFWB, Hollywood, Calif. (252), 5-7 p. m., Children's hour, Ida Bentley of KFWB; 7-7:30, Gordon and Dodge Band; 8:5, program, Star Wave orchestra of California, Frank Malone, blues singer, Dave Chapman, soloist and Bernie Kalmer's cabaret trio; 8-10, Harold's Cabaret's, Nathalie Schmidt, blues singer, Sidneyne Edkins, soloist and Jim and Dick Hayes; 10-11, Warner Brothers' band, director Charlie Wolfolk.

KGO, Oakland, Calif. (361.2), 6-7 p. m., dinner concert, Ruddy A. Chase Jazzy orchestra; 8, "Taking the Scare Out of Organization," Harry Barrett Dodge; "Responsibility of the New Education," William Ewell; 10, "Man's Conquest's Shadows," Jifford S. Cornell, Alfred Ayres.

KGW, Portland, Ore. (491.5), 6-7 p. m., Claude Brunson and his Dance Band orchestra.

KHJ, Hollywood, Calif. (405.2), 5:30-6:15 p. m., Wurlitzer hour, organ music; 6:15, travel talk, W. F. Alder; 6:30-7, Alvarado-Kent Radio orchestra, Fred Pineda, leader; 7-7:30, Harrison music, 31 Rio de Janeiro; 7:30-8, program, Gabrielle Gardner, pianist; 8-9, Ambassador hotel concert, orchestra, Jack Ramsdell, director; 9:30-10, program, Mary Lady Fitzgibbon, soprano; 9-9:30, concert the best with WOAF.

KPO, San Francisco, Calif. (428.3), 6-8.30 p. m., Wolfsohn and the Main Embassy orchestra; 8:30-10, Palace hotel concert, orchestra; 8:30-10, Mary Adams Kirwan hotel concert, orchestra.

KTCL, Seattle, Wash. (360.8), 7:30-9:30 p. m., First Church of Christ, Scientist; 8:30-10:30, Interstate Bank Studio's orchestra.

Tuesday, August 11

Tuesday start said for: GHST, KFAE, KFDM, KFWB, KGW, KHJ, WABC, WBAV, WBBR, WCBS, WCAU, WDAF, WHAZ, WKRC, WLIT, WNAK, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CHNC, Toronto, Can. (312), 8 p. m., Hollerton orchestra; Leo Fisher, pianist; soprano; Vera McCrae, soprano; Sir Rowland, baritone; Harry Martin, reader; Fred Farrell, contralto; Lydia Mackenzie, soprano; CHNC Dance Orchestra; Fredy Kirk.

WCAE, Pittsburgh, Pa. (461.3), 6:45 p. m., dance music, William Penn hotel; 7:30, Uncle Stephen; 8, WEAF program; 8:30, Gold Dust Twins; 9, Brunsdale Quartet; 10, Grand opera.

WFAN, Philadelphia, Pa. (394), 6:30 p. m., Rita Myers Salon Vie Garden dance orchestra; 7:30, recital, Gallagher, and company; 8:30, recital; 10:30, Ruby Hayes and his Cactus Vie Garden dance orchestra.

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MUSIC OF CENTURIES NOVELTY AT WLW

Tuesday, August 11

(Continued from page 9)

WDAF, Pendleton, N. I. (440.9), 6:30 p. m., Arcadia orchestra.

WEAF, New York, N. Y. (491.5) 6:3 p. m., Fifteen Cents Without Wrapper (Cities Service), 6-7, Jules Lenox, Thyrsis Agents; 7:15-7:30, Intern, Columbia orchestra; 8:15, Silk Rank of Jewelry; 8:15-9:30, New York Lyric, 9:30-1, Gala Night Twins; 9-10, Moonlight Serenade; 10-11, Grand opera, "Dante and Juliet"; 11-12, Jones orchestra.

Agnes M. Olsen is the young food expert who gives interesting talks on cooking Tuesdays from WQJ, Chicago. Brides and grandmothers write in that they appreciate these lectures. If you have any doubts or culinary questions, Miss Olsen will be glad to answer them.

WEBJ, New York, N. Y. (272.6), 7:00 p. m., Harper's Recreation orchestra; 7:30-8, Clarke-Hendricks band; 8-9:15, selected talk, Gypsy Violin; 9:15-9:30, Ben V. Tobin, tenor; 9:30-9, Arthur Pryor's concert band.

WEEI, Boston, Mass. (475.6), 7:00 p. m., C. B. Cotton, tenor; 7:15, Dance Studios in Florida; 8, speaker; 8:30, Gold Dust Twins; 9, Everett band; 10, WEAF Grand Opera concert.

WFI, Philadelphia, Pa. (394.5), 8 p. m., "Famous Shrines of Old Kentucky," Frank Daniel, Cynthia Sullivan, piano; 8:15, Bonnie Scotland Boy Orchestra; 8:30, New York Lyric, 9:30, Gala Night Twins; 9:45, Bernard Dwyer, 10, street scene, "Bonnie and Jubilee," by WEAF Grand Opera concert.

WGBS, New York, N. Y. (315.6), 8-4, talk on antiques, Helen Stowell; "Indian Homes and Gardens," Allen Clark Brandt; piano lesson, Dr. Alfred H. Meyer; Leslie E. Moore, baritone; 6-7:30, Frank Gabriel; 8:30-7:30, Guest club orchestra; 7:30-7:45, Radio instruction by Goldman, Radio Broadcast; 8-9, Elliot Divis' Adam-Eland 301 quartet; 9:30-9:45, Adam Trios, pianists; 10:30-11:30, Elliot Davis' orchestra; 11:30-11:45, interview with Lee Gaylin, star of "Peg Kent Wind That Wanted" musical, Irene Rose Kapp.

WGR, Buffalo, N. Y. (319), 6:30-7:30 p. m., Vincent Lopez' Hotel Statler dance orchestra, Hotel Statler; 8:15, Hotel Statler WGR Twelve Piece Dance Orchestra, Hotel Statler; 10:30-11:30, Hotel Statler Dance orchestra, Hotel.

WHAS, Atlantic City, N. J. (370), 7:30 p. m., talk review, Mrs. James Lees; 8, Seaside Band; 9:30, 11, Grand Opera concert, Dodge.

WHN, New York, N. Y. (360.3), 4:15-4:30 p. m., Lucille Hegamin, contralto; 4:30-5, Lucille Hegamin, contralto; 8:30-9, Lucille Hegamin, contralto; 9-9:30, Lucille Hegamin, contralto; 9:30-10, Lucille Hegamin, contralto; 10-10:30, Lucille Hegamin, contralto; 10:30-11, Lucille Hegamin, contralto; 11-11:30, Lucille Hegamin, contralto; 11:30-12, Lucille Hegamin, contralto.

WIP, Philadelphia, Pa. (508.2), 5:30 p. m., Gilbert's philharmonic orchestra; 8:25, Instrumental Trio, piano orchestra; 7, Uncle Ole's bedtime story; 8, Gilbert's philharmonic orchestra; 8:15, Sam Ross, violin; 8:22, Trio; 8:31, Sam Ross, violin; 8:38, "Jimmy" weekly sports talk; 10:25, Gilbert's trio, piano orchestra; 11, Gilbert's Dance Orchestra, piano orchestra.

WJAR, Providence, R. I. (384.5), 7:30 p. m., studio program; 8:30, Gold Dust Twins; 9, Eleventh hour.

WJY, New York, N. Y. (405.2), 7:30-8:30 p. m., Hotel Ambassador Ensemble, Roger Tinsley Sanders, director.

WJZ, New York, N. Y. (454.3), 4:30-5:30 p. m., Revised Lesson Talks Connecting weekly; 7-7:15, Uncle Wiggily's Story Hour; 7:15-8, Joseph Rickard's Band Programs, orchestra; 8-9:15, Will Oakes Musical review; 9:15-9:45, NYT All Sports; 9:30-10:30, Studio concert, Fritz Mahler, conductor.

WLIT, Philadelphia, Pa. (394.5), 4:30 p. m., "Dialogue Organ Music, Mrs. E. F. Hunter; Alcanta Hotel, concert.

WMAK, New York, N. Y. (268.2), 7-8 p. m., "Talk Without Permission"; 8:30-9, Cascade Amusement Park program; 10-11, Chamberlin band of music; 11-12, Blue Gables and his Blue Midnight orchestra.

WNYC, New York, N. Y. (526), 7:10 p. m., service talk, cost; 7:15-7:30, organ music, an Canadian; 7:30-8, Jim Donnelly; 8:15-10:30, sweet music.

WOO, Philadelphia, Pa. (508.2), 7:30 p. m., A. Clarke's Band Garden concert.

WOR, Newark, N. J. (405.2), 8:30-9 p. m., Mae in Home; 9:15-9:30, poetry; 9:30-10, Dance.

WRC, Alpena City, Mich. (268.2), 6:45 p. m., Arthur Jones, Irish tenor; 7, Hotel Statler, 8:30, Gaylord Hotel Orchestra; 8:30, Gaylord Hotel, Dance; 9:30, Dance; 10:30, Dance; 11:30, Dance; 12, Wyman, organist, Cadillac Night Hawks.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 5:45 p. m., report; 6:30, Gold Dust Twins.

KFW, Quincy, Ill. (526), 6-6:30 p. m., Congress band; 7-7:30, recital program; 7:30-7:45, Aeolian Piano Recital (Aeolian); 7:45-8:30, concert program; 8-9:30, studio at home studio.

WBBM, Chicago, Ill. (526), 5:45 (chime), Sunset serenade, Charlie Garland, Star Dust Entertainers, Charlie Garland, Hotel Atlantic, Bill Wagner, Harry Bergman.

WBCN, Chicago, Ill. (526), 8-9 p. m., "Hell Tonight," organ; Arthur Kenyon, Hotel Atlantic, Bill Wagner, Harry Bergman.

WBCN, Chicago, Ill. (526), 8-9 p. m., "Hell Tonight," organ; Arthur Kenyon, Hotel Atlantic, Bill Wagner, Harry Bergman.

WEJ, Springfield, Mass. (322.1), 5 p. m., Pauline Thousand Clerk's Group Cycle quartet; 5, Robert D. Fuller, soloist; Hugh M. Littlefield, organist; 5:15, Alan Brandner Orchestra, violins; 5:30, Lucy Bagby, soprano; Jack Wheeler, pianist; 5, Saturday Sun hour; 5:30, to be announced.

WCX, Detroit, Mich. (516.8), 7:15 p. m., concert; 8, Guest concert, Rose Coblentz, tenor; 8, French Alice Dance orchestra, Dance Dance (Dance Lee); 10, The Red Apple club.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Herbert Hoover and his Melody Maids; 8-9, Vincent E. Freyer, organist; 9-10, studio program; 10-11, Cleveland Vocational Dance Melody Boys.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Dixie concert orchestra; Isabel Jones; Lydia Lockhart, violinist; Frank Hudson, baritone; Gladys Gaylord, violinist; Frank Hudson, baritone; Harold Sandoval, violinist; Dorothy Gorgen Hess, soprano; Frank Hudson, baritone; Dorothy Gorgen Hess, soprano; Frank Hudson, baritone; Tommy's Boys' Anything Orchestra; 11:30-1, Dixie Dance orchestra; Frank Hudson, baritone; Randy Hall, piano; Harry Sands, saxophone.

WEEK, Oak Park, Ill. (526), 5-7 p. m., Mrs. Paul, vocalist; Margaret Marshall, soprano; Julia Hunnicutt, tenor; Edith Byron, pianist; Ruth Gray, reader; 10:30-1, Harvey Kendalstar orchestra; Kathy Hickey, vocalist; Paul Wilson, organist; Dance Orchestra; Dance Dance Dance; Dance Dance Dance; Dance Dance Dance

POETS HAVE SPECIAL PROGRAM AT KOA

Wednesday, August 12

(Continued from page 10)

WLIT, Philadelphia, Pa. (394.5), 7:30 p. m., Devon Theatre's Outdoor Garden, 8:30, Fairmount Park War concert; studio recital and dance selections.
WHEA, New York, N. Y. (360.1), 6:30-7:30 p. m., Frank Golden and his Hotel Sherman orchestra; 8:30-9:45, Lee Wood's vaudeville; 11:30-12, news, song book.
WHEC, New York, N. Y. (380), 6:45-10 p. m., Studio hour, Harrison Greiner; 7:10-7:30, song recital; 8:15-10:15, concert, Mark Conrad Daily; 10:15-10:30, popular songs.
WOO, Philadelphia, Pa. (508.2), 5:30 p. m., [illegible] 7:30, United States Army band; 8, "Old Home Hour"; 10, Lyons Troubadours; 11, A. Goldman's dance orchestra.
WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., Fred Greene orchestra; 7:15-7:30, story talk, Bob Kelsey; 7:30-8, Thomas Lance concerts; 8-9:15, "Tunes of the Day," Bernard Johnston.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 9:45 a. m., [illegible]
WWL, Orleans, La. (250), 8-8:15 p. m., Country band; 7-8, Dale E. Kendall, [illegible]; Bernard Kaiser, reader; 8-10:30, soloists; [illegible], Paul Robinson's Tulsians.
WBBM, Chicago, Ill. (226), 8-9:30 p. m., Summer [illegible]; Nate Caldwell, Stanley Silverman, Dale and Charles Jordan; Andrew Jackson, Daisy Jones, Robert Vossen, director; 7-8, National Town Radio quartet talk; 10, organ, Conservatory of Music; Helen Fitz, soprano, Kathryn Thompson, cello; Hal Burnett, violin, Irma Gerhart, violinist; Johanna Gruen, pianist; Brahms instrumental trio.
WMAQ, Chicago, Ill. (447.5), 5:45 p. m., Chicago-Harrison baseball game; 6, Chicago Theater organ; 8, Cherney's orchestra; 8:30, [illegible]; 9, Dr. Hagbert Wolfe Third, speaker; 9:30, Chapman's concerts.
WMBB, Chicago, Ill. (226), 7-8:30 p. m., [illegible] concert program, Tilman [illegible]; Lindsay McPhail, pianist; Bernard Sciaino, violinist; Suzanne Sullivan, soloist; Dolores Alcaraz, pianist; Phyllis Harris, soprano; Charles Agee, trumpet soloist; 8:30-9:30, Tilman orchestra; Vaughan theater orchestra; Field and Hart; Florence Tuson; Harold Stokes, pianist; Lindsay McPhail, pianist; Geraldine Davis, soprano.
WMBF, Miami Beach, Fla. (394.4), 7 p. m., concert; 7:30, Fleetwood hotel dance orchestra; 10-12, dance music.
WSBC, Saleda, Ill. (275), 8:30 p. m., [illegible] and [illegible] series; 1, H. S. A. concert; 8:45, Dixie [illegible]; A. L. Rabin.
WSJ, Cleveland, O. (461.3), 7-8 p. m., Bubble Garden orchestra; Minnesota conservatory; Minnie Gray Bliss, soprano; Gloria Bledsoe, baritone; John Rock, violinist; Dorothy Hoffman, pianist; 10-1, Robin Wilkins and his Bubble Orchestra; Melodians; Trevor Thomas, [illegible]; Arthur Jones, pianist; Jean Dobbs, operatic recitals (8); Earl Angelo and Gaylord Williams, baritone and Joe Tunnell, Fred A. Jackson, Paul Small, tenor; Hal Rudell, soprano; Clarence Teubers, lead; 1-2, Grand [illegible].
WSAI, Cincinnati, Ohio (326), 10 a. m., [illegible]; Richard Dale, baritone; Robert Wolfe, tenor; Helen Bryant, violinist; 11, Cincinnati Market band; string quartet.
WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Grand Piano music; Mark Hall; 8-10, Cedric Sadighi's music recital; 10-11, Melodians band; 11-1, Bubble Room music.
WJZ, Kansas City, Mo. (365.6), 6-10:30 p. m., Parish Orchestra concerts; Vicky Lakes, Edward Hamilton, Pie Hunter, Lilian Bernard, Fred Wilson, Fred Nelson.
WWJ, Detroit, Mich. (352.7), 4 p. m., Dance concert.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.8), 6-7 p. m., Grand opera; 7:30-8, Bud T. Adams and his Nine Dance orchestra; 8-9:30, John Hickman, soloist; Gladys Erickson, pianist; Ralph Wolf, violinist; Hal Hamilton's Harmony Company.
KFNF, Fortpatrick, Ark. (395.5), 7:30-9 p. m., Interesting program; Jane Hassell, Ed Adkins, special speakers.
KFNF, Shenandoah, Iowa (266), 7:30 p. m., concert, Henry Field feed manager.
KFRU, Bristow, Okla. (254.1), 8-10:30 p. m., entertainment.
KFUO, St. Louis, Mo. (545.1), 8:30 p. m., "Children's Hour, International."
KFVC, University City, Mo. (240), 10 a. m., Orthodox Sunday; Lena Nemetic Mrs. Ken Hoang, organ; [illegible].
KGHL, Cornell Hall, Iowa (270), 7:30-9 p. m., Kilroy club; 11-12, concerts.
KGHX, Hot Springs National Park, Ark. (374.8), 9:30 p. m., New Arlington hotel orchestra.
WCAL, Minneapolis-St. Paul, Minn. (416.4), 7 p. m., [illegible] church series; K. Gaylord Carter, 15, Dr. Ed Ellington's Gaylord orchestra; 11:30, Eddie Dunstedter.
WDAF, Kansas City, Mo. (365.6), 6:1 p. m., piano [illegible] in honor of the Dog-Nut celebration; Gaylord Wolf, Guards of Greater Kansas City; Tom Jones-Hall Lott; Plantation players; 8-9:30, Star's Radio Serenade.
WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Weber, soloist; 8, Milwaukee Park Band band; 11:30, Edward Fitz, organist.
WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., Elegant Violin; [illegible].
WHO, Des Moines, Iowa (526), 6:30-7:30 p. m., Dinner; Life [illegible]; 7:30-9, Guthrie Fidelity [illegible]; 9-10, Open Forum [illegible]; 10-11:30, Bernie-Prudrick orchestra.
WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., [illegible].
WSC, Davenport, Iowa (483.6), 8-9:30 p. m., A. E. Edwards, baritone; Dorothy Hyman, pianist; Joe Bradford, violist; 9-10, Irvin F. Schmidt, organist, Robert Lewis, baritone.
WOS, Jefferson City, Mo. (440.9), 8 p. m., "The Public Service Commission and Its Relation to the Public, or an Idea of the State Government," Hon. L. G. Dwyer; song series, Iris C. G. Hendrick.
WMC, New Orleans, La. (319), 6:30-7:30 p. m., entertainment; 8:30-10:30, studio [illegible].

Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 6:30 p. m., Shelton White and his Silver Slipper orchestra; 7:30, Sandman's time; 8, [illegible] of astronomy [illegible]; 10, Kennedy's Rainbow Kings.

Pacific Standard Time Stations

KFAE, Pullman, Wash. (344.6), 7:30-9:30 p. m., Harmony Aeroplane, pianist; Margaret McLaughlin, violin; E. F. Lyon, [illegible], pianist; amateur audition, manager Treadwell orchestra; [illegible] duets, Cameo Theater Phish and Dick, "Adventures in the Land Upstairs," Prof. J. L. Ashbel; U. S. Dance Bands [illegible].
KFSA, Seattle, Wash. (404.3), 8-9:45 p. m., Hippodrome radio program; 8:30-12, Times radio program.
KFWI, Hollywood, Calif. (312), 6-7 p. m., children's song, by Brother of KFWI; 7-8:30, a half hour of [illegible] Hotel Mayer, Inc.; 7:30-8, program, [illegible]; 9:30, Fred Frame, tenor; 9:35, Hawaiian [illegible].
WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn Hotel; 7:30, Dixie Kitchen; 8, radio concert; 8, Annual Band concert; 10, Courtesy Elevators Cafe orchestra, Joseph Sachs, director.
WCAU, Philadelphia, Pa. (396), 30 p. m., [illegible] and women; evening program; 10:30, Bill Moore and his Cotton Top Dance dance orchestra.
WCN, Worcester, Mass. (336), 10-11, p. m., Minnesota Club orchestra.
WSWP, Providence, R. I. (440.2), 6:30-8 p. m., Nunnery band concerts.
WEAF, New York, N. Y. (492.5), 6:15 p. m., MacMillan Studio series; Life; 6-7, dinner music, Waldorf-Astoria; 7-7:30, program, New York Philharmonic Symphony; 7:30-8, Dodge's Revelators; 9:15, Atlantic Beach radio series; 10-11, Silverman Cafe orchestra; 11-12, Vincent Lopez' Hotel Pennsylvania orchestra.
WEEI, Boston, Mass. (475.4), 7:15 p. m., Charlie Dunlap in Florida; 8, concerts; 9, Arcadia Dance series; 10, Cocktail Melodiers orchestra.
WFI, Philadelphia, Pa. (395.2), 6:45 p. m., Balzora Oriental Band Garden orchestra; 8, "The Jewels"; 9, Jubilee Band Radio series; 10, "The Minstrels" Cafe orchestra.
WGBS, New York, N. Y. (315.6), 5-6 p. m., reading of "The Greatest Thing in the World," Dorothy Rogers; talk, Theosophy and Science for Youth, Hiram Hawkins; talk Nicola Cologero, Arts and Crafts Institutional society, Angel Martinez; 8-9:30, Radio Contest; 9:30-7:30, Silk Light Symphony.
WGR, Buffalo, N. Y. (319), 6:30-7:30 p. m., Vincent Lopez' Hotel Statler dance orchestra, Harold Gleason, director; 8:1, speech with WHAP, Detroiter Dance Band and the Gaylord Harmonica Cafe orchestra.
WHAP, Atlantic City, N. J. (278), 7:30 p. m., Republican talk; 8, vocal and instrumental music concert.
WHN, New York, N. Y. (361.2), 8-9:30 p. m., Will Oakland's Chateau Studio; 8:30-9:30, Hotel Woodmere; 9-9:15, Jones Clarke and his Guide Wire entertainers; 9:30-10, Palisade Amusement Park orchestra; 10:15-10:30, Lacey's Gazette Gadabouts; 10:30-10, Pittsburgh news and entertainment.
WIP, Philadelphia, Pa. (508.2), 7:30 p. m., Conductor Philharmonic concert; 8:30, Benjamin Franklin concert orchestra; 9, Garde Republicaine [illegible]; 9, Gaudet's Philharmonic orchestra; 9:15, Jazz of the Gulf; 9:30, Tuxedo's Band; 10, Garland and Tuxedo dance orchestra; 11, Cadiz's Night Owls dance orchestra.
WJAR, Providence, R. I. (295.5), 5 p. m., radio program; 8, concert Kroc Radio studio; 10, Glenn Sisson's Hotel Gaylord orchestra.
WJY, New York, N. Y. (405.2), 6:30-8 p. m., Herman Pepper's Vitaphone [illegible]; 8:30-10, Herman Pepper's Phonate Trio.
WJZ, New York, N. Y. (454.3), 6:30-7:30 p. m., Dodge Sister Lecture's Hotel Commodore orchestra; 7-8, Dodge Sister Lecture's orchestra; 8-9:15, Wall Street Journal program; 9:15-9:30, F. F. D. Air talking; 10-11, Roosevelt hour of music.
WLIT, Philadelphia, Pa. (395.2), 7 p. m., Atlantic cafe concert ensemble; 8:30, Lois Ashton of Chicago.
WMCA, New York, N. Y. (340.7), 11-12 m., concert program; 6:30-8:30 p. m., Hotel Alvarez, [illegible]; 7:30, Harlowe radio orchestra; 8:30-10, Sunday Night Cafe; 10-11, Dixie Golden and his Hotel Multiple orchestra.
WNYC, New York, N. Y. (526), 5-7:30 p. m., market news; 7:30-7:35, time signals; 7:35-9, Jewish sabbath; 8:10-9:30, concert program; 9:30-10:30, dance music.
WOR, Palisades, Pa. (405.2), 7:30 p. m., A. Gaylord Carter's Hotel Commodore orchestra.
WOR, Newark, N. J. (405.2), 6:15-7:15 p. m., The Cotton's Country club orchestra; 7:30-7:30, news; talk, Bob Kelsey.
WPG, Atlantic City, N. J. (299.8), 6:45 p. m., Arthur Seed Band, soloist; 7, Hotel Ambassador dance music; 8:10, Arthur Seed, soloist; Hilton Dunham Band; 9:30, Dance; 10, Vendome's Jazz; 11, Hampden-Sydney Pier dance orchestra; 11, The Paradiers.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 6:30 p. m., concert; 10:15, concert, Williams.
WJW, Akron, O. (422), 6-8:30 p. m., Concert music; 6:30-8:30, Amarillo Flying Service orchestra; 7-7:30, [illegible] of your readers, Mr. Jack Frost; 7:30-8:15, Wilson Benson, tenor; Thomas E. Stephenson, bass-baritone, soloist; 8-10:30, studio of Sonic.
WBAK, Gloucester, Ill. (322), 8-12 midnight, Kennedy orchestra, white [illegible]; Harold Anderson, Charles and Dave, Maurice Mitchell, Ray Clement.
WBCN, Chicago, Ill. (370), 6-8 p. m., Joe Jordan; 10-11, Chief Jordan and musicians; 11-1, Chief Jordan and orchestra; get acquainted.
WBZ, Springfield, Mass. (337.4), 6 p. m., Lee Edwards's Hotel Lenox orchestra; 7:15, 11 p. m., Marion Sand.
WCX, Detroit, Mich. (516.8), 6:30 p. m., concert; 8, [illegible]

(Continued on page 12)

Bernard Johnson, baritone, is one of the most promising of the younger singers in Omaha. He sings at WOAW, regularly. Marjorie Tyler is one of the leading actresses of the WGY players and has been heard many times on Broadway via WGY.

Mrs. S. K. Surman is the contralto who sings with the Courier-Journal quartet from WHAS. This quartet is a well-known Louisville organization.

Thursday, August 13

Thursday, short hops to: CKAC, CNET, KFAB, KFAE, KFDM, KFEL, KFJF, KFJR, KFKA, KGW, KGO, KHJ, KJBS, KJHJ, KLDS, KLZ, WEAF, WEEI, WFI, WHAD, WHAS, WJAR, WJIC, WJZ, WLIT, WOR, WRNY, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CKAC, Toronto, Can. (357.7), 8 p. m., Charles E. Dudley and his dance orchestra; Noel Frank, entertainer; Bob Harper, tenor.
CNRM, Montreal, Can. (411), 9 p. m., orchestra, White Star-Dominion Line; Viola Bendel, soprano; D. Kinsella, violinist.
WBBR, New York, N. Y. (272.6), 8 p. m., Hawaiian quartet; 8:30, Fred Frame, tenor; 8:35, Hawaiian solos; 9:15, Fred Frame, tenor; 9:20, Hawaiian solos.
WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn Hotel; 7:30, Dixie Kitchen; 8, radio concert; 8, Annual Band concert; 10, Courtesy Elevators Cafe orchestra, Joseph Sachs, director.
WCAU, Philadelphia, Pa. (396), 30 p. m., Mr. Dodge's song and stories; evening program; 10:30, Bill Moore and his Cotton Top Dance dance orchestra.
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WHN, New York, N. Y. (361.2), 8-9:30 p. m., Will

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CLEVER "GARRICK GAITIES" PLAYERS

Index to Popular Concerts

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

Popular

Atlantic or Eastern Daylight Saving Time Stations

Saturday, August 8: 7, WGBS; 8, WBBR; 8:15, WJZ; 8:15, WBAF; 8:45, WIP; 10:15, WNYC.

Sunday, August 9: 7:30, WBAF; 7:30, WEBI; 9, WNYC; 10, WNYC.

Monday, August 10: 6:30, KGB; 7:30, WABC; WMC; 8:15, WBBR; 8:30, WABC; 8:45, WABC; 9, WHAM; WOR; 9:30, WBN; 9:35, WMCA; 10:15, WMCA.

Tuesday, August 11: 7, WMCA; 7:15, WEBJ; 8, WHAM, WMCA; 8:15, WBAF, WEBJ, WEBI, WPI; 8:30, WEEI, WPI, WBN; 8:45, WIP.

Wednesday, August 12: 7:30, WABC; 8:15, WABC; 8:30, WMCA; 9, WMCA; 10, WABC; 10:15, WNYC; 10:30, WBAF; 11, WCAE; 12, WMCA.

Thursday, August 13: 6:30, WGBS; 7:10, WEBR; 7:30, WBAF; 8, WBN; 8:45, WIP; 9, CHNC; 10, WGBS; 10:15, WBN; 11, WGBS; 12, WGBS.

Friday, August 14: 7:30, WABC; 8, WGBS; 8:15, WABC; 9, WABC; WOR; 10, WLIT; 10:15, WNYC; 10:45, WBAF.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, August 8: 6:30, WWJ; 7, WBAF; 8, WEBR, WHT, WLS, WNAQ, WTAS; 8:30, WHBB; 8, WBBM, WLS, WTAM; 9:30, WEBR, WTAS; 10, WBBM, WKBC, WLS, WQJ; 10:30, WCBE, WEBR, WHT, WJJD, WTAM; 11, WBBM, WOBS, WLS, WQJ; 11:30, WCBE, WJJD; 12, WBBM, WHT, WQJ, WSAI; 1, WBBM, WQJ, WTAM; 2, WTAM.

Sunday, August 9: 6:30, WWJ; 8, WBBM, WTAS; 8:30, WBS, WBBR; 8, WBBM, WTAS; 8:45, WHT; 9:30, WBBR; 10, WTAS; 10:30, WGES; 11, WBBS, WTAS; 12, WBBM, WJJD; 1, WBBM, WJJD.

Monday, August 10: 6, WBBM; 8, WLW, WTAS; 8, WTAS; 8:15, WHAS; 10:15, WHT; 10:30, WCBE, WJJD; 11, WHT; 11:10, WCBE, WHT, WJJD, WLS; 11:30, WJJD; 12, WBBM, WHT, WJJD, WQJ; 12, WIBO, WLS; 12:30, WBBM, WJJD; 1, WBBM, WIBO, WQJ; 2, WIBO.

Wednesday, August 12: 6, WEAO, WLS, WTAS; 8:30, WBBM, WBBR; 8, WEBM, WTAS; 8:30, WBBM, WBBR; 10, KYW, WHT, WIBO, WQJ, WSAI; 10:30, WCBE, WEBM, WON, WHT, WJJD; 11, KYW, WGES, WHT, WIBO, WLS, WQJ, WSAI; 11:30, WCBE, WBBM, WJJD; 12, WBBM, WQJ; 12:30, WEBM, WJJD; 1, WQJ.

Thursday, August 13: 8, WBBM, WTAS; 8:15, WEBO; 8:30, WMBH; 9, WBBM, WTAS; 9:30, WEBM, WBBR; 10, WBBM, WGS, WTAS; 10:30, KYW, WEBM, WON, WHT; 11, WHT, WQJ, WTAS; 11:15, WLW; 11:30, WBBM; 12, WBBM, WIBO, WQJ; 12:30, WEBM; 1, WIBO, WQJ; 2, WIBO.

Friday, August 14: 8, WBBM, WTAS; 8:30, WBZ, WEBM, WMBH; 9, WBBM, WTAS; 9:30, WMBH; 10, KYW, WEBM, WIBO, WLS, WMBH, WTAS; 10:15, WHT; 10:45, WCBE, WON, WQJ; 11, KYW, WGES, WHT, WIBO, WLS; 11:30, WCBE, WJJD, WQJ; 12, WBBM, WIBO, WQJ; 12:30, WJJD; 1, WQJ.

Central Standard Time Stations

Saturday, August 8: 6:30, WFAA; 8, KSO; 8:30, WOAI; 8, KPRC; 8:30, KTHS; 9:30, WSBT; 10, KPRC; KFUO; 10:45, WBZ; 11, KFAB, KFRU, KFWB, WOAW.

Sunday, August 9: 9:45, WFAA, WOAI; 11, WSAP.

Monday, August 10: 6:30, WFAA, WOAW; 8:45, WCCO; 7:30, KFAB; 8, KFAB, KFRU; 8:30, KFAB, WHO, WOAI, WSMB; 9, KFRU; 9:30, WSMB; 10, KFVE, WOAW; 10:45, WSB.

Tuesday, August 11: 6:15, WOC; 8, WCCO, WSB; 8:15, WOAI; 10:30, KFRU, WOAW; 10:45, WHB; 11, WFAA; 11:30, KFRU; 11:45, WDAF; 12, WOAW.

Wednesday, August 12: 7:30, KFAB, 8, KFRU; 8:30, KFAB, WSMB; 9, KFRU; 9:30, WEMB; 10, KFRU; 10:45, WSB.

Thursday, August 13: 8, WOAW; 8, WCCO; 8:30, WOAI; 9, WOAW; 10:45, DWAF.

Friday, August 14: 8, KFAB, WDAF; 8:30, KFAB, WOAI; 9, WHAD; 10, KFVD; 10:45, WSB; 11, KFRU, WHO; 12, KFRU.

Mountain Standard Time Stations

Sunday, August 9: 8-11, KPWA.

Wednesday, August 12: 8, KOA; 11, KPWA.

Friday, August 14: 8-11, KPWA.

Pacific Standard Time Stations

Saturday, August 8: 8, KPWB, KNX; 8:30, KTCL; 10, KFI, KPWB; 11, KNX; 11:30, KHJ, KNCL; 12, KNX; 12:30, KHJ; 1, KNX.

Sunday, August 9: 8, KHJ; 9, KPWB; 10, KPWB.

Monday, August 10: 8, KNX; 10, KPWB; 11, KPWB; 12, KPWB.

Tuesday, August 11: 8, KPWB, KNX; 9, KPWB, KNX; 10, KPWB, KNX; 11, KPWB.

Wednesday, August 12: 8, KGW, KFQ; 9, KPWB, KNX; 10, KNX; 11, KPWA, KPWB; 11, KNX.

Thursday, August 13: 8, KHJ; 9, KHJ; 10, KPWB, KHJ; 11, KNX.

Friday, August 14: 8, KPWB; 9, KPWB, KHJ; 10, KPWA, KPWB, KNX; 10:30, KGW; 11, KPWB; 11:30, KGW; 12, KPWB, KNX; 1, KNX.

Horace J. Taylor entertains WLS listening readings at WAHG every Monday night. The Clover "Garrick Gaities" players will give the high spots of their show Saturday at WBAF. Two members of the cast, Sterling Holloway and John Cochrane, appear at the right.

Thursday, August 13

(Continued from page 11)

[illegible]

WBAF, Kansas City, Mo. (550.2), 5-7 p. m., piano [illegible]; 7:30, Kansas City Symphony orchestra; Charles Dale, tenor; 8, Old Chief Corntossel stories; Charles Dale, tenor's selections; Ted Shaw, violinist.

WEAR, Cleveland, Ohio (850.2), 7-8 p. m., Harlowe Alexander and his orchestra; Ruth Lee, Florence Wightman, piano solos; 8:15, Clement Lee and his orchestra; 9-11, Theatre H. Fuller concert.

WEBC, Chicago, Ill. (560.2), 7:30-8:30 p. m., Gaston Palmer, tenor; Marjorie Mitchell trio, Marion Dunn, pianist; 7:30-10:30, Swiss Yodel orchestra; Kathryn Parker, soprano; [illegible]; Ruth Lakin, violinist; 11:30-12 a. m., Swiss dance orchestra; Walter Paul Bond; Katherine Parker, soprano; radio, Walter Wade.

WEEI, 5th Fort, Ill. (226), 5-7 p. m., Katherine O'Brien, reader; Franklin Dickinson, baritone; Thomas Dorsey, pianist; Jane Wallace, accompanist; Elsie Dorsey, pianist; 6:30-7 p. m., Phil Wilson, organist; Paul Ward and Alpheus Tuttle; Ralph Black, clown; Chase Electric chorus ensemble.

WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m., Dance concert; [illegible]; 7:30-8 p. m., Dance concert; [illegible]; 10:30-11:30, Drake Hotel Terrace Garden orchestra.

WGY, Schenectady, N. Y. (379.5), 5:45 p. m., WGY Band [illegible]; 7:30, Jazz Band Day; [illegible]; 8, Band concert; 8:30, Jazz Band Day; [illegible]; 9, Band concert.

WHT, Deerfield, Ill. (266.2), 7 p. m., Al Green, organist; Gretchen's chime bells; 7:30, Tony Cronowski, tenor; Bowlus sextette; Margaret Fogarty, pianist; [illegible] (music); Williams and Bowlus; 8:45, [illegible]; Robert Ramsey, Jerry Magers and Freeman's Harmony band; 10:30, [illegible], Sande Band, tenor; [illegible]; 11:30, Deerfield Mixed Quartet; Walter Peck's Sandwich orchestra; [illegible]; Harry Sunset, pianist; 12:30 a. m., Al Green, organist.

WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; Gladys Wallace, contralto; 7:30, early evening [illegible]; Sam's Cartoonists; 8:45, Johnny Hoy, Joe and Tony Sunday; 9, Sweet Alice (one); Roberta Gurney, pianist; Eddy Mikulski, violinist; Geo. Stewart, tenor.

WLW, Cincinnati, Ohio (422.3), 4 p. m., piano recital, Isabelle Agnew and organist; 5, Dance concert, Edith [illegible]; Edward Wheeler, director; 7:30, Sunbeam Duchess; 8, Kate Smith concert; 9:30, Service department of U. S. government; 9:35, concert; Wrigley and dance orchestra, Doherty Melody boys; 10:15, WLW concert orchestra; 11:30, Harmony Grove, organist; [illegible] Gibson.

WMAQ, Chicago, Ill. (447.2), 2 p. m., Spanish music; 3, Chicago Dance steps; 5:30, Jack Chesney's orchestra; 6, Chesney's orchestra; 6:30, musical [illegible]; 7:30, Jack Chesney's orchestra.

WMBD, Peoria, Ill. (1080), 7:30-10 p. m., English music, [illegible]; Bennett, baritone; Tillman ensemble; Bernard H. Sievers, violinist; Verne Kline, accompanist; Marie [illegible]; 8:30-10:30, Vaudeville [illegible]; Tillman orchestra; Phillipps Tenor; Kimball Jubilee Band; 10, The Sieve Band; Clyde Nagel.

WMC, Memphis, Tenn. (500), 7 p. m., Organ concert; 7:15, Fontanelle hotel dance orchestra; 10-11, Fontanelle hotel dance orchestra.

WMCA, Newark, N. J. (1410), 7:30 p. m., Parkway Roof Garden orchestra; George Kreisler, director; 8:45, Harry Lenox, organist; 9, International Studio organ concert; 9:15, Radio Radio, violinist; Alice Weaver Barnes, soprano; 9:45, Harriet Lorenz, soprano.

WMC, Chicago, Ill. (447.2), 7-8 p. m., Rainbow Garden orchestra; Hilda D. Hoffman, soprano; Lee Brown Band, violinist; Mrs. A. Scott Armstrong, organ; [illegible]; Lucy Carlton, violinist; Ruth Sandra, violinist; Tom Skyler and Margaret Gallagher; Jerry Sullivan, Bess Vandervoort; Ralph Kelly; John Kelly; Jerry Wright, soprano; Mary Jane; Lee Sullivan; L. E. Unger piano.

WMBH, Lansing, Mich. (250.2), 8:15 p. m., Ben Hunsicker, organist; Ben Hur quartet; Kimball trio.

WOAI, Cincinnati, Ohio (326), 7 p. m., Outdoor concert; [illegible]; 8, Dance concert; 8:30, Dance concert; Fort Radio artists; 9, Symphony Band orchestra.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Hotel Statler orchestra.

WTAS, Elgin, Ill. (301.4), 5-10:30 p. m., Purple Cavalry [illegible]; Victor Harris, Roland Hinchs, Fitzgerald; John Kennedy; Phil Wilson, Hoch Hinchs, Fitzgerald; John Kennedy; Phil Wilson, Hoch Hinchs.

WWJ, Detroit, Mich. (352.8), 5 p. m., Hotel Statler concert Band Band trio; Paul J. Sears, baritone; 6:30, Dance music.

WWL, New Orleans, La. (319.7), 8 p. m., Dance concert; 9, concert from New York.

Central Standard Time Stations

CKNW, Winnipeg, Can. (384.4), 7 p. m., Dance concert; 10, Hot Cliffs band trio; Hoch Hinchs, violinist; Hoch Hinchs, organist; Frank Radke, cellist.

KFDM, Beaumont, Tex. (315.4), 5-10 p. m., Magnolia Parkway Concert's Refined band.

KFJF, Shenandoah, Iowa (360), 7:30 p. m., concert, [illegible]; 8, Dance concert.

KFRU, Columbia, Mo. (294.3), 10:30-11:30 p. m., Dance music.

KLDS, Independence, Mo. (440.9), 8 p. m., KLDS Radio orchestra; [illegible] Kenney, reader.

KSL, Salt Lake City, Utah (302), 7:30-8 p. m., Lions Club; 10:15, Dance music, Salt Lake City orchestra.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., Lorenzo Reed, organist.

WEBC, Zion, Ill. (344.6), 8 p. m., male chorus; Mrs. F. M. Lifton, contralto; Carl Hanscomb, violoncello; Elmer Gerdell, clarinetist; Frank Neil, violin; Rose [illegible], reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 7-8 p. m., National program, WEAF; Armour Knox Radio orchestra; Dave Ashton.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., [illegible]; 7:30-8:30, Palmer Hotel; 10-11, Coral William Caldwell and his Band; 3:30 [illegible].

WHAD, Milwaukee, Wis. (275), 5-7 p. m., Arthur Hoyer, organist; 7-10, Doctor's Musicals and Elder's Music and orchestra.

WHAS, Louisville, Ky. (399.8), 7:30-8 p. m., Mrs. John F. Barnes, Jr., chorus.

WHO, Des Moines, Iowa (526), 5:45-6 p. m., Jack A. Dalton and his orchestra; orchestra; 11-12, dance orchestra.

WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., musical program, Kimball hotel [illegible]; 9:30-10:30, Tower's Jazz dance music.

WOAW, Omaha, Neb. (526), 8 p. m., popular program; 9, Dance concert; 9:15, Dunbar's Royal Florentine orchestra; 9, musical program.

WSB, Atlanta, Ga. (429.3), 7-8 p. m., Silverlane Tea Room orchestra; 8:30-9, Lucille Hotel orchestra; Paul Hamilton, soprano.

WSMB, New Orleans, La. (319), 6:30-7:30 p. m., [illegible].

Mountain Standard Time Stations

CHNC, Calgary, Can. (435.4), 8 p. m., quartet; 10, piano solos; Red Dawn, violinist; Mrs. Thomas Hughes, reader.

KOA, Denver, Colo. (322.4), 6:30 p. m., Robert Wills and his Silver Slippers orchestra; 8, Dance school music.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 7:30 p. m., Pickwick orchestra and 8:45, Jack Dalton quartet; 7:45, piano solos; 8, Fred Moore; 8:5, soprano, Mary Frost; company Hollywood Radio Kings of the Ether; [illegible] Jack Dalton; 9:30, organ, Don Ty Gaskin; [illegible] Dance Mad Band; orchestra, Harry Sunset; 10-11, Warner Bros. Studio, Charlie Wolfman, director.

KGO, Oakland, Calif. (361.2), 6 p. m., "Kangaroo" [illegible]; 7:30, Radio Kings' Hollywood Radio Kings of the Ether; 8:30, Arthur Fiske's concert band; Frank Jones orchestra.

KGW, Portland, Ore. (491.5), 10-12, Hamilton Hotel's Nightowl hotel orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Lafayette Jones [illegible] orchestra; Jack Carlisle; Radio [illegible]; Ann Mahoney; Illinois [illegible] concert orchestra; Edward Fitzgerald, director; 6:30-7:30, Radio Kings' Hollywood Radio Kings of the Ether; Jack Kilgore band; Jerry Sunset and Harry Sunset; Dance Mad Band; orchestra; Charlie Wolfman, director; 10-11, Warner Bros. Studio, Charlie Wolfman, director.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wilshire [illegible] orchestra; 8:15, Jerry Lee W. F. Hotel [illegible] orchestra; Paul Ashley; 8:30-9, Arrowhead Band Radio orchestra; Paul Phillips, leader; 7-8, program, John A. Evans [illegible]; 8-9, program, Bernice Fitzgibbon, soprano; 9-9:30, [illegible] Dance orchestra; 10-11, the Lyman's Cocoanut Grove dance orchestra, from Ambassador hotel; 11-12, [illegible] Dance orchestra of California, [illegible].

KPO, San Francisco, Calif. (508.2), 6:30-7 p. m., Palace [illegible]; 7:30, Radio Kings' Hollywood Radio Kings of the Ether; 8:30, musical program; 10-11, Jerome Dalton's Dalmatians.

Friday, August 14

Friday, about eight day: KFAB, KFJF, KFWB, KGO, KLDS, KNX, KPO, WEBC, WEBI, WCBE, WFI, WGES, WGY, WHAD, WHT, WIP, WLAC, WNYC, WLW, WMAQ, WOR, WSB, WEBC, WSAI, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CHNA, Moncton, Can. (312), 8 p. m., Mrs. Lee Dawson, contralto; Rev. Mr. and Mrs. Lee Dawson; Miss F. Thompson, soprano; Mrs. Harold M. Fries, contralto; Mrs. L. L. Hand, pianist; Gladys McCoy, violinist; Mrs. L. L. Hand, pianist; Gladys McCoy, violinist; Mrs. Fred Bowlby, soprano; J. T. Stackhouse, baritone; T. H. Nachman, baritone; George Trites, violinist; Grace Hamel, piano; Peter Lindsay cornetist; CHNA dance orchestra; Walter Trites.

CKNT, Toronto, Can. (357), 6:30 p. m., Lucie Rogers, [illegible] and his King Edward hotel concert orchestra; 9:30, The Olde Tyme Village quartet; Dalton Le Hunt, Mr. Johnson, soprano; Pearl Calder, reader; Jessie Hart and A. C. Chapman; Mrs. C. Chapman, piano; Hope Hart, violin; G. D. Morris, bass; Fred Alexander, violoncello solos; [illegible]; Lulu Hammond and his King Edward hotel dance orchestra.

WABC, Richmond Hill, N. Y. (315.2), 7:30-7:45 p. m., Grand St. Brighter crew; 7:45-8, [illegible]; Thomas Flynn; 8-8:15, Sunset Gray; [illegible]; 8:30-9:30, Jerry Sunset, organist; "Everyone Speaks"; Professor Sheldon F. Morse; 9:30-9, Professor Gray; [illegible]; 9-9:15, Sunset Gray; 9:15-9:30, Jerry Sunset, pianist; 9:30-10, Jerry Sunset; 9:45-10, Professor Gray; 10-10:15, Radio quartet [illegible]; 10:15-10:30, Jerry [illegible]; 11:30-12:30, Jerry orchestra.

WEAF, Pittsburgh, Pa. (461.3), 6:30 p. m., dance music, William Penn hotel; 7:30, Uncle Rastus; 8, [illegible]; 8:30, radio concert; 10, Sunday's [illegible] music.

WEAO, Philadelphia, Pa. (278), 6:30 p. m., Billy Sayre and his Collar Top Twins dance orchestra; 10:30, Jack Hylo and his Michael Arlington dance orchestra.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Piano Kreisler, pianist; 4:15-5:30, George H. Kirkpatrick, tenor; 5:30-7:45, Edna Gregorian, contralto; 7:15-7:30, Dance of Hours, part Kansas; 7:30, W. Hilton Jr., dance music, Madison Square; 7:15, Gene Gardner, soprano; 7:15-7:30, Irving Chancellor Carroll, elocutionist; 7:30-8 children's story, G. E. Knapp pianist; 8-8:30, Business Credit Men; 8:30-9, Eugene Vecchione trio; 9-9:15, Gardner Mind, soprano; 9:15-9:30, Pinehurst Warblers; 10:30-10:45, Jim Cohen [illegible]; 10:45-11, Paradise Warblers; 10-10, Hotel Martin Beck dance orchestra.

WEBI, New York, N. Y. (272.8), 7-7:30 p. m., Blue Grass dance orchestra; 7:30-8, Carlos Gonzalez band; 8-8:30, Lane trio; 8:30-9, Arthur Fiske's concert band.

WEEI, Boston, Mass. (476.8), 7:30, p. m., [illegible]; Harvey; Kelly; Harvey's Revolution orchestra; 8, Ed Jackson and his Nautical Garden orchestra.

WFI, Philadelphia, Pa. (394.5), 5 p. m., Cynthia Dickens, [illegible]; 8:45, Silverlane Hotel Dance orchestra.

WGBS, New York, N. Y. (315.2), 5-6 p. m., Mozart quartet, Brandon of Frank Williams and Edna Kay Kipp; 6, piano selections of Howard Hill; Albert H. Raley; 8-9:30, Dude Gaskins.

WGR, Buffalo, N. Y. (319), 7-7:30 p. m., Wagner's Crystal Pool orchestra; 8-9:30, piano recital, Mildred Good Symphonies of Rochester, N. Y.; 9:30-10, Jerry Sunset, organist; 11, 1 a. m., dance music music, Vincent Lopez Hotel Statler dance orchestra.

WHAM, Atlantic City, N. J. (275), 7:30 p. m., [illegible] relief; Gladys Moulds; 8, Hotel Mark Twin, 11, Hotel Dennis night relief.

WHN, New York, N. Y. (291.5), 7-7:30 p. m., Club Shelton entertainers; 8-8:15, Cornelia Aust; 9-9:30, Hotel Dennis dance orchestra; 11:30-12, Club Alabam orchestra.

WIP, Philadelphia, Pa. (395.2), 5 p. m., Song of the Soil; Charles's Philharmonic orchestra; 6:30, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

WIAR, Providence, R. I. (305.9), 6 p. m., musical program; 8, Junior Concerts hour; 11, Providence Auditorium dance orchestra.

WJZ, New York, N. Y. (454.3), 7-8 p. m., Sunset's orchestra; 8-8:15, Wall street Journal review; 8:30-9:30, [illegible]; 10:30-11:30, Ben Gilmore's orchestra with Pat Gaston.

WLIT, Philadelphia, Pa. (395.2), 7:30 p. m., Dream Lady's bedtime stories; 8:15, Clem Gaston Wilson Trio and Clem Fay's Million Dollar Pier orchestra; 8:45, Sunset Warbler Minstrels; 10, Sherman Clay club concert; music, "Sally and Sunny" Ar-cadia [illegible]; Cross Roads Sunset Band; Harris and Chas. Fay's Million Dollar Pier orchestras.

WNYC, New York, N. Y. (526.3), 3:30-7:30 p. m., Hotel Golden and his Hotel Commodore orchestra; 8-9:15, Hotel Commodore orchestra; 9-9:15, Class of Masterpiece, H. C. Barr; 9:15-9:45, Palisades Amusement Park orchestra; 9:45, Sherman Lake night.

WNYC, New York, N. Y. (526), 6-6:30 p. m., Frank Inness, T. Rastus Sheldon; 7:30-7:35, and recital; 7:35-7:45, Lore of the Air; 8:45-9:45, Hotel [illegible]; 9:15-10:15, concert, Hotel Central Park; 9:15-9:30, [illegible].

WOR, Philadelphia, Pa. (395.2), 4:15 p. m., organ recital; 7:30, A. Cornbloom's Band Shelter orchestra; 8:30 recital; 10, organ recital, Hotel Robinson; 10:30, A. Cornbloom's dance orchestra.

WOR, Newark, N. J. (405.2), 5:15-6:30 p. m., sports talk, Bill Slayter; 6:30-7, Men in Blue; 8, [illegible].

WPG, Atlantic City, N. J. (295.8), 6:15 p. m., Arthur Jerry Sunset, organist; 7, Hotel Dennis; 9:45, Hotel Ambassador dance music; 9, Hotel Traymore concert orchestra; 10, Hotel Ambassador Garland-Young dance orchestra; 11, Baltimore Night Hawks.

DANCING

Eastern Standard Time

Saturday, August 8: [illegible]

Sunday, August 9: [illegible]

Monday, August 10: [illegible]

Tuesday, August 11: [illegible]

Wednesday, August 12: [illegible]

Thursday, August 13: [illegible]

Friday, August 14: [illegible]

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'ERS GIVE HITS SATURDAY AT WEAF

Jack McClain, the Golden Gate tenor, is another favorite WSB (Atlanta) entertainer. At present he may be heard regularly at his home station, but he is planning a trip to Florida and may be heard soon from WRNY, the Flatwood home station at Miami Beach.

DANCING

Central Standard Time

Saturday, August 8: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Sunday, August 9: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Monday, August 10: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Tuesday, August 11: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Wednesday, August 12: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Thursday, August 13: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Friday, August 14: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Saturday, August 15: 8, WEAF; 8:30, WGN; 9, WOR; 9:30, WJAR; 10, WCAE; 11, WHN; 11:30, WJZ; 12, WHN.

Eastern Standard or Central Daylight Saving Time Stations

KDKA, Pittsburgh, Pa. (309.1), 6:45 p. m., concert; KYW, Chicago, Ill. (536), 6:00 p. m., Cheltenham hour; 8:30-7:30, Drake Hotel orchestra; 9:11-30, orchestra recital; Chinese Nanking Literature; Paul Dickenson's Gangsters; Albert Ray Kimler, organist.

WBBM, Chicago, Ill. (226), 8:15 p. m., Summer organ; Richard Leibert, Harry Connick, Harold and Martin, Al Fiske, Charles and Dave, William Dalmore.

WMAQ, Chicago, Ill. (448), 8:0 p. m., bath music hour; 9-12, musical programs, dance orchestra; Jack Kelly, organist; Edgar Hertz, Billy Scanlan, Frank Kock, Hal Del Tacia, Peggy O'Neil.

WOC, Springfield, Mass. (293.1), 8 p. m., Blue Blouse orchs.; 8, Superior male quartet; 8:30, Ben Davis's musicians; 9, to be announced.

WCX, Detroit, Mich. (516.8), 6:15 p. m., concert; 8, dance concert, Bob Cadillac band; 9, Detroit Opera House orchestra, Bob Cadillac band; 10, Jean Goldkette's dance orchestra, Bob Cadillac band.

WEAR, Cleveland, Ohio (389.4), 7:0 p. m., children's hour; 8-9:30, radio programs; dance music; 9:30-11, dance music, 100, Day and his Bedford Glens orchestra.

WCBD, Chicago, Ill. (226.2), 7:30-8:30 p. m., Radio Concert, pianist; Harold Hamilton, violinist; 8:30, Radio Night Owls' program; Oregon Grove orchestra; 11:30-1 a. m., Drake dance orchestra; music, Three Troubadours; Hawaiian and Tropical Music American troubadours; Miss McGuire, organist.

WGES, Oak Park, Ill. (336), 5:0-6:0 p. m., John Marshall, baritone; Marshall Band, conductor; Irma Jackert, violinist; Hazel Otto, violinist; John Marshall, tenor; Irma Sarge, violinist; Sophie Mathews, violinist; Gertrude Hartgens, accompanist; 8:30-9, organist recital, H. L. Heimrich; 10:30-1 a. m., Sophie Drozdowski, violinist; Ray Fenton, Jack Frost, Jack Roland, Carl Sandel, Oscar Mulstead, dance music.

WGN, Chicago, Ill. (370.3), 6:30-7:30 p. m., Drake concert ensemble, Blackburn string quintet; 7:30-8:30, organ recital; 10:30-11:30, Drake Hotel Terrace Garden program.

WGY, Schenectady, N. Y. (379.5), 6 p. m., Albany Night Concert; Gamaliel; Albert M. Walker, organist; 8:30, WGY male quartet; Sleepy Hollow Music, pianist; Jean Morris, pianist; 7:30, New York Philharmonic orchestra; 9:30, Clarence Lutz quartet; Alice Mathias, violinist; Mrs. Thomas H. Kinnan, pianist.

WHT, Deerfield, Ill. (399.8), 7 p. m., Dave Rubollo, violinist; Steve Tabor, baritone; 7:30, Al Cytak, organist; Saxophone Symphony, baritone; J. Jerle Kardos, violinist; 8:30, Mike Dan; Kathryn Stimson, violinist; 9:45, (EST), Elmer Kaiser's Melody Masters, Kaiser's Glorious band; 10:30, (EST), Lydia Mabry Harper, soprano; 11, Charles Parks's Entertainers orchestra; 11:30, Fred Williams quartet; Louis Gallatin, trombonist; C. E. Durbin, bass; 12, Jimmie Hooker; Willie Brunson; 12:30 a. m., Al Carson, organist.

WJJD, Mooseheart, Ill. (370.2), 6:30-7:15 p. m., Bellmont hour; 8:15-9, music, Mooseheart children; 9:30, Danny Orlando and his orchestra; Albert F. Brown, organist.

WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, cornetist; 7:15, Barn dance orchestra; 7:45, Indiana fiddlers; Ken and Leslie George; 8, Jazz 50, Anne, Frank Cartoons; French folk songs, Cornhuskers; 8, Irish selections; Kennedy Clark, Hawaiian guitarist; Ann Gillmore, contralto; 10, Westchester male quartet of Aurora, Illinois; 11-2:30, dance music, Boyd's orchestra.

WMAQ, Chicago, Ill. (447.3), 5:55 p. m., Chicago Philharmonic Symphony Band, 8, organ recital, Chicago Theatre; 8:30, Freddy Allen singers; 9:30, Jack Chapman's orchestra; 8, Chapman's orchestra; 8:30, Florence Nelson, contralto; 9:30, Chapman's orchestra.

WMAQ, Chicago, Ill. (447.3), 5:0-6:30 p. m., Sunset, organist; Hotel Sherman, dance; Lindner Hotel band, pianist; 7:30-10:30, Trianon orchestra; Flying and Walker Vaudeville Quintet orchestra; Harry Aleman, tenor; Florence Tuerse; Jack Hartman, baritone; Ruth Hager.

WMAF, Miami Beach, Fla. (384.4), 7 p. m., dinner music; 7:30, Sherwood hotel dance orchestra; 10-12, Sherwood hotel dance orchestra.

WOAN, Batavia, Ill. (370), 6:30 p. m., Uncle Don's Night club; 8, Olive Dove, contralto; 8:15, Minna Alberts, violinist; Ada Alberts, reader; Edward Albertson, violinist.

WQJ, Chicago, Ill. (447.3), 7:0 p. m., Belvoir Garden orchestra; Raymond Lorenz, tenor; Bailey Hotel accompanist; Adeline Kedzie, soprano; Wallenrod Chamber Ensemble, violinist; 8:30, Radio Midnight and the Revelers Sextette; Maude Walden Cobb, lyric soprano; Peg Knoll, tenor; Jane Phillips, soprano; Radio Chords, trio; Jerry Hoffman, violinist; Rose Dickey, contralto; Harold Gerry and Marie Pilkinsky; West Hudson's 5-0, Glover tenor.

WTAM, Cleveland, Ohio (389.4), 6:7 p. m., Golden Theatre orchestra.

WTAS, Elgin, Ill. (302.8), 6:10-30 p. m., Purple Gazette orchestra; Harold Miles, Hazel Wilson, Frances Dorlans, Hook Sisters.

WTAM, Cleveland, Ohio (389.4), 6 p. m., Sunshine program; 7:15, Lillian Schubert, soprano; 7:30, Lenny F. Jackson, tenor; 8:30, "Gate Line", J. R. Hunter; 9:30, Fred Hitchcock's Band Concert orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., Dinner concert; 8, Goldman band concert; 9, Detroit Symphony orchestra.

Central Standard Time Stations

KFNF, Shenandoah, Iowa (266), 7:30 p. m., program, Tom Corwin.

KFRU, Bristow, Okla. (394.5), 11:1 p. m., Brown Derby band.

KFVE, University City, Mo. (546), 10 p. m., Tau Beta Pi orchestra.

KGHL, Cheyenne, Wyo. (252.7), 7:30-8 p. m., Popular music, Hamilton American Victorola Four; Vic S. Rag Weary and his Cotton Belle band; James Bellamy, Elkins orchestra; Wayne Wright, Hank Johnson, George Hagerty, Fabiola Mellon, Harold Hughes, Lyell Brown, George W. Myer; 11-12, Dancing music.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., Bar Mobley Cross Road road dance orchestra.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:15 p. m., George Gibson's Minute Men orchestra; E. Gordon Cooke, monologist.

WDAF, Kansas City, Mo. (365.6), 5:7 p. m., piano lesson by Wright's orchestra; 8, Kansas City Chiefs' band concert; Fall-in-Line-Party Lodge Plantation Players; 8:5-10, popular musical program.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., Sanford Rice orchestra; 8:30-9:30, John Thornhill and his male quartet; Eugene Jacobson, violinist.

WHAS, Milwaukee, Wis. (275), 6:1 p. m., Arthur Richter, organist.

WHAS, Louisville, Ky. (399.8), 7:30-8 p. m., Bible class program.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., Roseland orchestra; 11-12, Blackstone hotel orchestra.

WOAI, San Antonio, Tex. (394.5), 6:30 p. m., musical program, Manger hotel orch.

WOAW, Omaha, Nebr. (526), 6 p. m., music review; 6:45, w. to announced; 8:30, orchestra; 7:30, weekly concert (qtr); 8, program, outdoor Dixie Radio Hallroad company.

WOC, Davenport, Iowa (483.6), 6:0 p. m., Paul Tremaine, tenor; Helen Paine, baritone; Gertrude Brandenburg, organist.

WSB, Atlanta, Ga. (428.3), 6 p. m., Atlanta Theatre; Fabian Alimony Aquatic Club, 8, Greater Atlanta; musical program, George A. Dobbs, director.

Mountain Standard Time Stations

KMOX, Edmonton, Can. (356.9), 8:30 p. m., Alex A. Dale and his mandolin guitar and banjo orchestra.

KOA, Denver, Colo. (322.4), 6:30 p. m., Harbert Dodge and his Silver Slipper orchestra; 7:30, Book of Knowledge; 8, Denver municipal band.

Pacific Standard Time Stations

KFDM, Beaville, Tex. (346.6), 6:4-45 p. m., Hawaiian song and musical radio program; 8:30-10, Texas radio program; 10-11:30, Eddie Mathews and his orchestra.

KFWB, Hollywood, Calif. (252), 5:0 p. m., program, Jacob Ziv Vista Subchorus, Sophie Tucker's Orchestra with Vivian Preston, blues singer; Jesse Jackson, tenor; 8:15, concert band, Louis Russell, trombonist; Guy Wood and his orchestra; Stanley Dodd, organist; 10-11, Warner Bros. Eddie Cantor's Vaudeville, director.

KGW, Portland, Ore. (491.5), 6:7 p. m., Harmony quartet; 8:10-30, Harmony, Clay and company.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcadia orchestra orchestra, Jack Gardner, leader; 6-6:30, Art Hickman's Biltmore hotel dance orchestra, Edward Fitzgerald, director; 8:30-7:30, Radio Holiday hour, Viola Vos, soprano recital; Dante Zeno, Tasty Wingly Hawaiian trio; 7:30, Russian of the Santa Fe Trail, Under Do Will; 8-30, program, Florence Lake Popular company, arranged by J. Meyers; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burkett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:45 p. m., Wurlitzer organ recital; 8:15, hotel cafe, Ed F. Alder; 6:30-7, program, Sam Radio orchestra, Paul Pendleton, leader; 7-7:30, Wurlitzer, Beverlyhills Beverlyhills; 7:30-8, program, Kerrigan Publicity company; 8-8, program, West Coast Theatres; 9-12, Order of Optimistic Dance, Jack Pettigrew Band.

Index to Classical Concerts

TABULATED 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

Saturday, August 8: 5, WEAF; 6:05, WIP; 6:10, WCAE; 6:45, WPG; 7, WEAF, WJZ; 7:15, WEAF, WGBS; 7:45, WEAF, WGR; 8, WEAF, WBRB, WEAR, WIP, WNYC; 8:05, WPG; 8:10, WGBS; 8:15, WNYC; 8:20, WJZ; 8:30, WCAE, WGBS, WGR; 8:45, WBER, WEAF; 8:50, WIP; 9, WGBS, WPG; 9:50, WGBS; 10:15, WEAF; 10:30, WEAF.

Sunday, August 9: 5, WOO; 6:30, WCAE; 7, WJZ; 7:30, WCAE, WEAF, WEEI; 8:05, WJH; 8:05, WJY; 8, WEBR, WHAR; 9:15, WCAE, WEAF, WEEI; 11, WHAR.

Monday, August 10: 5, WEAF, WGR; 6:05, WIP; 6:10, WCAE; 7, WJZ; 7:15, WEAF; 7:30, WABC, WEEI; 8, WABC, WBER, WEEI, WGR, WHAR, WOO, WOR; 8:05, WNYC; 8:15, WNYC; 8:35, WBER, WCAE, WMAK, WOO; 8:40, WEAF; 8:50, WBER; 9, WLEP; 9:15, WABC, WHCA; 10, CINC; 10:05, WEAF, WOO; 11, WHN.

Tuesday, August 11: 5, WGR; 6:05, WIP; 6:30, WCAE; 7, WEAF, WGN; 7:10, WNYC; 7:15, WJZ; 7:30, WCAU, WEAF, WEEI, WEEI, WJY; 8, WCAE, WCAU, WEAF, WEEI, WFI, WGBS, WGR, WNYC, WIP; 8:15, WNYC; 8:25, WJZ; 8:30, WCAU, WEEI; 8:50, WIP; 9, WCAE, WEEI, WFI, WGBS; 9:30, WOR, WHCA; 10, WCAE, WEAF, WEEI, WFI, WHCA; 11, WHAR.

Wednesday, August 12: 5, WEAF; 6:05, WIP; 6:30, WCAE; 7:30, WEAF, WEEI, WJZ, WOO; 8, WCAE, WCAU, WEEI, WGR; 8:15, WNYC; 8:30, WCAE, WEEI, WGR; 8:45, WABC, WEEI; 9, WEAF, WFI, WGBS, WFI, WGR, WHCA; 9:30, WHCA, WJY; 10, WCAE, WEEI, WJZ.

Friday, August 14: 5, WEAF, WGR; 6:05, WIP; 6:30, WCAE; 7, WEAF, WEEI, WJZ; 7:30, WEBH, WEEI; 7:45, WEAF; 8, WKBJ, WEEI, WGR, WHAM; 8:15, WNYC; 8:30, WCAE, WEEI, WEAF, WJY; 9, WGR, WHCA; 9:15, WEAF; 10, WEAF, WHCA, WOO; 10:45, WHAR; 11, WHAR.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, August 8: 6, KYW, WCX, WBBM, WMAQ, WTAM; 6:30, WGN; 6:45, WJJD; 7, KYW, WEAR, WHT, WIBO, WMBB, WQJ; 7:15, WJJD; 7:30, WOY; 7:35, WBC; 7:35, KYW; 7:45, WLS; 8, WOAI, WBAL, WTAM; 8:15, WEAI; 8:30, KYW, PWX, WGN; 8:45, KDKA; 9, WMAQ; 9:15, WSAI.

Sunday, August 9: 5, WCX, WGES; 6:30, WHT; 6:45, WORD; 7, WEAR, WEBH, WMBB; 7:15, KDKA; 8, WBZ, WCX, WLS, WQJ; 8:15, WBBM, WWJ; 8:30, WEBH; 8:45, WBC; 9, WGN, WQJ; 10, WEBC.

Monday, August 10: 6, WBZ, WCX, WDAR, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WTIC; 7, WEAR, WHT; 7:15, WJJD; 7:30, WWJ; 7:45, WCX, WHT; 8, WBZ, WCX, WIBO, WTAM; 8:15, WEAR; 8:30, WBZ, WCX, WHAS; 8:45, KDKA; 9, WBZ, WORD, WTAM; 9:15, WBZ, WHAR; 10, WSAI, WTAM; 12:30, WHT.

Tuesday, August 11: 6, WBZ, WCX, WDAR, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WJJD; 7, KYW, WHT, WIBO, WMBB, WQJ; WWJ; 7:15, WTIC; 7:15, WJJD; 7:30, WCX, WEBH, WBC, WTIC; 7:45, WSAI; 8, KYW, WBZ, WCX, WDAR, WSAI; 8:10, WTIC; 8:30, WBZ, WCX, WGN, WMAQ; 8:45, KDKA, KYW; 9, WSAR, WORD, WSAI; 10, KYW; WKRC; 10:30, KDKA; 12:30, WHT.

Wednesday, August 12: 6, WBZ, WCX, WDAR, WIBO, WMAQ, WTAM, WWJ; 6:15, WJJD; 6:30, WGN; 7, KYW, WEAR, WHT, WIBO, WMBB, WQJ; 7:15, WJJD; 7:30, WCX, WEBH, WHT; 8, WCX, WEAR, WSAI; 8:30, WCX, WGN; 8:45, KDKA, WBZ; 10:30, WHT.

Central Standard Time Stations

Saturday, August 8: 6, KPAB, WDAW; 6:15, WCCO; 6:30, WFAA, WSMB; 7:30, KFNF, WHAS; 8, WCCO, WBZ; 8:30, WFAA, WHAS, WBC; 8:35, KYW; 9, WOAW, WOC.

Sunday, August 9: 6:30, KLDS; 7:30, WHO; 8, KFDM, WCBD, WOS; 8, WOAN; 9:15, KLDS, WCCO; 9:30, KYBR; 9:36, WOC; 10, KFVE, 10:30, WOC.

Monday, August 10: 5, KPAB, WDAW; 6:30, WFAA, WSMB; 6:45, WDAW; 7, WHA; 7:30, KFNF, WHO; 8, WCBD, WHA, WHAD, WHO, WOS, WSB; 8:30, WFAA; 9, RHD, WHAD, WOAN, WDAW; 9:25, KYBR.

Tuesday, August 11: 6, KPAB, WHAD, WDAW; 6:45, WCCO; 6:25, WDAW; 6:30, WOAI, WSMB; 7, WCCO, WOC; 7:30, KFNF, WHAS, WHO; 8, KFDM, KLDS, KSD, WOC; 8:30, WFAA, WHAS, WHO; 9, KFMQ, WOAN, WDAW; 10, WDAW; 11, WHC.

Wednesday, August 12: 5, KPAB, WHAD; 6:30, WHO, WDAW, WSMB; 7:30, KFNF, KSD, WHAS, WHO; 8, WCCO, WDAF, WHA, WOS; 8:30, WHAS, WOAI; 9, WOAN, WOC; 9:25, KYBR; 11:45, WCCO, WHAD.

Thursday, August 13: 6, WHAD; 6:30, WFAA, WDAW, WSMB; 7, WCCO, WOC; 7:30, KFNF, WHAS, WHO; 8, KLDS, WCBD, WOC; 8:30, WFAA, WHAS, WMC; 9, WOAN; 9:25, KYBR; 10:30, KFDU; 10:45, WSB.

Friday, August 14: 6, KPAB, WHAD; 6:15, WCCO; 6:30, WFAA, WDAW, WSMB; 7, KSD; 7:30, KFNF, WHAS, WHO; 8, KFDM, WCCO, WOS, WSB; 8:30, WFAA, WHAS, WHO, WMC; 9, KFDM, WOAN, WDAW, WOC.

Mountain Standard Time Stations

Saturday, August 8: 5, KOA.

Monday, August 10: 6:00, KOA; 8, KOA; 9:45, KFWA.

Tuesday, August 11: 6:30, KOA; 7:30, KOA.

Wednesday, August 12: 6:30, KOA; 8, KOA; 9:45, KFWA.

Thursday, August 13: 6:30, KOA.

Friday, August 14: 6:00, KOA; 8, KOA.

Pacific Standard Time Stations

Saturday, August 8: 6, KFOA, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 7:00, KNX; 8:10, KGO; 8:30, KHJ.

Sunday, August 9: 6:30, KHJ; 6:35, KFO; 7, KHJ, KNX; 8, KNX, KFO; 8, KNX; 10, KNX.

Monday, August 10: 6, KFOA, KGO; 6:30, KNX; 8:40, KFOA; 7:00, KNX; 9, KTCL.

Tuesday, August 11: 6, KFOA, KGO, KHJ; 6:30, KNX; 6:35, KFOA; 7, KNX, KTCL; 8, KGO, KGW, KHJ, KTCL, KFO; 8:30, KFOA; 8, KGW.

Wednesday, August 12: 6, KFOA, KGO, KHJ; 6:45, KFOA; 7, KNX, KTCL; 7:30, KFAB; 8, KNX; 8:30, KFAB, KFOA, KFO; 8:30, KHJ; 10, KGW, KTCL.

Thursday, August 13: 6, KFOA, KHJ; 6:30, KNX, KTCL; 7, KNX; 8, KGO, KGW, KFO; 9, KGW, KFO.

Friday, August 14: 6, KFOA, KGO, KHJ, KTCL; 6:15, KFO; 6:45, KFOA; 7:30, KFAB, KNX; 8, KHJ, KNX, KFO; 8:30, KFAB; 8, KGW, KFO, KTCL.

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An Evening at Home with the Listener In

STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
213.2	WOK	275.2	WJAS	313	CNRA	361.2	WHN	408.2	WJZ	457	KFI
226	WBBM	275	KOIL	313.6	KFDM	365.8	WDAF	408.2	WOR	458.6	WCAP
226	WJBU	278	KWWG	316.8	WAHG	366.6	WHB	408	WRAX	468.8	WRC
240	KFVE	278	WCAU	316.8	WGBS	273	CYZ	416.7	CKAD	475.9	WRAF
243.8	WAMD	278	WLBL	310	WGR	370.2	WEMH	416.4	WCCO	475.9	WCBD
248	WGES	278	WRAC	319	WKRC	370.2	WCN	421	KIAF	476.2	WFAA
250	WMBB	280.2	WNAC	322.4	KOA	374.8	KTHS	430	CFL	430	CTL
252	KFWB	282.8	WOAR	322.9	WSAI	379.5	WOY	428.3	WLW	483.6	WOC
253	WOCP	285.5	WHAP	326	WKRC	379.8	WRAZ	433.3	KPD	483.6	WSUI
261	KFWA	286.5	WBBG	329	CFX	384.4	CKY	491.5	KGW	491.5	CYL
261.8	WMAK	288.9	KJR	333.1	WHZ	386.4	KJR	434.5	CNRO	491.5	CYX
268	KFNF	297.9	WBAV	336.9	KNX	386.4	WMHF	434.5	NAA	493.7	WMC
268	WBCN	297.9	WBAO	340.7	KFAB	388.4	WEAO	434	AFD	508.2	KLX
268	WCTS	299.8	KPPC	340.7	WHAQ	389.4	WTAM	434.8	CFCN	508.2	WIP
270.8	WHDH	299.8	KFMQ	340.7	WMCA	394.5	KFKX	440.9	KLDS	508.2	WOO
270.8	WEEI	299.8	KGU	344.6	WCBD	394.5	WFI	440.9	WDWF	508.2	CJCA
272.6	WFBH	290.9	KGO	344.6	WLS	394.5	WLBT	440.9	WOS	516.9	KFDM
273	WHW	296.3	WPG	348.6	KFAM	394.5	WOAI	447.5	WMAQ	516.9	WCX
275	KFAU	297.5	WJJD	348.6	WTAG	399.8	WHAS	447.5	WQJ	526	WRO
275	WCAC	300.8	WTAS	352.7	WWJ	399.8	WLAS	454.3	KPOA	526	WNYC
275	WHAD	300.8	KTCL	356.8	CFCA	400	PWX	454	WJR	526	WOAW
275	WHAR	300.9	WEAF	356.9	CFNC	405	KFW	455	KFW	532.4	KFUO
275	WORD	300.1	KDKA	361.2	KGO	405.2	KHJ	461.3	WCAE	545.1	KFUO

INSTRUCTIONS FOR USE OF TABLES

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

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

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

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

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

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

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

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

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(FOR PACIFIC TIME)

Call	Mon.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Sat.	Call
ATS	232	Silent	1:00- 4:00	Silent	Silent	Silent	1:00- 7:00	Silent	232	ATS
CFCA	356.9	Silent	4:00- 8:00	Silent	5:15- 6:15	5:15- 6:15	3:00- 6:30	Silent	356.9	CFCA
CFCN	434.8	9:30-11:00	Silent	Silent	Silent	Silent	7:00- 8:00	Silent	434.8	CFCN
CNRO	434.5	Silent	9:30- 7:30	4:30- 8:00	Silent	Silent	Silent	Silent	434.5	CNRO
CJCA	516.9	8:00-10:00	4:30- 7:30	6:00- 8:00	4:30- 7:00	5:00- 7:00	8:00-10:00	7:30-11:30	516.9	CJCA
CKAD	416.7	4:30- 8:00	1:30- 2:30	Silent	4:30- 6:30	Silent	4:30- 6:30	4:30- 6:30	416.7	CKAD
CKY	384.4	Silent	3:00- 7:00	Silent	Silent	6:00- 8:00	Silent	6:30- 7:45	384.4	CKY
CNRA	313	Silent	Silent	Silent	Silent	Silent	4:30- 5:30	Silent	313	CNRA
CNRO	434.5	4:00- 6:00	Silent	Silent	Silent	Silent	Silent	Silent	434.5	CNRO
CFD	278	8:15- 9:45	Silent	Silent	7:15- 8:00	Silent	Silent	Silent	278	CFD
CYL	491.5	Silent	Silent	Silent	7:15- 8:30	Silent	8:00- 8:30	Silent	491.5	CYL
CYX	491.5	Silent	Silent	3:45- 6:30	6:45- 8:30	6:45- 8:30	Silent	7:15- 9:15	491.5	CYX
KDKA	309.1	3:00- 6:30	4:00- 8:00	2:00- 3:00	4:00- 7:30	4:00- 7:30	3:00- 7:30	4:00- 7:30	309.1	KDKA
KFAB	340.7	6:00- 8:00	2:00- 3:00	6:00- 7:00	Silent	7:30- 8:00	Silent	Silent	340.7	KFAB
KFAE	326.8	Silent	Silent	Silent	7:00- 8:00	Silent	Silent	7:00- 8:00	326.8	KFAE
KFAU	275	Silent	Silent	7:30- 8:00	Silent	Silent	Silent	8:00- 8:30	275	KFAU
KFDM	516.9	Silent	3:30- 7:30	Silent	8:00- 8:30	Silent	Silent	Silent	516.9	KFDM
KFI	467	8:45-10:00	4:30-11:00	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	467	KFI
KFKB	299.8	Silent	Silent	Silent	7:00- 8:00	5:30- 8:30	Silent	Silent	299.8	KFKB
KFKF	266	3:00- 7:00	4:00- 7:00	3:30- 7:30	3:30- 7:30	5:30- 7:30	3:30- 7:30	3:30- 7:30	266	KFKF
KFOA	454.3	6:30-11:30	Silent	8:00-12:00	8:00-10:00	8:00-10:00	8:30- 9:00	8:00-11:30	454.3	KFOA
KFRU	254.1	5:30-10:00	9:15- 7:15	8:00- 8:30	6:30-10:00	6:00- 8:30	7:15- 8:15	8:00-11:30	254.1	KFRU
KFUO	545.1	Silent	Silent	8:00- 7:00	6:00-10:00	8:00-10:00	Silent	Silent	545.1	KFUO
KFVE	240	8:00-10:00	Silent	6:00-10:00	Silent	6:00-10:00	Silent	6:00-10:00	240	KFVE
KFWA	261	Silent	Silent	8:30-10:00	Silent	8:30-10:00	Silent	8:00-10:00	261	KFWA
KFWF	291	7:00-11:00	3:00-11:00	6:30-11:00	7:00-11:00	7:00-11:00	7:30-11:00	7:30-11:00	291	KFWF
KGB	361.3	8:00- 1:00	3:00- 6:00	3:00- 1:00	8:00- 1:00	Silent	8:00- 1:00	8:00- 1:00	361.3	KGB
KGW	491.5	4:00-10:00	7:00- 9:30	Silent	8:00-10:00	8:00-11:00	8:00-10:00	8:00-10:00	491.5	KGW
KHJ	405.2	8:30-11:00	8:30-11:00	7:00- 9:30	8:00-11:00	8:30-11:00	8:00-11:00	8:00-11:00	405.2	KHJ
KIAF	421	Silent	3:00- 5:00	7:30- 8:30	Silent	7:30- 8:30	7:30- 8:30	7:30- 8:30	421	KIAF
KIR	384.4	Silent	9:00- 9:00	7:00-11:00	Silent	7:00-10:00	Silent	8:00- 8:00	384.4	KIR
KJS	293.9	Silent	3:15- 9:00	Silent	8:00- 9:00	8:30- 7:00	8:00- 8:00	8:00- 7:00	293.9	KJS
KLDS	440.9	Silent	8:00- 8:00	Silent	Silent	Silent	6:30-11:30	6:00-12:30	440.9	KLDS
KLX	508.2	Silent	Silent	8:00-11:00	8:00-11:00	7:00-10:00	7:00- 8:00	7:30- 8:00	508.2	KLX
KNX	336.9	8:00-11:00	8:30-11:00	3:30- 8:00	3:30- 8:00	3:30- 4:30	3:30- 7:30	3:30-12:00	336.9	KNX
KOA	322.4	7:00- 8:00	5:30- 8:30	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30	7:30- 8:00	322.4	KOA
KOIL	278	3:30- 7:00	6:30- 8:00	6:00- 7:00	6:30- 8:00	6:30-11:30	6:30-11:30	7:00-11:00	278	KOIL
KPO	428.3	6:30-11:00	6:30-10:00	6:00- 8:00	6:30-10:00	6:30-11:00	6:30-11:00	6:30-11:00	428.3	KPO
KPPC	299.8	5:30- 8:00	6:00- 7:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	Silent	299.8	KPPC
KSL	319.8	7:00-10:00	8:00-10:00	7:00-10:00	8:00-10:00	7:00-11:00	7:00-11:00	7:00-10:00	319.8	KSL
KTCL	356.9	6:30-12:30	7:30-10:30	8:00-10:30	8:00-10:30	7:00- 8:00	7:00- 8:00	7:00- 8:00	356.9	KTCL
KTHS	374.8	7:30- 8:30	7:30- 8:00	7:30- 8:00	7:30- 8:00	7:30- 8:00	7:00- 8:30	7:30- 8:30	374.8	KTHS
KTW	455	Silent	3:00- 5:30	Silent	Silent	Silent	Silent	Silent	455	KTW
KWWG	278	8:00- 7:30	Silent	Silent	6:30- 7:30	6:30- 7:30	6:30- 7:30	6:30- 7:30	278	KWWG
KYW	535.4	6:00-10:30	1:00- 3:00	Silent	4:00- 8:00	4:30- 8:30	4:00- 8:00	6:00-10:30	535.4	KYW
NAA	434.5	Silent	Silent	Silent	4:45- 9:00	4:30- 9:00	4:45- 9:00	4:45- 9:00	434.5	NAA
PWX	400	5:30- 8:00	Silent	Silent	Silent	3:30- 8:00	Silent	Silent	400	PWX
WABC	315.9	5:00-11:00	8:00-11:00	4:30-10:00	Silent	3:30- 8:00	3:30- 8:00	4:00- 7:30	315.9	WABC
WABD	249.8	6:00- 8:00	10:00- 8:00	Silent	8:00- 9:00	6:00- 8:00	6:00- 8:00	6:00- 8:30	249.8	WABD
WBAP	475.9	3:30- 6:30	5:00-10:00	5:30-10:00	5:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	475.9	WBAP
WBAR	499	Silent	8:00- 8:00	7:00- 9:00	Silent	6:00- 7:00	5:30- 8:00	Silent	499	WBAR
WBAV	293.9	Silent	Silent	3:00- 7:00	Silent	Silent	Silent	3:00- 8:00	293.9	WBAV
WBBM	226	5:00- 8:00	7:30-11:30	5:00- 8:00	5:00- 8:00	5:00- 8:00	5:00- 7:30	5:00- 7:30	226	WBBM
WBBR	272.6	4:00- 8:00	4:00- 5:30	4:00- 8:00	6:30-10:00	Silent	6:30-11:00	6:00-10:30	272.6	WBBR
WBCN	268	6:00-10:00	7:00- 9:00	3:00- 6:00	3:00- 6:00	3:00- 8:00	3:00- 6:00	3:00- 6:00	268	WBCN
WBZ	333.1	Silent	6:00- 8:00	4:00- 6:00	Silent	4:30- 6:00	4:30- 6:00	4:00- 6:00	333.1	WBZ
WCAC	275	Silent	Silent	4:00- 6:00	4:00- 6:00	4:30- 6:00	Silent	4:00- 6:00	275	WCAC
WCAE	461.3	4:30- 8:00	2:30- 5:00	4:00- 8:00	6:00- 7:00	4:30- 8:00	4:00- 7:00	4:00- 7:00	461.3	WCAE
WCAP	468.8	Silent	1:00- 9:15	6:00- 7:30	3:00- 7:30	3:00- 7:30	3:00- 7:00	3:30- 7:00	468.8	WCAP
WCAU	278	Silent	Silent	Silent	Silent	Silent	Silent	Silent	278	WCAU
WCBD	344.6	Silent	6:00- 7:00	3:00- 7:00	Silent	Silent	Silent	Silent	344.6	WCBD
WCCO	416.4	4:00- 8:00	3:30- 8:15	4:00- 7:00	4:00- 7:00	4:00-10:30	4:00- 7:00	4:00-11:00	416.4	WCCO
WCTS	268	Silent	3:30- 7:30	Silent	3:00- 8:00	3:00- 8:00	6:00- 7:00	Silent	268	WCTS
WEX	316.9	3:00- 4:00	3:00- 6:30	3:00- 6:30	3:00- 6:30	3:00- 6:30	3:00- 6:30	3:00- 6:30	316.9	WCX
WDAF	365.8	4:00-11:00	3:00- 5:30	4:00- 7:30	4:00-11:00	4:00- 7:15	4:00-11:00	4:00- 7:30	365.8	WDAF
WDWF	440.9	Silent	3:00- 5:00	Silent	2:00- 6:30	Silent	2:00- 6:30	2:00- 6:30	440.9	WDWF
WEAF	491.5	2:00- 5:00	8:30- 9:15	2:30- 7:30	3:00- 8:00	3:00- 8:00	2:00- 8:00	3:00- 8:00	491.5	WEAF
WEAO	280.2	Silent	Silent	Silent	3:00- 6:00	3:00- 6:00	Silent	Silent	280.2	WEAO
WEAR	389.4	4:30- 6:00	12:30- 6:00	6:00- 7:00	4:00- 7:00	4:00- 7:00	4:00- 8:00	4:00- 8:00	389.4	WEAR
WEBH	370.2	4:30- 8:00	4:00- 6:00	Silent	4:30- 8:30	4:30- 8:30	4:30- 8:30	4:30- 8:30	370.2	WEBH
WEBJ	271.8	Silent	Silent	Silent	4:00- 5:00	3:00- 5:00	4:00- 5:00	4:00- 5:00	271.8	WEBJ
WEEI	476.8	Silent	3:30- 6:30	4:00- 7:00	4:30- 7:00	4:00- 7:00	4:00- 7:00	4:00- 7:30	476.8	WEEI
WFAA	475.9	6:30-10:00	4:30- 8:00	4:00- 7:00	4:30-10:00	7:30-10:00	4:30-10:00	4:30- 7:30	475.9	WFAA
WFBH	272.6	7:30-10:00	1:30- 4:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	272.6	WFBH
WFI	394.5	Silent	2:30- 6:30	Silent	4:00- 6:00	Silent	4:00- 7:00	Silent	394.5	WFI
WGCP	280	Silent	2:30- 8:00	3:30- 6:30	Silent	3:30- 6:00	Silent	3:30- 6:00	280	WGCP
WGBS	315.9	7:30- 1:00	3:30- 8:30	Silent	3:00- 8:00	3:00- 8:00	3:00- 8:00	Silent	315.9	WGBS
WGES	288	7:30-11:00	1:30-11:00	Silent	7:30-11:00	7:30-11:00	7:30-11:00	7:30-11:00	288	WGES
WGN	370.2	6:30- 8:00	6:00- 7:00	Silent	3:00- 8:00	3:00- 8:00	3:30- 8:00	3:00- 8:00	370.2	WGN
WGR	319	4:15- 8:15	11:30-10:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	319	WGR
WGY	379.5	6:00- 9:00	3:00- 8:00	3:30- 8:00	4:30- 8:00	Silent	3:45- 8:30	4:30- 7:30	379.5	WGY
WHAD	275	4:00- 5:00	7:15- 2:15	5:30- 8:00	4:00- 7:00	4:00-10:30	4:00- 7:00	4:00- 8:00	275	WHAD
WHAR	275	3:30- 6:30	8:00- 8:00	3:30- 8:00	3:30- 8:00	Silent	6:30- 8:00	3:30- 8:00	275	WHAR
WHAS	399.8	5:30- 7:30	3:00- 5:00	Silent	3:30- 7:30	5:30- 7:30	6:30- 7:30	3:30- 7:30	399.8	WHAS
WHAZ	379.5	Silent	Silent	8:00- 8:00	Silent	7:00- 8:00	Silent	Silent	379.5	WHAZ
WHB	365.8	Silent	3:00-11:30	2:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	365.8	WHB
WHN	261.3	6:30- 8:30	1:30- 4:30	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	261.3	WHN
WHO	526	Silent	3:00- 6:30	3:00-10:00	3:00-10:00	4:30- 6:30	3:30-10:00	3:30-10:00	526	WHO
WHT	399.8	4:30-10:00	6:00- 7:30	4:00-10:00	3:00-11:00	4:30-10:00	4:00-10:00	4:00-10:00	399.8	WHT
WIBO	226	8:00- 1:00	3:00- 9:00	Silent	2:00-12:00	3:00- 8:00	2:00-12:00	3:00-11:00	226	WIBO
WIP	396.8	6:30- 8:00	Silent	Silent	4:00- 8:00	Silent	4:30- 8:00	Silent	396.8	WIP
WJAR	305.9	Silent	3:30- 6:15	4:00- 8:00	4:30- 7:30	3:30- 4:00	4:00- 7:00	4:00- 8:00	305.9	WJAR
WJAS	275.2	8:00- 8:00	3:00- 8:00	8:00- 8:00	8:00- 8:00	3:00- 8:00	3:30- 8:00	3:00- 8:00	275.2	WJAS
WJJD	297.9	8:00-10:00	3:00- 7:00	3:00-10:00	8:00-10:00	8:00- 7:00	Silent	3:00- 7:00	297.9	WJJD
WJZ	405.2	Silent	4:00- 8:00	4:00- 8:00	4:00- 7:00	4:00- 8:00	4:00- 8:00	4:00- 8:00	405.2	WJZ
WKZ	434.3	8:00- 7:30	4:00- 7:30	4:00- 7:30	4:15- 8:15	4:30- 7:30	5:30- 7:00	4:15- 8:00	434.3	WKZ
WKAQ	340.7	Silent	4:00- 6:00	Silent	Silent	4:30- 6:00	Silent	Silent	340.7	WKAQ
WKAF	365.8	9:30-11:00	Silent	8:00- 8:00	8:00- 8:00	8:30- 8:00	8:00- 8:00	8:00- 8:00	365.8	WKAF
WKBC	256	7:30- 9:00	3:45- 8:00	5:30- 7:00	7:00- 9:30	5:30- 7:00	5:30- 7:00	5:30- 7:00	256	WKBC
WLBL	275	Silent	Silent	Silent	Silent	Silent	4:00- 7:00	Silent	275	WLBL
WLIT	394.5	3:30- 6:30	3:30- 6:30	6:30- 7:30	6:30- 7:30	Silent	3:30- 7:30	3:30- 7:30	394.5	WLIT
WLS	344.6	6:00-10:00	4:30- 8:00	Silent	4:00-10:00	4:00- 8:00	4:00- 8:00	4:00- 8:00	344.6	WLS
WLW	422.3	3:00- 8:00	3:30- 3:30	3:00- 7:30	3:00- 7:30	3:00- 8:00	4:00- 8:00	Silent	422.3	WLW
WMAK	280.2	Silent	Silent	3:30- 7:30	Silent	3:00- 7:30	3:00- 7:30	3:00- 7:30	280.2	WMAK
WMAQ	447.5	3:00- 5:00	Silent	Silent	3:00- 7:30	3:00- 7:30	3:00- 7:30	3:00- 7:30	447.5	WMAQ
WMBB	250	4:00- 2:00	4:00- 7:30	4:00- 7:30	4:00- 7:30	4:00- 7:30	4:00- 7:30	4:00- 7:30	250	WMBB
WMBF	384.4	6:30- 8:00	3:30- 9:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	384.4	WMBF
WMC	499.7	6:30- 7:30	Silent	3:30- 7:30	3:30-10:00	3:30-10:00	3:30-10:00	3:30-10:00	499.7	WMC
WMCA	340.7	3:30- 6:00	3:00- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	3:30- 8:00	340.7	WMCA
WMAC	288.2	6:30- 8:00	11:00- 8:00	6:30- 8:00	6:30- 8:00	6:30- 8:00	6:30- 8:00	4:00- 6:00	288.2	WMAC
WMAF	526	3:30- 7:00	3:30- 7:00	3:30- 7:00	3:30- 8:30	3:30- 8:30	3:30- 8:30	Silent	526	WMAF
WOAI	394.5	3:30- 7:30	4:00- 8:30	3:30- 8:30	3:30- 8:30	6:00- 7:30	7:00- 8:00	7:30- 8:00	394.5	WOAI
WOAN	282.8	Silent	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 8:00	282.8	WOAN
WOAW	526	4:00-10:00	7:00- 8:00	4:00- 8:00	4:00-11:00	Silent	4:00- 8:00	4:00- 8:00	526	WOAW
WOC	483.6	4:00-10:00	4:00- 9:30	Silent	4:30- 6:00	4:30- 6:00	4:30- 8:00	4:30-10:00	483.6	WOC
WOK	217.3	7:00-10:00	4:00-10:00	4:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	217.3	WOK
WOO	508.2	3:00- 4:30	12:00- 8:00	3:30- 4:30	3:30- 4:30	3:30- 4:30	3:30- 7:30	3:30- 7:30	508.2	WOO
WOR	405.2	3:15- 6:30	Silent	3:15- 8:30	3:15- 8:30	3:15- 8:30	3:15- 8:30	3:15- 8:30	405.2	WOR
WORD	275	5:30- 7:30	3:00- 5:00	5:00- 6:00	5:30- 7:00	5:30- 7:00	5:30- 7:00	5:30- 7:00	275	WORD
WOS	448.9	Silent	6:30- 8:00	6:00- 8:00	Silent	6:00- 8:00	Silent	6:00- 8:00	448.9	WOS
WPG	299.8	8:00- 8:00	3:00- 7:00	3:00- 7:00	Silent	Silent	Silent	3:00- 7:00	299.8	WPG
WQJ	447.5	4:00-12:00	4:00- 7:00	Silent	4:00-11:00	4:00-11:00	4:00-11:00	4:00-11:00	447.5	WQJ
WRAC	275	Silent	3:30- 4:30	3:30- 4:30	Silent	Silent	Silent	Silent	275	WRAC
WRC	468.8	Silent	Silent	Silent	4:00- 8:00	4:00- 8:00	4:00- 8:00	4:00- 8:00	468.8	WRC
WRAX	250.8	7:00- 8:00	Silent	Silent	8:15- 8:00	Silent	8:00- 8:00	8:00- 8:00	250.8	WRAX
WRAW	399.8	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	399.8	WRAW
WRBC	275	3:00- 7:00	3:00- 7:00	3:00- 7:00	3:00- 7:00	3:00- 7:00	3:00- 7:00	3:00- 7:00	275	WRBC
WRC	468.8	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	468.8	WRC
WRCO	250.8	7:00- 8:00	Silent	Silent	Silent	Silent	Silent	Silent	250.8	WRCO
WSB	384.4	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	384.4	WSB
WSAI	325.9	5:30-10:30	Silent	7:00- 9:00	4:00- 7:00	4:00- 7:00	4:00- 7:00	Silent	325.9	WSAI
WSB	415.3	5:30-10:00	8:30- 7:15	6:00-10:00	6:00-10:00	6:00-10:00	6:00-10:00	6:30- 8:30	415.3	WSB
WSMB	319	4:00- 8:30	Silent	6:30- 8:30	6:30- 8:30	6:30- 8:30	6:30- 8:30	4:30- 8:30	319	WSMB
WSUI	483.6	Silent	7:00- 8:00	6:00- 7:00	6:00- 7:00	Silent	Silent	Silent	483.6	WSUI
WTAM	389.4	3:00- 9:00	6:00- 8:00	3:00- 9:00	3:00- 7:30	3:00- 7:30	3:00- 7:30	3:00-10:00	389.4	WTAM
WTAS	285.8	5:00- 7:00	5:00- 5:00	5:00- 7:00	5:00- 7:00	5:00- 7:00	5:00- 7:00	5:00- 7:00	285.8	WTAS
WTIC	348.6	Silent	Silent	3:00- 4:00	3:00- 4:00	3:00- 4:00	3:00- 4:00	3:00- 4:00	348.6	WTIC
WWJ	352.7	Silent	6:30- 7:00	6:30- 8:00	Silent	6:30- 8:00	Silent	6:30- 7:00	352.7	WWJ

Educational Talks to Be on WBAV Program

Columbus, Ohio, Station Guides Small Investors Right

COLUMBUS, O.—Station WBAV here operates approximately 18 hours per week. Of the 18 hours 15 minutes is devoted to two educational talks. Of the two talks one is 10 minutes in length and is prepared by the state department of health. The other, of five minutes duration, is devoted to sale investments.

Yet five minutes' time each week, taken on Saturday, when laborers and salaried men draw their pay and farmers cash in on their produce, has resulted in a saving probable amounting to thousands of dollars.

Each Saturday Karl T. Finn, manager of the Columbus Better Business commission, has his paper ready. In a free and easy manner, Mr. Finn unbabits crooked stocks and bonds and their salesmen. He names firms and their representatives who should be avoided and describes their smooth methods. The result, as attested by the steady stream of mail, demonstrates that would-be investors have been made wary of the get-rich-quick agents. All in all, it has proven the most practically helpful series of talks ever broadcast by a Columbus station.

RADIO SELF STARTER TO AWAKEN SLEEPERS

Automatic Device Will Start Set at Broadcaster's Will

LONDON, Eng.—A time, not far distant, when broadcasting stations will be able to "call up" listeners just as if they were on the telephone, is the prospect held out by an ingenious but simple invention known as the "Radio Self Starter." The device can be constructed at home and attached to any broadcast receiver.

It operates by means of a permanent crystal detector and a pair of relays. Immediately the local station begins transmission the current set up in the receiving aerial, though feeble, is sufficient to actuate the relays, which switch on the mike current and thus put the set into operation.

An important advantage of this new invention is that it permits the broadcasting station to get in touch with listeners at any time, irrespective of the regular transmitting hours.

Sport Lovers to Get Regular Radio Report

WJZ to Give One-Half Hour Bulletins on Baseball

NEW YORK.—After several weeks of experimenting, the staff of Station WJZ here has worked out a program for the broadcasting of news of interest to the following of the world of sport which they think will meet with the hearty approval of all.

On week days baseball scores of the major leagues will be given lining by lining every half hour, from the hours of 4 to 8 o'clock, local time, in the afternoon. The first report will be made to the Radio audience at 4 o'clock, the next at 4:30, etc., until 8 o'clock when the last afternoon report will be made. At 8 o'clock each week day evening, with the exception of Tuesday, a sporting final report will be sent out which will include a summary of the baseball scores for the day, results of all races at local and other prominent tracks and other big sporting events of the day.

On Tuesdays, the sporting final will be given at 7:45 instead of the usual 8 o'clock. On Sundays, the series of baseball scores given in the afternoon on week days will be omitted but the sporting final will be broadcast as usual.

THOUSANDS LISTEN TO RADIO BAND CONCERTS

Attend Concerts Broadcast from Mall in Central Park

NEW YORK.—Commissioner William W. Mills of the department of parks and structures here, under whose administration Municipal Station WNYC is operated, estimates that upwards of 300,000 people of this city hear the public concerts broadcast four nights a week from the Mall in Central park.

Among the organizations to be heard there through the balance of the summer are George Briegel and his twenty-second regiment band. Mr. Briegel is recognized among musicians as one of the most capable bandmasters in the country.

Hugo Riesenfeld and his orchestra, and a symphony orchestra headed by Nahan Franko will be heard frequently. These concerts begin at 7:15 p. m., eastern time, and are broadcast through WNYC on Monday, Wednesday, Friday and Saturday of each week. Well-known vocal and instrumental soloists are heard with them each performance.

www.americanradiohistory.com

An Evening at Home with the Listener In

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

Call	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
ATS	Silent	3:00- 6:00	Silent	Silent	Silent	7:00- 8:00	Silent	ATS
CFCA	Silent	6:00- 7:00	Silent	7:15- 8:45	7:00- 8:00	7:15- 8:15	Silent	CFCA
CFCN	11:00- 1:00	Silent	Silent	Silent	Silent	9:00-10:00	Silent	CFCN
CHNC	Silent	Silent	Silent	Silent	Silent	Silent	Silent	CHNC
CICA	10:00-12:00	8:30- 9:00	8:30-10:00	8:30- 9:00	7:00- 8:00	10:00-12:00	9:30-12:00	CICA
CKAC	9:30- 1:00	Silent	Silent	8:30- 3:00	Silent	8:30- 9:00	Silent	CKAC
CKY	Silent	7:00- 9:45	Silent	8:00-10:45	Silent	8:30- 3:00	Silent	CKY
CNRA	Silent	Silent	Silent	8:30- 7:00	Silent	Silent	8:30- 7:30	CNRA
CNRE	10:00- 1:00	Silent	Silent	8:30-10:30	8:30-11:30	Silent	Silent	CNRE
CYE	10:30-11:00	Silent	Silent	8:15- 10:15	Silent	Silent	Silent	CYE
CYL	Silent	Silent	10:00-11:30	10:00-11:30	Silent	Silent	Silent	CYL
CYS	Silent	Silent	7:30-10:30	Silent	Silent	7:00-10:30	Silent	CYS
KDKA	7:45- 8:30	6:45- 7:00	7:45- 8:30	7:45- 8:00	7:45- 8:00	8:00- 9:00	8:00- 9:00	KDKA
KFAB	6:00- 7:00	5:00- 6:00	6:00- 7:00	6:00- 7:00	6:00- 9:00	Silent	6:00- 9:00	KFAB
KFAE	Silent	Silent	Silent	8:00-11:00	9:30-11:30	Silent	Silent	KFAE
KFAU	Silent	5:00- 11:00	Silent	Silent	Silent	9:00-11:00	Silent	KFAU
KFDM	Silent	3:00- 5:00	Silent	9:00-10:30	Silent	8:00-12:00	Silent	KFDM
KFI	8:45- 2:00	6:00- 1:00	5:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	KFI
KFMQ	Silent	Silent	Silent	8:00-10:00	7:00- 9:00	Silent	Silent	KFMQ
KFNF	7:00- 9:00	6:00- 9:00	7:00- 9:00	7:00- 8:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	KFNF
KFOA	5:00- 1:00	Silent	5:00-12:00	8:00- 1:00	8:00-12:00	Silent	10:00-12:00	KFOA
KFPW	1:00-12:00	3:00- 7:00	7:00-10:30	10:00-12:00	10:00-12:00	10:00-12:00	Silent	KFPW
KFUO	Silent	5:30- 9:00	3:00- 9:00	Silent	8:15-10:15	Silent	Silent	KFUO
KFVE	10:00-12:00	Silent	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	KFVE
KFWA	Silent	10:00-12:00	10:00-12:00	Silent	10:00-12:00	Silent	10:00-12:00	KFWA
KFWB	9:00- 1:00	11:00- 1:00	8:00- 1:00	8:00- 1:00	3:00- 1:00	3:00- 1:00	4:00- 1:00	KFWB
KGO	10:00- 2:00	8:30-11:30	10:00- 2:00	10:00- 2:00	10:00- 2:00	10:00- 2:00	Silent	KGO
KGW	8:00- 2:00	6:45-11:30	Silent	10:00- 2:00	8:00- 1:00	10:00- 2:00	10:00- 2:00	KGW
KHJ	7:30- 1:00	6:00- 1:00	7:30- 1:00	7:30- 1:00	7:30- 1:00	7:30- 1:00	7:30- 1:00	KHJ
KJBF	Silent	6:00- 3:00	9:30-12:30	Silent	3:00-10:00	Silent	9:30-10:30	KJBF
KJR	Silent	9:00-10:00	8:00- 1:00	9:00-12:00	9:00-12:00	10:30- 3:00	10:30- 1:00	KJR
KJS	Silent	8:15-11:30	Silent	10:00-11:00	10:00-11:00	10:00-11:00	Silent	KJS
KLDS	Silent	8:30-10:00	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent	KLDS
KLX	Silent	Silent	9:00- 1:00	Silent	3:00- 1:00	Silent	8:00-12:00	KLX
KNX	10:00- 1:00	7:00- 7:00	3:00- 3:00	6:30- 3:00	6:30- 3:00	6:30- 3:00	8:00- 3:00	KNX
KOA	8:30-10:00	2:00-10:00	7:30- 10:00	Silent	7:30-10:00	Silent	7:30-10:00	KOA
KSL	1:30-12:00	7:30- 9:30	7:30-12:00	7:30-12:00	7:30-12:00	7:00-12:00	7:30-12:00	KSL
KTCL	8:30- 2:00	8:30-10:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	KTCL
KTHS	3:30- 1:00	8:00-11:30	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00-10:00	KTHS
KTNT	6:00-10:00	9:00-10:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	KTNT
KWWG	8:00- 9:30	Silent	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	Silent	KWWG
KYW	Silent	8:00-11:30	Silent	Silent	8:00-11:30	8:00-11:00	Silent	KYW
KYW	6:00-12:00	3:00- 1:00	Silent	8:00-10:00	8:00-11:00	8:00-10:00	Silent	KYW
MAA	Silent	Silent	8:00- 7:00	8:00- 7:00	8:00- 7:00	8:00- 7:00	Silent	MAA
PWX	7:30-10:00	Silent	Silent	Silent	Silent	Silent	Silent	PWX
WABC	11:00- 1:30	Silent	6:00-12:00	Silent	6:30-12:00	Silent	7:00- 1:00	WABC
WABO	10:00-11:00	8:00-10:00	Silent	10:00-11:00	10:00-11:00	10:00-11:00	Silent	WABO
WBAP	1:00- 3:00	11:00-10:00	7:30-12:00	7:30-10:00	7:30-10:00	7:30-10:00	11:00-12:00	WBAP
WBAX	Silent	10:00-11:00	9:00-11:00	9:00- 3:00	8:00- 9:00	7:30- 9:00	8:30- 9:00	WBAX
WBAY	Silent	Silent	7:00- 9:00	Silent	Silent	Silent	7:00- 9:00	WBAY
WBBM	7:00-11:00	2:00- 1:00	Silent	7:00-11:00	7:00- 9:00	7:00-12:00	7:00- 9:00	WBBM
WBBR	8:00- 7:00	8:00- 7:00	8:00- 7:00	Silent	Silent	8:00- 7:00	Silent	WBBR
WBCN	8:00-11:00	4:00-11:00	Silent	8:00-10:00	2:00- 1:00	2:00- 1:00	2:00- 1:00	WBCN
WBZ	Silent	8:00- 8:45	3:00- 5:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	3:00- 8:00	WBZ
WCAE	Silent	Silent	6:00- 9:00	Silent	6:00- 9:00	6:00- 9:00	6:00- 9:00	WCAE
WCAF	6:30- 1:00	4:30- 5:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	WCAF
WCAP	Silent	3:00- 8:00	6:00- 9:00	Silent	6:00- 9:00	Silent	6:00- 9:00	WCAP
WCAU	Silent	Silent	6:30- 9:30	6:30- 9:30	4:00- 9:30	6:00- 8:00	6:30- 8:00	WCAU
WCOD	Silent	7:00- 8:00	7:00- 9:30	Silent	Silent	7:00- 8:30	Silent	WCOD
WCCO	6:00-11:00	4:30-10:15	8:00-11:30	3:00- 3:00	6:00-10:00	6:00-11:00	6:00-10:00	WCCO
WCTS	Silent	3:00- 5:00	Silent	Silent	8:00- 7:00	3:00- 6:00	Silent	WCTS
WCX	3:00- 8:00	3:00- 6:30	6:00- 8:00	3:00-10:00	3:00- 6:30	6:00- 8:30	6:00- 8:30	WCX
WDAF	6:00- 1:00	4:00- 1:00	Silent	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	WDAF
WDWF	Silent	3:00- 6:00	Silent	6:00-10:30	6:00-10:30	6:00-10:30	6:00-10:30	WDWF
WEAF	6:00-10:00	3:30- 5:30	6:30- 9:30	6:30-10:00	4:00-10:00	6:30-10:00	6:30-10:00	WEAF
WEAO	Silent	Silent	Silent	Silent	7:00- 9:00	7:00- 9:00	7:00- 9:00	WEAO
WEAR	6:00- 7:00	3:00- 8:00	6:00- 7:00	6:00- 9:00	6:00-10:00	6:00-10:00	6:00-10:00	WEAR
WEBH	6:30-11:30	8:00- 8:00	Silent	8:30-11:30	6:30-11:00	6:30-11:00	6:30-11:00	WEBH
WEBJ	Silent	Silent	Silent	6:00- 7:00	6:00- 7:00	Silent	Silent	WEBJ
WEEI	Silent	3:30- 8:30	9:30- 3:00	8:00- 9:00	4:00- 9:00	8:00- 9:00	8:00- 9:00	WEEI
WFAA	8:30-12:00	6:00-11:00	8:00-12:00	8:00-12:00	Silent	8:00-12:00	8:00-12:00	WFAA
WFBH	9:30-12:00	3:00- 6:00	9:30-10:00	9:30-10:00	8:30-10:00	9:30-10:00	3:30-10:00	WFBH
WFI	Silent	6:30- 8:15	Silent	6:00- 9:00	Silent	6:00- 9:00	Silent	WFI
WGBS	8:00-10:00	1:30- 6:00	Silent	4:00-10:00	Silent	1:00-11:00	Silent	WGBS
WGCP	Silent	6:30-10:00	8:30-10:00	Silent	8:30-10:00	8:30-10:00	8:30-10:00	WGCP
WGES	9:30- 1:00	9:30- 1:00	Silent	9:00- 1:00	9:30- 1:00	9:30- 1:00	9:30- 1:00	WGES
WGN	8:30-10:30	1:30- 3:00	Silent	8:30-10:00	8:30-10:30	8:00-10:30	8:00-10:30	WGN
WGR	6:15- 8:15	1:00- 3:00	8:00-11:00	6:00- 8:00	8:00-11:00	1:00-11:00	6:00- 8:00	WGR
WGY	9:00-11:00	3:30-10:00	3:30- 7:00	4:00-10:00	Silent	7:00-10:30	4:15- 9:00	WGY
WHAD	4:00- 7:00	3:15- 6:15	4:00- 7:00	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	WHAD
WHAS	3:30- 6:30	7:00-10:00	3:30- 7:00	3:00-11:00	Silent	3:00- 9:00	8:00-11:00	WHAS
WHAZ	7:00- 9:00	4:00- 8:00	Silent	7:30- 9:30	7:30- 8:00	7:00- 9:00	7:30- 9:00	WHAZ
WHB	Silent	Silent	9:00-10:00	Silent	Silent	Silent	Silent	WHB
WHN	Silent	8:00- 1:00	7:00- 8:00	Silent	7:00- 8:00	8:00-10:00	7:00- 8:00	WHN
WHO	3:30- 8:00	3:30-10:00	3:30-10:00	3:30-10:00	3:30-10:00	3:30-10:00	3:30-10:00	WHO
WKT	Silent	7:30- 9:30	7:30-12:00	7:30- 9:00	5:30-11:30	7:30-12:00	7:30-12:00	WKT
WLBG	8:00-12:00	11:30- 9:30	9:00-12:00	1:00-11:00	8:00-10:00	8:00-12:00	8:00-12:00	WLBG
WLIT	6:00- 7:00	6:00-11:00	Silent	6:00- 3:00	3:00-11:00	6:00- 3:00	6:00- 3:00	WLIT
WOP	8:00-10:00	Silent	Silent	8:00-12:00	Silent	8:00-12:00	Silent	WOP
WOAE	Silent	8:30- 9:30	8:00- 9:00	8:00- 9:00	3:00- 8:00	8:00- 9:00	8:00- 9:00	WOAE
WOAI	3:30-10:00	3:00-10:30	3:00-10:30	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	WOAI
WOAN	3:45-12:00	7:15- 9:00	3:45-10:00	3:45-12:00	3:15-12:00	3:45-10:00	3:45-10:00	WOAN
WOAW	Silent	8:15- 7:15	Silent	8:00- 6:15	8:00- 6:15	8:00- 6:15	8:00- 6:15	WOAW
WOAX	8:00- 9:00	8:00- 9:00	8:15- 7:15	4:30- 9:00	4:30- 9:00	8:15- 9:00	8:15- 9:00	WOAX
WOAZ	Silent	Silent	Silent	8:00- 9:00	8:00- 9:00	Silent	Silent	WOAZ
WOC	11:30- 1:00	8:00- 9:00	7:00- 9:00	8:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	WOC
WOCL	2:00-11:30	3:45-10:00	7:00- 8:00	8:00- 9:00	8:00- 9:00	Silent	7:30- 8:00	WOCL
WLBL	Silent	Silent	Silent	9:00-11:00	9:00- 9:00	Silent	Silent	WLBL
WLIT	3:30- 6:30	Silent	8:00- 9:00	Silent	3:30- 9:00	3:30- 9:00	6:30-10:00	WLIT
WLS	8:45-12:00	6:00- 7:00	Silent	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	WLS
WLW	3:00- 1:00	3:30- 7:30	7:30- 9:30	3:00- 3:00	8:00- 3:00	8:00-11:15	Silent	WLW
WMAK	Silent	7:00- 9:00	Silent	7:00- 9:00	10:00-12:00	7:00- 9:00	Silent	WMAK
WMAQ	7:00- 8:00	Silent	Silent	7:00- 8:15	7:00- 8:00	7:00- 8:15	7:00- 8:00	WMAQ
WMBD	8:00- 9:30	8:00- 9:30	Silent	8:00- 9:00	8:00- 9:00	8:00- 9:00	8:00- 9:00	WMBD
WMBF	3:00-11:00	3:00-11:00	3:00-11:00	3:00-11:00	3:00-11:00	3:00-11:00	3:00-11:00	WMBF
WMC	7:00- 9:00	Silent	7:30- 9:30	7:00-12:00	Silent	7:00- 9:00	7:00- 9:00	WMC
WMCA	4:00-10:00	3:00- 5:30	4:30-10:00	4:30-10:00	4:30-10:00	4:30-10:00	4:30-10:00	WMCA
WMAC	6:00- 8:00	3:00- 7:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	WMAC
WMAQ	4:30- 6:30	7:00- 9:00	5:00- 9:30	5:00- 9:30	5:00- 9:30	5:00- 9:30	5:00- 9:30	WMAQ
WOAI	6:30- 9:30	3:00-10:00	8:30-10:30	8:30- 9:30	8:30-10:00	8:30-10:00	8:30-10:00	WOAI
WOAN	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	3:00-10:00	WOAN
WOAW	8:00-12:00	3:00-10:00	8:00- 1:00	8:00- 1:00	8:00-12:00	8:00-12:00	8:00-12:00	WOAW
WOC	9:30-12:00	8:00-11:30	Silent	8:30- 1:00	8:00-10:30	8:00-12:00	8:00-10:00	WOC
WOK	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	WOK
WOO	8:30- 6:30	3:45- 5:00	8:30- 6:00	8:30- 6:00	4:15- 6:00	4:15- 6:00	4:15- 6:00	WOO
WOR	8:30- 9:30	Silent	8:30- 9:30	8:30- 9:30	8:30- 9:30	8:30- 9:30	8:30- 9:30	WOR
WORD	7:30- 9:00	7:30- 8:30	7:30- 8:45	7:00- 8:00	7:30- 8:00	7:30- 8:00	7:30- 8:00	WORD
WOS	Silent	7:30- 8:30	8:30- 9:00	8:30- 9:00	8:00-10:00	8:30- 9:00	8:30- 9:00	WOS
WPG	3:00-10:00	1:15- 9:00	3:00- 9:00	3:00- 9:00	3:00-10:00	3:00- 9:00	3:00-10:00	WPG
WQJ	8:00- 2:00	8:00- 9:00	Silent	8:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	WQJ
WRAC	Silent	7:30- 8:30	7:30- 8:30	Silent	Silent	Silent	Silent	WRAC
WRC	3:00-10:30	Silent	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	8:00-11:00	WRC
WRCO	8:00-10:00	Silent	Silent	7:15- 8:45	Silent	7:15- 8:45	8:00- 9:00	WRCO
WRW	8:00-10:30	7:00-10:00	8:15-10:30	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	WRW
WSAI	7:00-10:00	3:00- 5:00	6:00-11:00	6:00- 9:00	6:00-11:00	6:00- 9:00	Silent	WSAI
WSB	6:00-12:00	7:30- 9:15	6:00-12:00	6:00-12:00	10:45-12:00	6:00-12:00	6:30-12:00	WSB
WSMB	8:30-10:00	Silent	6:00-10:00	8:30- 7:30	8:30-10:30	8:30-10:30	8:30-10:30	WSMB
WSUI	Silent	9:00-10:00	8:00- 9:00	Silent	Silent	Silent	Silent	WSUI
WTAM	3:00-11:00	Silent	3:00-11:00	9:00- 9:00	3:00-10:00	3:00- 6:00	3:00- 6:00	WTAM
WTAS	7:00- 9:00	7:00-12:00	7:00- 9:30	7:00- 9:30	7:00- 9:30	7:00-11:00	7:00- 9:30	WTAS
WTIC	Silent	Silent	6:00- 7:00	4:00- 7:00	Silent	6:30- 8:00	6:30- 8:00	WTIC
WWJ	Silent	3:30- 6:00	3:00- 9:00	3:00- 9:00	3:00-10:00	3:00-10:00	3:00-10:00	WWJ

Call	Location	Wave	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
ATS	Fort Bragg, N. C.	410	Silent	4:00- 7:00	Silent	Silent	Silent	8:00- 9:00	Silent	ATS
CFCA	Toronto, Ont.	300.3	Silent	7:00- 8:00	Silent	8:15- 9:15	8:15- 9:15	8:15- 9:15	Silent	CFCA
CFCN	Calgary, Alta.	434.3	11:00- 2:00	Silent	Silent	Silent	Silent	10:00-11:00	Silent	CFCN
CHNC	Toronto, Ont.	326.8	Silent	Silent	Silent	Silent	Silent	Silent	Silent	CHNC
CICA	Edmonton, Can.	516.8	11:00- 1:00	8:00-10:30	Silent	8:30-10:00	8:30-10:00	11:30- 1:00	10:30- 1:00	CICA
CKAC	Montreal, Can.	440.7	9:00-10:30	Silent	Silent	6:00-10:30	7:00- 9:30	8:30- 1:00	Silent	CKAC
CKY	Winnipeg, Man.	384.4	Silent	8:00-12:00	Silent	Silent	Silent	9:00-11:45	9:30-10:45	CKY
CNRA	Moncton, Can.	516	Silent	Silent	Silent	Silent	Silent	Silent	7:30- 8:30	CNRA
CNRO	Ottawa, Ont.	434.5	7:30-12:30	Silent	Silent	Silent	Silent	Silent	Silent	CNRO
CYE	Mexico City, Mex.	370	11:30-12:15	Silent	Silent	10:15-11:15	Silent	Silent	Silent	CYE
CYL	Mexico City, Mex.	485	Silent	Silent	Silent	11:00-12:30	Silent	Silent	11:00-12:30	CYL
CYS	Mexico City, Mex.	380	Silent	Silent	10:15-11:30	7:15- 9:15	Silent	Silent	10:15-11:30	CYS
KDKA	Pittsburgh, Pa.	309.1	8:45- 9:45	6:45- 9:45	7:45- 9:00	8:45- 9:45	8:45- 9:45	8:45- 9:45	8:45- 9:45	KDKA
KFAB	Lincoln, Nebr.	340.7	7:00- 8:00	5:00- 6:00	7:00- 8:00	7:00- 8:00	7:00-10:30	Silent	7:00-10:00	KFAB
KFAE	Pullman, Wash.	348.6	Silent	Silent	Silent	Silent	Silent	Silent	Silent	KFAE
KFAU	Boise, Idaho	272	Silent	Silent	10:00-12:00	Silent	10:00-12:00	Silent	10:00-12:00	KFAU
KFDM	Beaumont, Texas	315.6	Silent	8:00-10:00	Silent	9:00-11:30	Silent	Silent	9:00-11:30	KFDM
KFI	Los Angeles, Calif.	452	9:45- 1:00	7:00- 2:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	KFI
KFKU	Lawrence, Kan.	329.8	Silent	Silent	Silent	8:30- 9:30	12:00- 1:00	8:30- 9:30	8:30- 9:30	KFKU
KFMX	Northfield, Minn.	336	8:30-10:30	7:30-10:30	8:30-10:30	8:00-10:30	8:30-10:30	8:30-10:30	8:30-10:30	KFMX
KFOA	Shenandoah, Ia.	360	9:00- 9:00	Silent	8:00- 1:00	8:00- 2:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	KFOA
KFPW	Seattle, Wash.	454.3	8:30- 1:00	4:30- 8:00	8:00-12:30	8:00-12:30	8:00-12:30	8:00-12:30	8:00-12:30	KFPW
KFRU	Bristow, Okla.	536.5	8:30- 1:00	6:30- 8:00	8:00-12:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	KFRU
KFUO	St. Louis, Mo.	545.1	Silent	8:15-10:15	8:00-10:00	Silent	10:15-11:15	Silent	Silent	KFUO
KFVE	Uniontown, Pa.	240	11:30- 1:00	Silent	11:30- 1:00	11:30- 1:00	11:30- 1:00	11:30- 1:00	11:30- 1:00	KFVE
KFWA	Salem, Utah	360	Silent	Silent	12:00- 1:00	12:00- 1:00	12:00- 1:00	12:00- 1:00	11:00- 1:00	KFWA
KFWB	Hollywood, Calif.	252	10:00- 1:00	12:00- 3:00	9:30- 2:00	10:00- 2:00	10:00- 4:00	10:00- 2:00	10:00- 2:00	KFWB
KGO	Oakland, Calif.	361.2	11:00- 6:30	9:00-12:00	11:30- 6:30	11:00- 6:00	11:00- 6:00	11:00- 6:00	11:00- 6:00	KGO
KGW	Portland, Ore.	491.5	8:00- 3:00	10:15-12:00	Silent	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00	KGW
KHJ	Los Angeles, Calif.	405.2	9:00- 1:00	9:00- 1:00	10:00- 4:30	8:30- 2:00	8:30- 2:00	8:30- 2:00	8:30- 2:00	KHJ
KIAF	Minneapolis, Minn.	422	Silent	3:00- 4:00	8:00- 9:00	8:00- 9:00	8:00- 9:00	8:00- 9:00	8:00- 9:00	KIAF
KJR	Seattle, Wash.	384.4	Silent	10:30-12:00	10:00- 1:00	Silent	8:00- 9:00	11:30- 1:00	11:30- 1:00	KJR
KJS	Los Angeles, Calif.	252.8	Silent	Silent	10:15-12:00	12:00-12:00	12:00-12:00	9:30-10:00	Silent	KJS
KLDS	Independence, Mo.	448.3	Silent	10:00- 1:00	7:30-11:00	Silent	8:00-10:00	Silent	9:00- 1:00	KLDS
KLX	Oakland, Calif.	384.3	Silent	Silent	Silent	8:30- 3:00	8:30- 3:00	8:00- 3:00	8:00- 3:00	KLX
KNX	Hollywood, Calif.	336.8	11:00- 3:00	8:00- 2:00	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 1:00	8:00- 1:00	KNX
KOA	Denver, Colo.	322.4	10:00-11:00	6:00-11:00	8:30-12:00	8:30-11:00	8:30-11:00	8:30-11:00	5:30-11:00	KOA
KSL	Salt Lake City, Utah	278	8:00- 1:00	8:30-10:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	KSL
KTCL	Seattle, Wash.	384.4	8:30- 3:00	11:00- 1:00	8:30- 3:00	8:30- 3:00	8:30- 3:00	8:30- 3:00	8:30- 3:00	KTCL
KTHS	Hot Springs, Ark.	374.8	10:00-11:00	10:30-12:30	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	KTHS
KWWG	Brownsville, Texas	278	9:00-10:00	Silent	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	Silent	KWWG
KTW	Seattle, Wash.	455	Silent	10:00-12:00	4:00- 8:00	Silent	Silent	Silent	Silent	KTW
KYW	Chicago, Ill.	536.4	7:00- 1:30	4:00- 8:00	Silent	7:00- 8:00	7:00- 8:00	7:00- 1:30	7:00- 1:30	KYW
MAA	Radio, Va.	434.3	Silent	Silent	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:15- 8:00	7:15- 8:00	MAA
PWX	Havana, Cuba	400	8:00-11:00	Silent	Silent	8:30-11:00	8:30-11:00	Silent	Silent	PWX
WABC	Richmond, N. Y.	315.4	12:00- 1:00	12:00- 1:00	7:00- 1:00	7:00- 1:00	7:00- 1:00	7:00- 1:00	7:00-10:00	WABC
WABO	Maquoketa, Iowa	345.6	11:00-12:00	3:00-11:00	Silent	11:00-12:00	11:00-12:00	11:00-12:00	11:00-12:00	WABO
WBAP	Fort Worth, Tex.	475.4	8:00- 3:00	12:00- 1:00	8:30- 2:00	8:30-11:30	8:30-11:30	8:30-11:30	8:30-11:30	WBAP
WBAX	Wilkes-Barre, Pa.	400	Silent	11:00-12:00	10:00-11:00	Silent	8:00-10:00	8:00-10:00	Silent	WBAX
WBAY	Columbus, O.	280.3	Silent	Silent	6:00-10:00	Silent	Silent	Silent	6:00- 9:00	WBAY
WBBM	Chicago, Ill.	226	8:00-12:00	4:00- 2:00	7:00- 9:00	8:00-12:00	8:00-12:00	8:00-12:00	8:00-12:00	WBBM
WBBR	Staten Island, N. Y.	278.8	7:45- 8:45	6:45- 9:00	7:00- 8:00	Silent	7:00- 8:00	Silent	Silent	WBBR
WBCN	Chicago, Ill.	365	9:00- 1:00	3:00-12:00	8:00- 1:00	9:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	WBCN
WBZ	Springfield, Mass.	333.1	Silent	7:00- 3:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	6:00- 8:00	WBZ
WCAE	Pittsburgh, Penn.	461	Silent	Silent	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	WCAE
WCAF	Washington, D. C.	469.3	7:30- 8:30	3:30- 5:00	7:00-11:00	7:00-11:00	7:00-11:00	7:00-11:00	7:00-10:00	WCAF
WCAP	Philadelphia, Pa.	278	Silent	4:00- 8:25	Silent	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	WCAP
WCAU	Philadelphia, Pa.	278	Silent	Silent	Silent	Silent	Silent	Silent	Silent	WCAU
WCOD	Zion, Ill.	344.4	Silent	3:30-10:00	8:00- 9:00	Silent	Silent	Silent	Silent	WCOD
WCCO	Minneapolis, Minn.	416.4	7:45-11:00	8:00-11:15	7:00-10:00	7:00-10:00	7:00-10:00	7:00- 1:00	7:00-10:00	WCCO
WCTS	Worcester, Mass.	268	Silent	6:30- 8:15	Silent	7:00- 8:00	7:00- 8:00	7:00- 8:00	7:00- 8:00	WCTS
WCX	Detroit, Mich.	516.8	6:00- 7:00	3:00- 6:00	6:00-11:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	6:00- 9:00	WCX
WDAF	Kansas City, Mo.	365.6	7:00- 2:00	3:00- 6:30	7:00-10:30	7:00- 2:00	7:00- 2:00	7:00-10:30	7:00-10:30	WDAF
WDWF	Providence, R. I.	440.3	Silent	3:00- 5:00	Silent	7:30- 7:30	7:30- 7:30	Silent	8:00-11:00	WDWF
WEAF	New York, N. Y.	491.5	3:00-11:00	6:00- 8:15	8:30-10:30	8:30-11:00	8:30-11:00	8:30-11:00	8:30-11:00	WEAF
WEAO	Columbus, Ohio	293.9	Silent	Silent	Silent	7:00- 8:00	7:00- 8:00	7:00- 8:00	Silent	WEAO
WEAR	Cleveland, Ohio	389.4	7:00- 9:00	3:30- 7:00	7:00- 9:00	6:45- 9:00	7:00- 9:00	6:45- 9:00	7:00- 9:00	WEAR
WEBH	Chicago, Ill.	370.2	7:30-12:00	7:00- 9:00	Silent	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	WEBH
WEBJ	New York, N. Y.	272.8	Silent	Silent	Silent	Silent	Silent	Silent	Silent	WEBJ
WEEI	Boston, Mass.	475.9	Silent	6:00- 8:00	7:30-10:30	6:30-10:30	7:00- 9:00	7:30-10:30	7

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A More Representative Democracy

USE of the Radio by an eastern governor to sound out the people on matters of grave importance pending before the state legislature points out a new and faster way for cooperation between voters and their representatives. The idea of appealing to voters to write to their state and national representatives is almost as old as legislatures, but the old method of appeal takes a great deal of time. It requires the enlistment of a large working force, and very often a great many public meetings to arouse public action.

In one meeting, advertised by press and Radio, the speaker can reach by Radio a great audience and, if his arguments are presented in an orderly and effective way, he is assured of a response. If a sufficient number of letters is received, elected officials are almost certain to be swayed in their action by the sentiment expressed.

For three years the Radio audience has been educated in the habit of writing letters of comment on programs and artists. The Radio stations have encouraged the habit because these letters are substitutes for the applause which a performer was accustomed to receive. It is quite natural, therefore, for a listener, after hearing an address and a request that he express his views, to write to assemblyman or senator.

A democracy with Radio should prove more representative than a democracy without Radio. Concerted approval or disapproval of a plan of legislative action may now speedily reach the attention of the elected official. Interest in state and national policies should no longer be limited to the casting of a ballot on election day. Common action, produced by a Radio address, should make the citizen feel that this is in fact a government of, for and by the people.

Making Politicians Think

"THE Place and the Power of Radio in Politics," is the title of a recent paper by Dr. Frank W. Elliot, of WOC fame and vice-president of the National Association of Broadcasters. The power of Radio in politics, we believe, has been very well displayed. Both President Coolidge and Candidate Davis last year found it much to their advantage to talk simultaneously from a chain of linked stations to audiences in every section of the country.

However, Dr. Elliot's paper is worth while. In it he has made a very careful analysis of the future of political Radio. In it he also says, "Its (Radio's) power is to compel the politician to really think before broadcasting."

We hope Dr. Elliot is right. In that case perhaps we have misjudged the average run of politicians. We didn't even dream they ever thought. Except, of course, when it becomes necessary for them to think how they can better themselves to the detriment of someone else, usually the people.

But what can you expect when the best citizens refuse to use their franchise of citizenship to elect the kind of men who can and will think for the people, once they have been elected to office? Perhaps Radio will stimulate the interest in voting so necessary to our common good. That, we should say, would be the biggest thing Radio could ever do for this government.

A Billion Dollars for Radio

PREDICTIONS for the fall and winter Radio season are hitting high. A large chain promoter conservatively estimates that half a billion dollars will be spent for Radio sets, parts and accessories during the next year. An official of a large set manufacturer says one billion dollars is closer to the mark.

Quite a growth?

In 1920 the entire Radio business of the United States pattered up a bare two million dollars. Last season it is estimated that between three and five hundred million dollars was turned over in sales. Yes, quite a growth for a period of five years.

Beautiful sets, so handsome they overshadow the furniture of the parlors for which they are intended; perfect receivers, as good as science knows yet how to make, await the fall buying public.

Yes, we believe at least a half billion dollars will be spent this year. Why not?

RADIO INDI-GEST

Maybe She Swam

"A bit of human static was found on the air at 4:30 when the dials revealed a vocal flapper flapping through that grand old song, 'By the Waters of Minnetonka.' I hope Mrs. Soprano reads this and recognizes her identity." (Elmer Douglass in Chi Trib).

"By the Waters of the Minnetonka"
Was the song the flapper flapped
And knowing water flops the shore
That's the pun that Sister sarped.

Orders Radio in His Coffin

Sam R. Kimball, aged San Fernando valley rancher, has placed an order with a Los Angeles undertaker for a $1,300 steel coffin equipped with an up-to-date Radio receiving set, it was revealed today.—News Item.

In view of the foregoing, think what might have happened if certain characters of history had taken themselves to their honored graves. For instance:

King Tut, broadcasting to those who would dig him up: "Please go 'way and let me sleep!"

Cleopatra, to those who have been handing out the dope about her affair with Anthony: "I ain't that kind of a girl!"

Omar Khayyam, to his publishers: "Cut out all reference to 'Jug of Wine' in revised U. S. A. version of Rubiyat."

Hamlet: "The world is wrong! I was not nuts!"

Darwin, after hearing Bryan's Dayton speech broadcast over WGN: "I meant to insult us the monkey group. I had no idea that the human race would ever produce a being such as W. J. B."

Schubert, Wagner, Mozart, and Beethoven, in unison over four station hook-up: "There is no Society of Authors, Publishers, and Composers here so we have turned the place Heaven."

The Old Stuff Goeth

"A pick-up was made by Station WGY in the night traffic court of Schenectady, N. Y., and sent by land wire to WJZ and broadcast to the metropolitan audience. Three cases were tried for the benefit of the Radio fans, the first of which was for Drunken and Reckless Driving, the second for Driving without a License, and the last for Speeding. These were real honest to goodness cases and when the judge said $50, the Radio audience should have been able to hear the tear drops scatter on the courtroom floor as the hopeless offender parted with his weekly stipend."

(From New)

Try this with your station!

"I'm late I knew my darling wife,
But please let me explain—
I took my cash and near my life
When a bandit held up the train."
"That's all the bank," she said.
"A judge nicked you for your dough
For having moonshine on the head—
I heard it o'er the Radio."

Another said, "I'm so sorry dear.
A friend was sick tonight.
So I had to linger near
and cheer him in his plight."
"Get away with that old stuff.
Don't try to fool me so.
Some motor cop called your bluff
I heard it o'er the Radio."

The old ones are now taboo,
All lies will have to go.
Wifie has it all on you
Over the Radio.

Miss Partington Returns

From away down in the Far West state comes word that Miss Partington, until some months back a regular feature in this department, is building a new eight tuber and will soon be with us. "Hold your horses the elephants are coming!"

I Sure Is Good Says Elmer

By Delmer Hughes

I AM beginning to believe that I am pretty good. I once thought that I was somewhat inferior to other human beings, but now I know I am. I am quite sure. Many people say I am prejudiced and don't know my stuff, but I know I do and they don't, so why worry?

The reason I am good is that I know that NWG is good. Nobody else would know it unless I told 'em, so I write regularly telling people how wonderful I am and NWG are. I am afraid people don't appreciate my kind criticism.

Why, if I didn't criticize broadcasting stations I know my readers would surely tune in some awful station that I don't like and they would. And I couldn't stand that. I want them to tune in NWG, which is always good. Betcha bootz. Now be careful, my kind readers, and don't tune in anything I say I don't like, because I am sure my heart would break.

Don't Forget the Stamps

Dear Indi: Why, oh, why do you scorn my contributions? I have sent you these wonderful poems and still I fail to see them in print. If you can't use them send them back so I can submit them to the American Mercury. CRYSTAL RET IKE.

Listen, Ike, it's this way. Your poems were beautiful, but evidently you have never heard the old one about "good verses come in short verses." Cut them down or send a self addressed and stamped envelope for their return.

Rebroadcasting the Old Ones

Dear Indi: I hooked my set to the hot pot during the warm weather last week and got "Hot Springs." GAP.

Summer Radios and Some Are Not

Condensed

BY DIELECTRIC

The symphony players again at KDKA, Pittsburgh, were all that one would expect whose receivers had played host on previous occasions. Despite the absence of any modernism to the music of the Magic Flute, few will deny the beauty of the overture to that opera, and it was this selection which won me to a prolonged hearing of that evening's program. Lucile Werner should be included where praise is being meted out, for her singing of "My Mother Bid Me Bind My Hair," a Hadyn gem, was splendidly interpreted.

I ran across a good—real good—male quartet the other evening. Haven't found so many since these hot nights have come upon us. Yet that should not pass as explanation. Anyway, those four men did get right into the heart of a medley of old time airs, familiar to our grandmothers, and sang heartily, too. They never resorted to an overdose of pathos, yet their voices were soft with feeling where the "darkies" were referred to and the otherwise hackneyed phrases were newly presented. WSAI, Cincinnati, was responsible for our hearing such a program and we should thank them.

Another of the operatic programs from the studio of WEAF, New York, presented "Martha" (incidentally this is most closely associated in my mind with the great prima donna, Melba). These performances have gone a long way to acquaint many people with the beautiful melodies to be found in grand operas and to disabuse the minds of some as to the real character of such musical productions. Mr. Benedetto has seldom failed to impress me with the seriousness of his art and the singing of Lionel was no exception.

Elgin, Ill., with its WTAS broadcasting station, has something to boast of, even if others outside the immediate vicinity find cause for complaint at times. They were well supplied with excellent material when the evening's entertainment consisted of a group of soloists and an orchestra. Diversity may not guarantee enjoyment, yet it is likely to meet the wishes of a large number of listeners in, and that was precisely what WTAS gave.

It is very improbable that any old time listener would skip over the dial setting for WSB on the dedication date of the wonderful new transmitter at the Atlanta Biltmore hotel. To me it seems as though the "Voice of the South" is synonymous with Radio broadcasting. Each step this dear old southern station has taken, found Dielectric always on hand to rejoice with the owners of one of the most friendly and interesting stations in the land. Three years' reminiscence was crowded into that one program and few of the genuine BCL's timed out without wishing them all the success in the world. Lambdin Kay is a name thousands do not recognize, though that genial gentleman's voice could not be imitated far.

Symphony orchestras are no longer the delight of those only who pack concert halls—thank fortune—but are enjoyed and are the instructors of thousands of Radio listeners today. Comparisons are not in order here and I have no desire to make any, but to any music lover missing the concert given by the Detroit symphony orchestra recently, I have only sympathy. It was a banner evening in the history of classical music broadcasting and if such a program is again presented be sure to get there early. WCX be thanked.

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A. B. C. Course in Radio Fundamentals

Chapter XX—Charactertistics of Two and Three Electrode Tubes

By David Penn Moreton

LET us first consider what happens in a two electrode vacuum tube, in which there is a good vacuum, when there is, first, a variation in the temperature of the filament and, secondly, a variation in the voltage of the battery connected between the plate and the filament. The connections of the tube for this investigation are shown in figure 63.

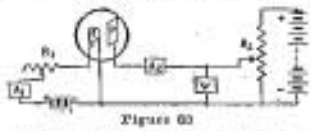


Figure 63

The current through the filament may be varied in value by means of the rheostat R_1, and the value of this current is indicated by the ammeter A_1. The voltage applied between the plate and the filament may be varied in value by moving the sliding contact C along the resistance R_2, the value of the voltage being indicated by the voltmeter V, and the value of the current in this circuit by the milliammeter A_2.

Space Charge

Suppose now, that the voltage between the plate and the filament is kept at some constant value and the filament temperature is gradually raised by increasing the filament current. The number of electrons emitted by the filament will continue to increase as the temperature of the filament rises, and there will be a stream of electrons passing from the filament to the plate. Due to this stream of electrons passing from the filament to the plate, there are, at any instant, a number of electrons in the space between the filament and the plate.

This group or cloud of electrons, between the plate and the filament, produces a negative space charge. The effect of this negative space charge upon the electrons leaving the filament is opposite to that of the positive plate potential. As the temperature of the filament is increased, there will be an increase in the electrons between the plate and filament and, hence, an increase in the value of the space charge, until finally the space charge neutralizes the plate potential and there is no further increase in the plate current due to an increase in filament temperature. The tendency of the filament to emit more electrons per second, due to the increased temperature, is offset by the space charge effect which repels the electrons back into the filament so that the net number emitted remains constant.

If the voltage between the plate and the filament be increased, there will be an increase in the current as indicated by the milliammeter A_2 in figure 63. With this higher voltage connected to the plate, a larger space charge will be required to offset the effect of the plate potential.

The variation in plate current with filament temperature is shown graphically in figure 64, for three different voltages

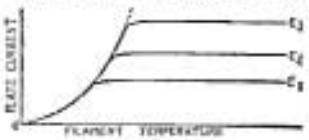


Figure 64

between the filament and the plate. Let us now suppose that the filament temperature is kept constant and the voltage between the plate and the filament is varied. There will be a definite number of electrons emitted by the filament each second. The magnitude of the plate current will depend upon the number of electrons reaching the plate per second, which in turn depends upon the potential of the plate, the current increasing in value as the voltage between the plate and the filament increases in value. As this voltage is increased, a value is finally reached at which all the electrons emitted by the filament arrive at the plate. When this value of plate voltage is reached, the plate current is a maximum and this value of the current is called the saturation current for that particular filament temperature.

The variation in plate current with plate potential is shown by curve T_1 in figure 65. This curve shows that when the plate potential is zero, there is no plate current and, as the plate potential increases, there is at first a very small increase in plate current, but as the plate potential continues to increase, the plate current increases more rapidly than the plate potential up to a certain point, when the plate current has reached the saturation value as explained above.

If the temperature of the filament is raised to a higher constant value by increasing the current through it, and the plate potential varied in value from zero upwards, the plate current will increase with the plate potential along the same line as it did for the lower filament temperature until the saturation point is reached and the filament current will rise higher in value than it did before as shown by the curve marked T_2. A further increase in filament temperature will give the curve marked T_3.

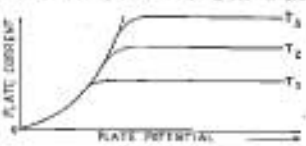
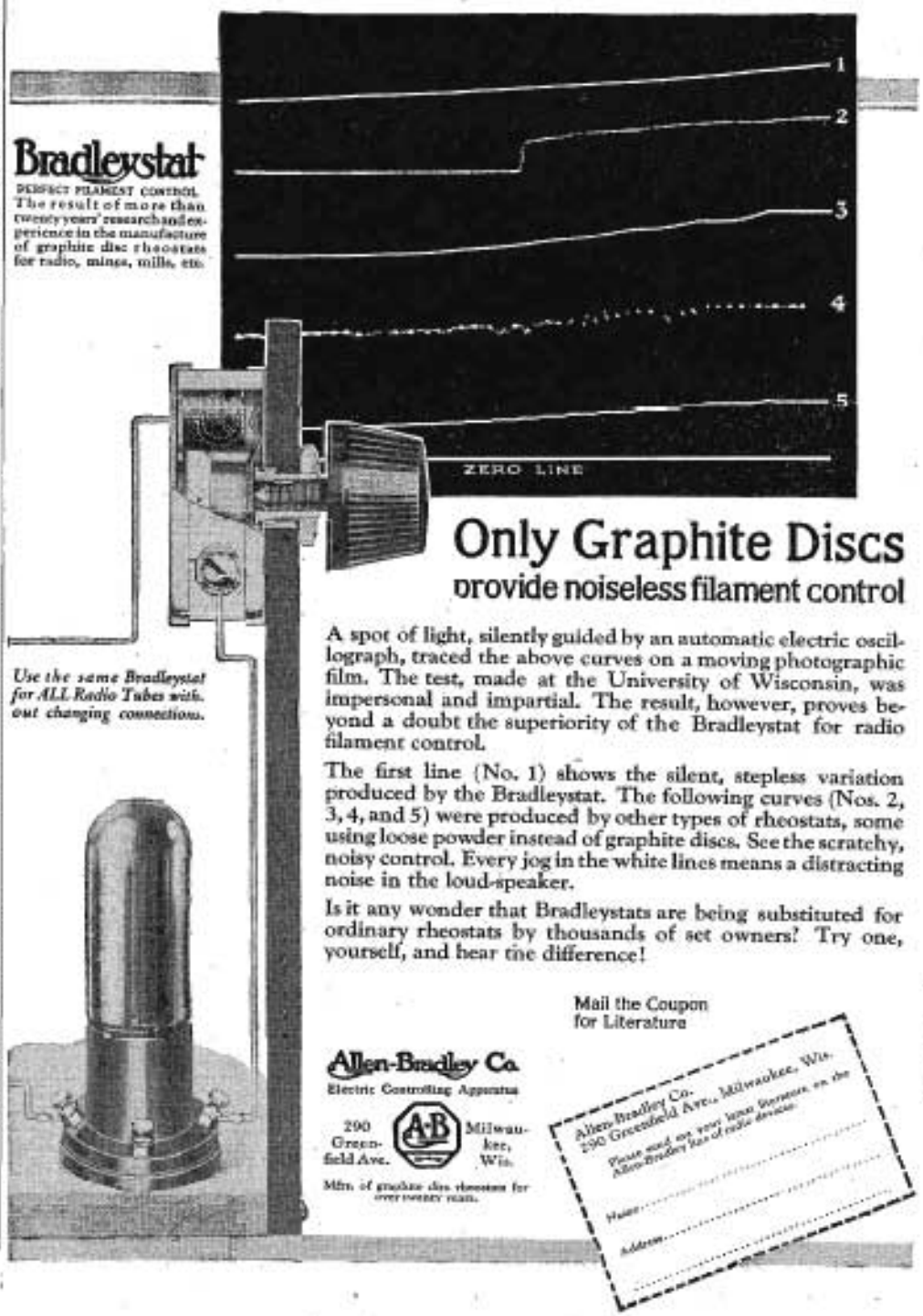


Figure 65

Three Electrode Vacuum Tube

The three electrode vacuum tube differs from the two electrode tube described in the last chapter, in the addition of a third electrode G, as shown in figure 66, between the plate and the filament and in the path of the electrons. This electrode may be a perforated plate or mesh or grid of fine wires, through the openings of which the electrons must pass in their travel from the filament to the plate. It is possible to accelerate or decelerate the electrons moving from the filament to the plate, and to counteract or increase at will the effect of the space charge, by applying a positive or negative potential to this third electrode or grid. This third electrode provides a means of controlling the current in the plate circuit, without changing the plate potential or filament temperature. The chief advantage of this method of controlling the plate current is that, while the plate current may be

(Continued on page 19)



Only Graphite Discs provide noiseless filament control

A spot of light, silently guided by an automatic electric oscillograph, traced the above curves on a moving photographic film. The test, made at the University of Wisconsin, was impersonal and impartial. The result, however, proves beyond a doubt the superiority of the Bradleystat for radio filament control.

The first line (No. 1) shows the silent, stepless variation produced by the Bradleystat. The following curves (Nos. 2, 3, 4, and 5) were produced by other types of rheostats, some using loose powder instead of graphite discs. See the scratchy, noisy control. Every jog in the white lines means a distracting noise in the loud-speaker.

Is it any wonder that Bradleystats are being substituted for ordinary rheostats by thousands of set owners? Try one, yourself, and hear the difference!

Mail the Coupon for Literature

Allen-Bradley Co.
Electric Controlling Apparatus
290 Greenfield Ave. Milwaukee, Wis.
Mfrs. of graphite disc rheostats for over twenty years.

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Radio Inductive Interference and Its Cure

Part II—Means of Suppression

By Radio Branch, Dept. Marine and Fisheries, Canada

IN MAKING all these tests it is important to approach the subject with an unprejudiced mind as to the source of the interference, and before concluding that the interference is caused by any given source, it is well to consider all possible conditions in which the interference may have originated from some other unknown cause. Investigating interference is a very fascinating sensitive game and one would sometimes suppose that the source of the interference had a sense of humor and was trying to evade detection in a manner similar to that of the most clever criminal.

The obvious and only satisfactory method of correcting Radio Inductive interference which is caused by electrical apparatus which is defective is to put this apparatus in good condition. The owners of such electrical apparatus are always very pleased to have their attention drawn to the fact that their apparatus is in need of repair, it having been found many times that this Radio interference is the first indication of a fault, which if not attended to, may cause serious damage.

In cases where the electrical apparatus appears to be in good mechanical and electrical condition it is very often possible to supply some means of preventing electrical surges, originating in the apparatus, from getting out to the power line where they would radiate and cause interference.

Condenser Prevents Surges Traveling

These electrical surges have the property of passing through condensers more readily than through inductances. The method employed therefore, in preventing electrical surges from traveling along the power lines and thus causing Radio interference, is to provide a path to ground in the form of a condenser in filter or drain off this surge. In order to make this filter more effective, it is often advisable to introduce between the line and the source of the disturbance a trap which will make the passage of the surge more difficult. This trap preferably takes the form of a choke coil which consists of a number of turns of wire of sufficient size to carry the required current without overheating, and sufficient insulation to withstand the voltage of the line. These installations should be approved by the local electrical inspector to ensure that there are no fire or accident hazards introduced by the installation.

It is important in the design of these choke coils that they should have low distributed capacity in order to prevent electrical surge passing through the choke coil by means of this capacity.

Choke Coil Construction

A type of choke coil recommended for cases where the current is less than three amperes is constructed according to figure 1. It consists of 198 turns of number 18 double cotton covered copper wire in a single layer wound on a fibre tube 3 inches in diameter, ¼ inch thick. Leads are soldered to each end and made from number 14 flexible rubber insulated braid covered copper wire, making one turn around the tube then through a hole in the tube and extending through the inside of the tube a length of one foot.

The burrs are carefully removed from the hole in the fibre tube so as not to cut the insulation. End rings or fillers are mounted at the end of the winding to build up the same diameter as the outside diameter of the winding. These may be made of tape or a suitable size of fibre tube. The whole coil is covered with five layers of Empire cloth and then taped with black friction tape and painted with insulating varnish. Mounting lugs made of fibre are then attached to each end of the coil.

This coil should be mounted on a board covered with asbestos ⅛ inch thick and the leads soldered and thoroughly taped according to standard wiring practice.

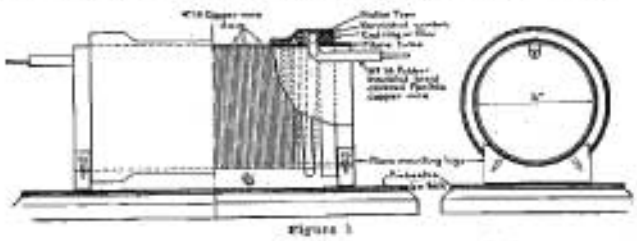


Figure 1

Mounting Condensers

Condensers which will stand a test voltage of 1,000 volts direct current may be connected across an alternating current or direct current circuit of 250 volts or less. On circuits which are protected by fuses of not more than 15 amperes capacity, no additional fuse is required for the condenser. On circuits protected by fuses of greater than 15 amperes capacity, a separate cutout base and small fuse (of approved type) not exceeding 15 amperes, must be installed between the condenser and such unprotected power wire. Where condensers are not installed in metal boxes and are to be placed on wooden surfaces, they should be mounted on pads of asbestos at least ⅛ inch thick, and these pads should be sufficiently large to extend beyond the clamps used for holding the condenser in place.

Where condensers are to be used on 550-volt circuits, two condensers of the approved type must be connected in series between the lines, and the common point may be grounded. In such installations the condensers are to be protected by 600-volt fuses not greater than 15 amperes in each live line, and both the condensers and fuses are to be enclosed in a grounded metal case. Where the condensers are to be connected to two-phase or three-phase circuits not greater than 600 volts, one condenser may be connected from each live line to ground and installed with fuses as stated above.

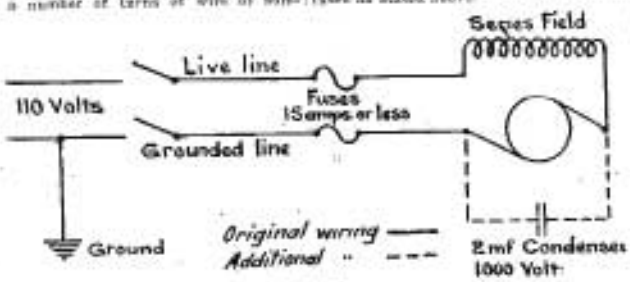


Figure 2

As these condensers contain oil, they should not be placed where they may be subjected to excessive heat. Condensers when connected to a circuit as stated above have no objectionable effect on the circuit, or the operation of any electrical apparatus and they do not consume any power.

Approved Condensers

Condensers similar to Northern Electric company type 32-21-A.A., 1 mfd., 1,000 volts direct current, are suitable for installing in metal boxes as described above. Special condensers having number 14 rubber insulated leads, suitable for installing without metal boxes, may be obtained at cost from the Radio Branch, Department of Marine and Fisheries, Ottawa, until such time as some commercial firm stocks them. (This probably only applies to Canadian firms.—Editor's Note.)

In many cases it is possible to make slight changes in the connections of the electrical apparatus causing the surge in order to use some existing apparatus as a choke coil and thus prevent the necessity of adding additional choke coils to the system.

Electric Motor Interference

A series commutator motor, causing a surge by sparking at the brushes, may have its leads reversed to reduce the Radio interference. Where one wire is grounded, Radio interference from such a motor is sometimes reduced by reversing the leads supplying the motor, so that one of the brushes is connected to the ground side of the line and the field coil is connected to the live side of the line. In this case, the field coil is used as a choke. It may also be necessary to place a condenser of one or two microfarads capacity across the brushes. See figure 2.

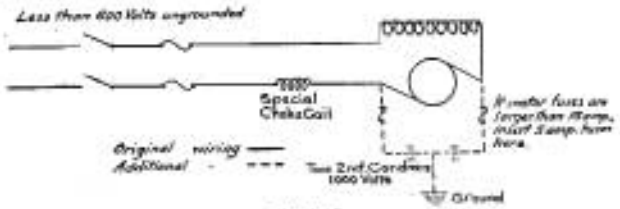


Figure 3

In cases where neither side of the line is grounded, a choke may be inserted on the line connected directly to one of the brushes, while the field coil may act as a choke to the other line. In this case it is recommended to use two 2-microfarad condensers in series and ground the middle point according to the diagram, figure 3.

In cases where it is not convenient to make connections with the brushes of a motor, the condenser may be placed across the line as near the motor as possible, and a choke coil may be inserted in the live line when necessary. Instructions for the installation of these units were given above. The live side of a low voltage lighting circuit may be determined by means of a test lamp connected from ground, first to one wire and then to the other. The lamp will light when connected from the live line to ground.

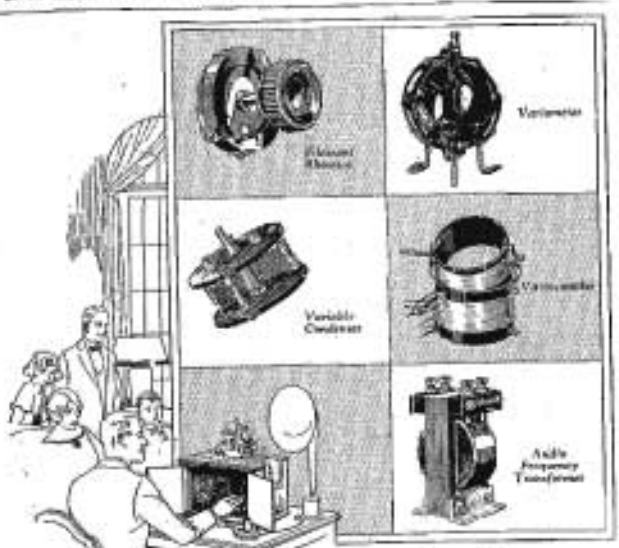
Battery Chargers and Sign Flashers

A battery charger of the vibrator type may be prevented from causing interference by connecting a condenser of ½ microfarad capacity across the vibrating contacts. In the case of battery chargers it is useless to put condensers across the mains, as it is necessary to make use of the choke consisting of the wire and coil within the battery charger, to prevent this surge from getting out on the line.

Flashing electric signs may usually be prevented from causing interference by connecting condensers from ½ to 2 microfarads capacity across the contacts of the circuit breaker. As the Radio interference from such sources depends upon the conditions of the installation, it is necessary to make these few experiments, as suggested above, in each case, in order to reduce the interference most effectively.

Sometimes the interference from a flashing sign installation is caused by sparking at the commutator of the motor which drives the flasher. This may readily be determined by the nature of the sound in the Radio receiver and may be remedied by the method described for

(Continued on page 19)



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Interesting Work With Oscillating Crystals

Zincite (ZnO) Used By Russian Engineer

By Frederic M. Delano

THE term "oscillating crystal" has been a standard joke among the Radio fraternity for a number of years since it was presumed that the usual crystal rectifiers as used in reception, were incapable of oscillation and could pass radio frequency current in but one direction. Yet, strange to say, this seeming impossibility has now become not only a possibility, but a workable reality.

The oscillating crystal was first developed by a Russian, M. Lossev, and it has been attracting considerable attention in Europe this past few months, with some comment in the press of America. Many and remarkable are the tests, hook-ups and results gained by the Radio amateurs on the Continent and the British Isles. Among the most important perhaps, from the standpoint of practicability, and utility for the average amateur, are those worked out and actually tested with success by one of M. Lossev's friends, M. Vinogradow, a Radio engineer formerly with a Belgian Radio company and now doing some special Radio work for one of the largest technical magazines in Europe.

Develops Lossev's Circuit

The basic hook-up from which these were worked out, by the way, is not the origination of Vinogradow, but he has taken the original idea of Lossev and worked out refinements and helps that formed, ultimately, the circuit shown herewith. Vinogradow says that while there is a wide difference of opinion in Europe, the one group of scientists claiming the oscillating crystal useless, the other group that it will soon replace the vacuum tube, he personally is reporting only what he has done himself.

The diagram gives an idea of a receiver made with the Zincite crystal, and, as shown without dotted lines, allows for the reception of the longer wave lengths from 2,600 to 12,000 meters. The batteries, B-1 and B-2 are ordinary dry batteries such as are used in America as C units; B-1 providing 4½ volts at the terminals and B-2 giving 9 volts since two C units are placed in series. Potentiometer P has a resistance of about 400 ohms (standard on the American market) and may be made of 9 meters—about 28 feet 6 inches—of nickeline wire, .1 mm. in thickness.

The unit R is about 999 ohms and should have as large an inductance as possible, a very low distributed capacity and is wound in sections on a multi-slotted coil. Fill the first narrow slot, then pass to the next and then to the third, much as when winding an untuned radio frequency transformer. It is a good idea to wind with enameled or silk insulated copper wire of about .1 mm. thickness (No. 38 B. & S.) of which about 1,200 feet will be necessary.

The Tuning Circuits

Coil L-2 should have an inductance of about 0.02 henry, and can be wound on a wooden slotted form 88 mm. (3¼ inches) long by 20 mm. (⅝-inch) in diameter. For this, some 475 feet of insulated copper wire will be used, .3 mm. to .4 mm. in diameter (No. 34 B. & S. to No. 30 B. & S.). Two honeycomb coils, one of 250 turns and one of 500 turns, can be used. If the inductance is wound by the experimenter, he must be careful to arrange for a tap at the fifteen turn for the connection to the hand receivers.

The condenser C-3 should be of 0.20 mfd. capacity. These also are for sale in the United States, but if the experimenter wishes to make this unit himself, he must be careful to have each metallic surface of 14,625 square centimeters, if he uses paraffine paper 0.1 mm. thick for dielectric. Condenser C-2 has a capacity of .01 mfd. and the surface of each armature (metallic surface) should be 650 square centimeters for paraffine paper.

(Editor's Note.—Either Mr. Delano meant the dimension for the first unit to read 14,625 or that for the second to read 6.50, as obviously the area for the .20 mfd. unit should be larger than that for the 0.01 mfd. unit).

The variometer is made of two units turning one within the other, the outer coil or stator, being composed of two sections of 38 turns each, wound with .6 mm. to .8 mm. wire (No. 18 B. & S. to No. 16 B. & S.). The interior or rotor part of the variometer is composed of two sections of 50 turns each, of the same size wire.

The Zincite Crystal

The detector is composed of a pointed steel wire of .3 mm. (No. 28 B. & S.) wound in a spiral, and the Zincite crystal (ZnO) mounted in a cup or held by a strong clip. Any of the usual crystal detector mountings can be used at this point. The entire unit, however, should be placed on a piece of felt or soft rubber to increase the stability of the system, and connections to it should be of very flexible wire. The cracks in the crystal itself should be red and the surface black. It is the red part which contains the sensitive points.

The three contact points of the commutator (switch) K should be widely enough separated to avoid all possibility of two of these contacts being covered or touched by the switch blade at the same time.

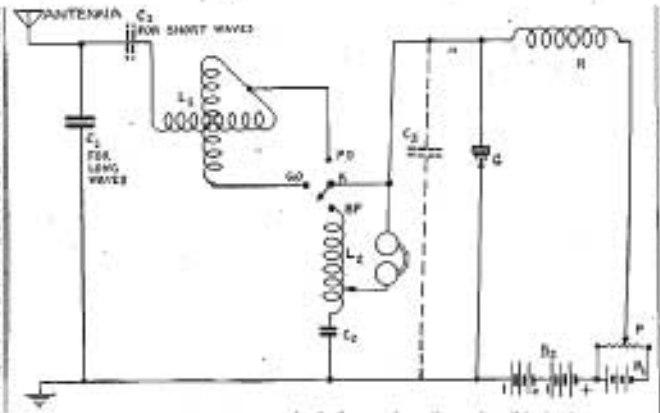
For reception below 1,800 meters, and this includes the American broadcast band of course, the connections shown in dotted lines should be used. Condenser C-1 is shifted from its position across the aerial and ground and placed in series with the aerial lead-in and variometer. The condenser C-3 has a capacity of .004 mfd.

Operation of Circuit

For proper functioning of either of these sets, the switch K should be placed on the position BF while the steel point of the cat-whisker is placed on the red part of the crystal; at the same time move the potentiometer P slowly. In the head receivers will be heard the usual whistling of low frequency oscillations produced in the circuit C-2 and L-2. Search the crystal for a more sensitive point if the first tried fails to produce this whistling, and when this spot is found place the switch K in the position FO or GO according to whether the upper or lower wave length range possible is required; FO for short waves, GO for longer ones. Turn the variometer L-3 to bring in the station desired.

At this moment, the continued oscillations are tuned in by the circuit L-2 and C-3 and the set is operating like the ordinary autodyne (European term). Continuous wave stations are now heard in whistling notes, damped waves on a sort of howling note. By means of the potentiometer P, the maximum intensity can be found in just the same manner as one works with regeneration in ordinary tube sets.

(No effort has been made to describe the construction of a complete set as there is no precedent on which to determine the amount of interest in this subject among American broadcast listeners. If the response indicates sufficient interest among Radio Digest readers, the technical department will be glad to secure more articles and do more research work with the Zincite crystals.—Editor's Note.)



Many an interesting hour can be had experimenting with this hook-up.

A. B. C. RADIO COURSE

(Continued from page 17)

quite large, and the energy transferred in the plate circuit quite considerable, yet the energy required to charge the grid to the desired potential is extremely small, on account of the small capacity between the grid and the filament.

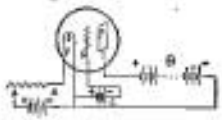


Figure 86

The operation of the three-electrode vacuum tube may be explained as follows: The tube will operate like a two-electrode tube provided there is no potential difference established between the grid and the filament. Now if the grid is given a negative potential with respect to the filament, for example by connecting a battery, C, with its plus terminal to the filament and its negative terminal to the grid, as shown in figure 86, the space charge effect of the tube will be

(Continued on page 21)

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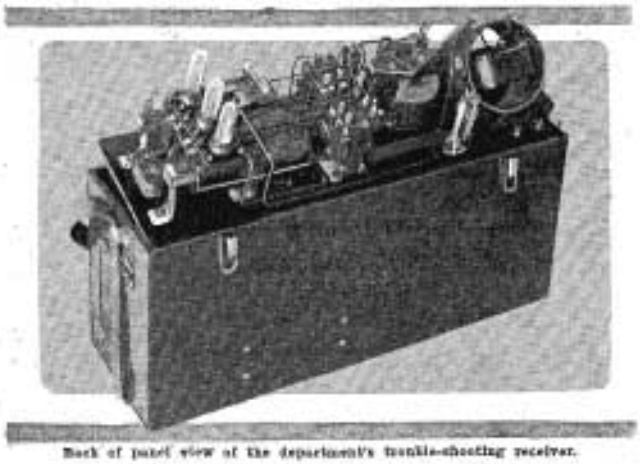


Back of panel view of the department's trouble-shooting receiver.

INDUCTIVE TROUBLES

(Continued from page 18)

dealing with interference from commutator motors.

Internal combustion engine ignition systems may cause Radio interference. Yet this is usually of a very local nature. This, however, may be considerably reduced by making the leads from the magneto or spark coil to the engine as short as possible and running them in a grounded shield such as metal conduit or lead covered cable. The frame of the engine, magneto, and all shields, should be thoroughly grounded.

Rotary converters sometimes cause Radio inductive interference by producing a surge which travels out both on the alternating and direct current lines. In some such cases it may be necessary to introduce choke coils into the alternating current lines and put condensers across the lines between the choke coils and the converter. Before putting these choke coils in the alternating current lines, it is recommended to try the effect of condensers across the brushes as described previously for the case of commutator motors.

Electric ionizers which are used for purifying the air in large buildings and for bleaching purposes in flour mills sometimes cause Radio inductive interference by producing a surge which travels along primary lines supplying the ionizer. This interference may easily be eliminated by connecting two choke coils of the cylindrical type previously described one in each of the low voltage lines placed as near as possible to the ionizer.

Portable Detection Receiver

Two illustrations are reproduced with this article showing the set used by the department for locating Radio inductive interferences. This set was also readily discernable in the rear of the truck shown with the first article. The diagram used for connecting the various units is given here as figure 4; and the reader living in the United States will probably at once be struck with the fact that tube filaments are connected in series while most of the American circuits use the filaments in parallel. This is due to the fact that Northern Electric tubes of the "pancake" type were used, which require a filament voltage of but 1.8. The power source usually consists of a 4.5-volt dry cell so it is logical to light three of these tubes in series from a 4.5-volt battery. The reader can readily change the filament connections to suit the tubes used, however.

The specifications for this set are as follows: The loop is to be pancake wound, outside turn 22 inches square and consisting of 14 turns, spaced ¾ inch. Plate coil consists of 50 turns of number 28 dcc.

(Continued on page 22)

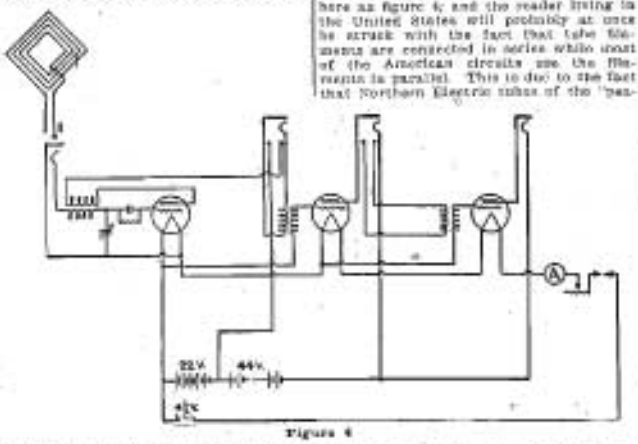
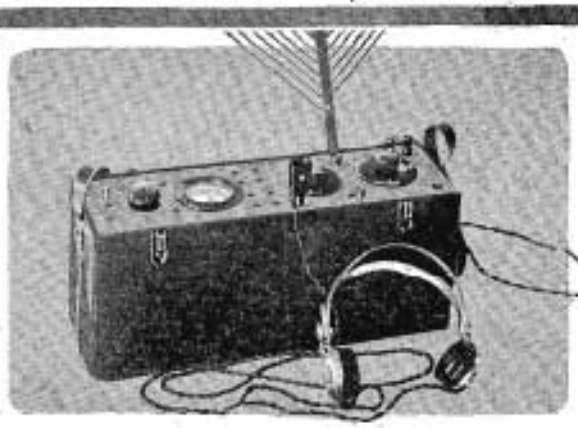


Figure 4



Filament ammeter is not essential to success if expense is prohibitive.

The new Radio Book

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

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

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

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

For the Man That Bought His Set

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

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

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

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Pipe Fittings Make Antenna Masts

Strong Aerial Supports Not Hard to Construct

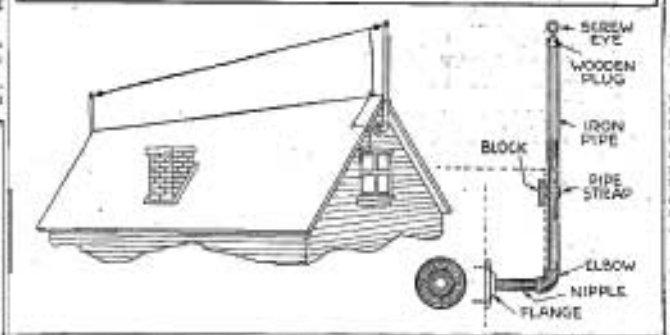
A simple and neat pair of antenna masts can be made by anyone if the following directions are followed.

Use 2-inch iron pipe and fittings. Decide how high above the ridge you want the aerial and add one-half the height to allow the pipes to fasten to the building. Thus, if it is decided that the aerial should be 5 feet above ridge, the pipe would be cut 7½ feet long.

Thread one end of each pipe. Into this other end, drive a wooden plug and screw in a large screw-eye. Screw an elbow on the other end.

Measure the distance that the cornice projects from the side of the building and cut a short pipe or nipple. Screw this into the elbow and on the other end screw a flange. With a strap fastened near the peak and the flange screwed to the side of the building, these aerial supports are held firmly, and the expense of this tent construction is small.—H. A. Thompson, Olean, N. Y.

DETAILS FOR ASSEMBLY OF MASTS



WORKSHOP KINKS EARN A DOLLAR—

THERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new look-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

A. B. C. RADIO COURSE

(Continued from page 19)

increased. That is, the negative charge of the grid will repel the electrons emitted

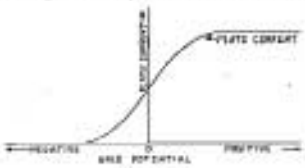


Figure 67

by the filament back toward the filament, which will result in a decrease in value

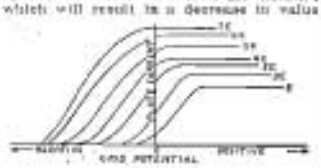


Figure 68

as the negative potential of the grid with respect to the filament is increased and finally the grid may be made sufficiently negative to entirely stop the flow of electrons from the filament to the plate.

If the grid be charged positively, the negative space charge within the tube will be partly neutralized and the plate current as a result will be increased, assuming the filament temperature and the voltage between the plate and the filament to be constant. That is, the

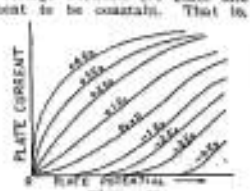


Figure 69

positive grid attracts the plate in attracting the electrons emitted by the filament. The plate current will increase in value as the positive potential of the grid with respect to the filament is increased until the saturation current corresponding to the existing filament temperature is reached.

Characteristic Curves

The variation in the plate current of a tube, due to a variation in the potential of the grid for a fixed filament current and plate voltage, is shown in figure 67. A curve of this kind is called a static characteristic curve of the tube, and there is such a characteristic curve for every combination of filament temperature and plate potential. For example, assuming the filament temperature is constant, then a number of curves such as the one shown in figure 68, may be obtained for various plate potentials. The higher the plate potential, the more the curve is shifted to the left.

Another way of showing graphically the relation between the plate current and the plate potential for various grid potentials is by means of a family of curves similar to those given in figure 69.

Whenever the grid is made positive, a few of the electrons emitted by the filament will pass to the grid rather than the plate which will result in a current in the grid circuit. Under the usual operating conditions this grid current is very small in comparison to the plate current, and it decreases in value as the potential of the plate is increased.

Amplification Factor

The voltage amplification factor of a three-electrode vacuum tube is defined as being the relation between the plate and grid potential variations which will produce the same variation in plate current, the temperature of the filament being constant. For example, if a certain change in grid potential produces a certain change in plate current, and the plate potential must be changed to value eight times as much as the grid potential was changed to produce the same change in plate current, then the voltage amplification factor of the tube is eight.

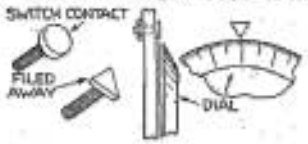
The voltage amplification factor depends upon the construction of the tube, as explained in the following paragraph. Assuming the grid of a tube is connected to the negative terminal of the filament which will be considered the reference point for the various potentials, then the potential of the grid is zero. The electrons emitted by the filament, under the above conditions, are attracted to the plate by that part of the electrostatic field of the plate which is not screened by the grid, due to the arrangement and spacing of the grid wires. This is called "stray field" of the plate is dependent upon the positions and shapes of the electrodes in the tube, and varies directly as the plate potential. The amplification factor of a tube varies inversely as the spacing between the grid wires, because the stray field due to the plate will be smaller as the mesh of the grid is decreased.

The amplification factor also varies directly as the ratio of the distance between the plate and filament and the distance between the grid and filament. The closer the grid is placed to the filament, the smaller the grid potential required to set up a field around the filament equivalent to the stray field of the plate. In general, in order that the tube may have a large amplification factor a fine mesh grid should be used, the grid should surround the filament as completely as possible, and the distance between the grid and filament should be small in comparison to the distance between the plate and filament. The amplification factor for a tube is not constant but varies somewhat with the grid and plate potentials.

(Next week Professor Morecroft will explain such terms as plate impedance, plate circuit resistance and mutual conductance, and point out how they are important to tube operation.—Editor's Note.)

Dial Marker from Switch Point

A very good dial marker can be made from an old switch point by filing the head of it to a triangular shape. If the



point is too long and interferes with the condenser plates it may easily be filed down until it just goes through the panel far enough to allow a nut to be put on.—Ralph Crosley, Sand Springs, Okla.

Don't expect sloppy or poorly insulated connections to give good results.

Watch for the Crosley PUP!

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Questions and Answers

Selectivity vs. Range

(14132) DEI, Big Horn, Mont.

Q.—I have a five tube Radio set. I do not have very good luck in being able to separate one station from another in a range of 5 degrees. Stations KGO, WCBD, WLS, and WDAF are all strong stations and when they are all on the air about the same time, unless the air is very clear, will give me quite a good deal of trouble to separate.

I use an antenna of 7-strand plain No. 22 gauge phosphor bronze wire 100 feet long, stretched taut at a height of 25 to 32 feet high and a lead-in wire of 56 feet, insulated. I have it stretched in a northeast direction from the set. Does it make any difference as to the direction the antenna is stretched from the receiving set? Would I have better receiving if I used another kind of antenna? I do not have any of the described city noises to trouble me as I live 10 miles from the nearest electrical appliance. How can you tell whether the ground wire is well grounded or not with this set? If you haven't a battery voltmeter to test B batteries how can I tell when they are almost run down? Is there any disadvantage in using four 22½-volt B batteries rather than two 45-volt B batteries?

Are any of the static eliminators advertised in the Radio Digest of big enough success to pay me to add one to my set? If so, which one would you recommend me buying or can you give me some arrangement I may add to my set to help eliminate some of this summer static. As the Radio Digest does not receive compensation for answering questions, will make up for it by trying to get circulation enlarged among my neighbors this coming fall and winter.

A.—Relative to your difficulty with selectivity, or the lack of it, we wish to advise that on this receiver, or any other of similar type, you cannot have a great in reach range or a Chicago to San Francisco range in summer and still have selectivity. Part of the tremendous range which you have is the result of your use of a 156-ft. antenna wire and in the writer's opinion it will be impossible to have good selectivity with such a comparatively long aerial. If you will cut down the length of the straightaway wire to about 65 feet, which will give you an over all length of 90 feet, including lead-in, the selectivity should be considerably helped. There is no way of testing for a good ground other than putting in the very best that you can with well soldered connections or putting in three or four to different points such as the cold water system, the radiator and anything else you can think of, and use them all at once. There is no way of testing B batteries without the use of a meter. There is no difference in efficiency between the use of four 22½-volt B batteries as against two 45-volt B batteries.

Although the static eliminators advertised in Radio Digest will work in some locations and eliminate about 35 to 45 percent of the static, none of them will work in all locations nor will they eliminate more than about 40 per cent of the static without a noticeable decrease in volume. The writer neglected to question above that shortening the aerial from 100 to 90 feet will slightly decrease the volume and may make reception of a few very distant stations impossible in summer time but the selectivity on those that you can still hear with loud speaker volume will be much improved and next fall and winter you will again be able to have a coast to coast range.

Ground and Aerial with Super-het

(141141 CN, Evansville, Ind.

In your May 2, 13, 17 and 24, 1924 issues of the Radio Digest you described an eight tube super-heterodyne receiver made to work on a loop and I want to know how I can adapt this receiver to work on a regular outside aerial and ground. Also in your June 27, 1925 issue you described an eight tube super-heterodyne receiver made to work on a loop and I want to know how I can adapt this receiver to work on a regular outside aerial and ground.

A.—We wish to advise that any super-heterodyne designed to work on a loop aerial can be used with an outside antenna by connecting the two terminals intended for the loop leads to the secondary terminals of an antenna coupler. Such a coupler should have about 43 turns on a 3-inch tube or 50 turns on a 3½-inch tube as a secondary while the primary should have from 6 to 16 turns. The coupling between primary and secondary should preferably be very loose and the primary should be on a rotor. In case the super-heterodyne is designed for a center tap loop, the center point of the secondary coil should be determined and the three terminals from the receiver connected to the two ends and the center point exactly as though it were a loop aerial. For diagrams and more definite information we refer you to our issue of March 7 in which we started a series on the Four Filter Super-heterodyne and the first article showed the connections whereby the super may be connected to a loop by plugging in two jacks or connected to an antenna coupler automatically by withdrawing the loop jacks.

To Catch Lower Waves

(14001) FR, Scales Mound, Ill.

I have a homemade neutrodyne which works fairly good except that I cannot get stations much below 275 meters. KYW comes in at about 84 on my dials. I am using Cardwell 17-plate condensers and homemade neutroformers having 5 turns of primary wound on 2½-inch tube (outside measure) and spaced about ¼-inch apart, 88 turns of secondary with a tap at the fifteenth turn and wound on 3-inch tubing (outside measure). I used 24-gauge silk covered wire. I would like to know what changes should be made in the neutroformers so that I could get down to about 200 meters.

A.—First of all tune in KYW, which you say comes in at about 84. Then disconnect the secondary of your second neutroformer from the grid of the second tube and take off about five turns. Do not touch the settings of the variable condensers while doing this. Then connect the secondary to the grid and turn the second dial until KYW is again heard. Continue this process, leaving the first and third dials at their settings until KYW comes in at about 92 on your center dial. Do the same with the other two neutroformers and you will find that with KYW at 92 you can go much farther down on the wave length range and probably can hear stations at 200 meters. The set will have to be neutralized, however, to allow for these changes.

Using Wrong Tubes?

(14105) PCSI, Erie, Pa.

I have a Branson Super-het, all the parts, and it is a nice looking outfit in the wiring and assembling. I have built it as specified in booklet that I got with the parts. The set has short radio frequency, three stages of intermediate radio frequency and two stages of audio frequency. The whistles and noises in the set caused by oscillation are something awful. It is the same with the loop on or off. In order to bring in a station I must turn the rheostats on full and the whistles and noises ruin all reception. I have been using condensers in all places in the set but the whistles and howls are the same. For grid voltage I have been using 3 to 5 volts; for plate voltage, 60 to 135 volts, and for detector voltage, 45 volts. Grid leaks have been tried in all capacities. It is a Branson reflexed super-het using 1, 201A tubes, Kit No. R-198, cabinet size 3x21x9½ inches.

A.—We wish to advise that the probable cause of your trouble is that you are using the Branson Kit designed for 199 tubes with tubes of the 201A class. The reflexed super-heterodynes will all work well with 199 tubes but they do not work well with the 201A tubes. You might write to the manufacturers of this kit and see what they can suggest.

Underground Aerial Cuts Static

(14003) LFW, Conway Springs, Kan.

Which gives more volume, UV-199 tubes or UV-201? Has there been any kind of instrument devised which will reduce static a little at least?

A.—We wish to advise first of all that the 201A tube will give more volume than the UV-199. The energy that will be delivered by a tube may be measured by the amount of filament energy consumed and this may be figured by multiplying the volts times the amperes. Since .3 times .24 is greater than 3 times .06, the 201A gives the greater volume. There has been no device or instrument developed that will reduce static dependably and under all conditions. An underground antenna, such as was recently described by Mr. E. T. Jones in Radio Digest, will work in the majority of cases and will reduce about 90 per cent of the static.

INDUCTIVE TROUBLES

(Continued from page 20)

wire wound on a 3½-inch tube. The grid coil is composed of 40 turns of number 26 dsc. wire wound on a 3-inch tube. Tuning condenser is of .0005 mfd. maximum capacity and variable. For the tubes used, the rheostat has a resistance of 20 ohms and the ammeter a range of 0 to 3 amperes. Grid condenser is fixed with a capacity of .00015 mfd. while the grid leak has a resistance of 2 megohms.

It will be noted that jack number 1 is not wired in the usual way to permit of reception on the detector alone but is connected in such a manner as to provide audio amplification when it is desired to use auxiliary apparatus in connection with current variations audio frequency amp-

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United States (Cont'd)

NOTE—The third part of the schedule list appears below. The fourth part which consists of the remainder of the list appears next week.

WEBJ, New York, N. Y. 272.8 meters. 500 watts. Yuengling's Ale Company, Inc., Hotel Yuengling. Daily at 8:00, 10:30 am. 12:30 pm. (except Sun.), 4:00, (weekdays) 7:30, (sports) 9:45, (except Sat.) 11:00, (weekdays) 12:00, (sports) 3:45, (except Sat.) 4:30-5, (sports, Tues., Thurs., Sat.) except Sun. 8 pm. concert. Sun. 10:30 am. 7:30 pm. church services alternating. Eastern Daylight.

WEEK, Chicago, Ill. 422.3 meters. 500 watts. Francis E. Bridgman, Announcer, Hotel Kenmore. Daily at 8 pm. Sun. 7-10 pm. Central.

WEAL, Lancaster, Pa. 340 meters. 10 watts. Lancaster Elec. Supply & Construction Co. Announcer, J. E. Baldner. Music: "World's Gardens at Lancaster." Mon., Wed., Fri., 8:15-9:15 pm. Sings concert. Wed. 11:15-1 am. night. Eastern.

WEAI, Scott Field, Ill. 275 meters. 250 watts. Scott Field Signal Corps. Announcer, C. C. Lindquist. Mon., Wed., Fri., 7:8:30 pm. concert. Central.

WEBA, Baltimore, Md. 291 meters. 100 watts. Jones Elec. & Radio Mfg. Co., Emerl. "Polish Greater Baltimore Affiliated." Announcer, Theodore Jones. Club "Meeting up with the Jones." Daily ex Sun. 10:1:30 pm. 3:30, 7-8 pm. 9:30-12. Thurs., 7-11. Sun. 9:30-11:30 pm. Study school Mon., 2-4 pm. Eastern.

WEBH, Chicago, Ill. 370.4 meters. 1500 watts. Harry D. Gilmore. Mon. 10:45 am. church. Eastern.

WEBO, Hoosick, Tenn. 280 meters. 10 watts. First Baptist church. Announcer, C. C. Lindquist. Mon., Wed., Fri., 7:8:30 pm. concert. Central.

WEBR, Buffalo, N. Y. 319 meters. 500 watts. The Foley Furniture Co. Announcer, Harold Foley. Daily 10:10 am. weather, markets, news; 1, hourly. Sun. 9:45, 4:15 pm. music. Fri. 11:10:30 pm. Magazine Air Raiders. Sun. 9:30-10 am. service; 7:30-8 pm. concert. Central.

WEBU, Milford, Va. 270 meters. 10 watts. Bethel-Milford Radio Club.

WEBW, Fall River, Mass. 399.1 meters. 10 watts. Fall River Herald Pub. Co. Charlesbell.

WEBJ, Scranton, Pa. 280 meters. 10 watts. Frank S. Wright.

WEBK, Allentown, Pa. 360 meters. 1 watts. Lehigh V. Department. Daily ex Sun. 1-4:30 pm. Sat. 8:30-11:45 pm. Sunday music. Sun. 3:1 pm.

WEBL, Akron, Ohio. 327 meters. 10 watts. Akron Radio Asn.

WEBM, Port Huron, Mich. 337.1 meters. 10 watts. Sun. 10:30 am. church. Eastern.

WEBQ, Harrisburg, Pa. 286 meters. 10 watts. Harrisburg Telegraph. Daily ex Sun. 1:30 pm. Sat. 8:30 pm. Central.

WEBR, Buffalo, N. Y. 319 meters. 500 watts. Foley Furniture Co. Announcer, Harold Foley. Daily at

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