

Considering Nearby Stations in Buying a Set; Pictures of Winning Announcers; Final 1925 Gold Cup Award Standings; Eliminating A.C. Power Hum; Other Kinks

# Radio Digest

EVERY WEEK

PROGRAMS Illustrated

TEN CENTS

REG. U. S. PAT. OFF. & DDM. OF CANADA

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SATURDAY, SEPTEMBER 19, 1925

No. 11

## WILL HEAR EUROPE SOON

### Coolidge to Exchange Air Greeting with King

International Broadcasting Likely to Begin This Month

LONDON.—Preliminary experiments in international broadcasting are likely to begin in London in September, and if successful they will be followed by a regular interchange of programs between America, Great Britain, and the Continent throughout the winter.

The suggestion that President Coolidge may broadcast an international greeting has been enthusiastically received in London, and the British Broadcasting company is already considering a suitable reply—either delivered by Premier Baldwin or King George.

### BRITISH PLAN FOR NEW ERA PROGRESSING

To Use Special Receiver

English Company Sets Aside Part of Broadcasting Schedule for American Programs

LONDON.—Listeners here are looking forward during the coming winter to a season of international programs, which may well mark a new era in the swift development of the science of broadcasting. Crystal set users will get good programs from places even thousands of miles away.

This will be made possible by what, even in the guarded official designation of the British Broadcasting company, is described as "a new super-receiving station."  
(Continued on page 18)



### MID-CONTINENT LINK STARTS IN MIDWEST

SIX OF LARGEST STATIONS JOIN IN BIG PROJECT

National Advertisers to Get Blanket Coverage of Untouched Market—Best of Programs Assured

CHICAGO.—The formation of a chain of commercial broadcasting stations, organized as the Mid-Continent Broadcasting Associates, comprised of six of the largest stations in the country, five of which are owned by or associated with leading newspapers in the mid-continent field, has been announced here.

(Continued on page 18)

### DANCING HUSBAND IS LADY FAIR'S DESIRE

CHICAGO.—A young lady (age not stated) from Bellwood, Illinois, has original ideas about uses for Radio. She describes herself as five feet five inches tall, blue eyes, 100 pounds, and, in a letter to the Coyne Electrical school station here, WGES, says she will appreciate it if they will broadcast her willingness to accept a husband. She adds that the husband must be "one who can dance."

Reading right down the steps of loveliness we have Marjorie Moore (left), the charming little director of her own Melody Maids at WEAR; Jean Carlson (center), with the beautiful Spanish shawl, coloratura soprano on the regular staff of WOK; and just above these lines, Merle Fuller, who has played and sung her way into the hearts of the WAMD fans.

# ANNOUNCE FINAL GOLD CUP LIST

## SHENANDOAH MAN SECOND TO McNAMEE IN ANNUAL CONTEST

### WOAW Announcer Finishes Third, Last Year's Winner Is Fourth—15 Runners-Up to Get Certificates of Honorable Mention

Shenandoah, a little city of some 5,000 people out in the Iowa corn country, came within less than 40,000 votes of taking honors away from New York city, the metropolis of America, in the recent Gold Cup Most Popular Announcers Award, when Henry Field, director, owner, and announcer of Station KFNF, ran second to Graham McNamee of WEA.

Two other announcers with large rural followings also polled enough ballots to make their presence felt up around the top, when Gene Rouse, WOAW, Omaha, and George D. Hay, WLS, Chicago, finished third and fourth respectively in the contest.

The race was close until the very end and the way the votes came piling in by mail, air mail, special delivery, messenger, and express during the last hours made things look like anyone of the leading four might become the possessor of the coveted cup. All four finished with over 100,000 markers to their credit and with but 87,146 votes separating the winner of this year and that of last year, George Hay in fourth place. The Hired Hand of WBAP held final fifth position with some thirty thousand between him and the sixth position man.

#### G. Hay Finishes Fourth

George D. Hay, last year's cup winner, and leader for several weeks this season, put up a good fight until the last, only dropping to fourth position after the last express load of votes had come out of the west and put Field and Rouse ahead. At that, "The Solemn Old Judge" was only 7,671 behind Rouse.

Henry Field, second man, is, as told above, owner of the KFNF station which represents the Henry Field Seed company of Shenandoah, Iowa. The majority of his votes were from people located in the territory served by his company, who are strong for Henry, friend of everyone.

Gene Rouse, announces the programs broadcast by the Woodmen of the World, Station WOAW, at Omaha. He has a big following of lodgemen who listen in to the station with the same regularity that they attend their fraternal gatherings.

George D. Hay, is chief announcer for WLS, the Sears-Roebuck agricultural foundation at Chicago. George is well liked by all, who have heard him over the air and he makes friends readily with all those he meets personally.

Frank S. Lane stands alone in sixth place with some sixty thousand votes.

### Most Popular Announcer of 1924 Lauds 1925 Air King

"The 1925 Gold Cup offer by the Radio Digest has been rightfully won by George McNamee of WEA. It is a great pleasure that I acknowledge Mr. McNamee as the new King of the Air."

The above words are those of George D. Hay, "The Solemn Old Judge" of WLS, first Radio announcer to be elected by the Radio audiences of the country as King of the Air. Mr. Hay made this statement immediately upon hearing of Mr. McNamee's victory.

"From the first time I heard him," continued the Judge, "I have always held that opinion. More power to him!"

"I wish to express my heartfelt thanks to my many supporters who voted for me this year. I appreciate their support just as much as I would have had I been successful. The cup is going to the right man!"

The man next below him is N. Dean Cole, head of a group of three receiving votes totaling in the forty thousands. The others in this group are John Daggett and H. W. Arlin.

#### Three Get Thirty Thousand

There are also three in the thirty thousand group. They are Leo Fitzpatrick, Lambdin Kay, and Jerry Sullivan.

W. G. (Bill) Hay finished thirteenth. Bill was formerly announcer at KFNF out in Hastings, Nebraska, but for some weeks and until after the close of the contest he was off the air. He retained a large enough following to keep him up among the leading sixteen. Bill is now on the announcing staff at WOK, the new Chicago plant.

The last three to get into the group of sixteen who will be awarded certificates of honorable mention are, Robert Emery, Charles Erbstein, and Norman Brokenshire. The latter came into the final list from below. He had not been rated among the leading sixteen for several weeks prior to the close of the contest.

### FINAL STANDINGS OF EVERYONE IN AWARD

The final standings of all who were entered in the contest follows. The leader receives the Gold Cup and the next fifteen will be awarded certificates of honorable mention:

Place and Name	Station	Votes
1. Graham McNamee	WEAF	189,470
2. Henry Field	KFNF	152,102
3. Gene Rouse	WOAW	110,005
4. George D. Hay	WLS	102,324
5. The Hired Hand	WBAP	90,282
6. Frank S. Lane	KFRU	60,102
7. N. Dean Cole	WHO	45,203
8. John Daggett	KHJ	41,704
9. H. W. Arlin	KDKA	40,784
10. Leo Fitzpatrick	WDAF	36,663
11. Lambdin Kay	WSB	33,782
12. Jerry Sullivan	WQJ	30,003
13. W. G. (Bill) Hay	WOK	20,543
14. Robert Emery	WEEI	17,208
15. Charles Erbstein	WTAS	15,723
16. Norman Brokenshire	WJZ	10,543
17. Richard Haller	KGW	8,954
18. O. E. Becker	WGR	8,703
19. Gerald Deering	WMC	8,359
20. S. W. Barnett	WOC	8,023
21. E. W. Tyson	WWJ	7,603
22. H. R. Herske	WTAM	7,557
23. Jack Nelson	WJJD	7,020
24. Kolin Hager	WGY	5,901
25. C. D. Tomy	WCX	4,895
26. Robert Boniel	WEBH	4,894
27. Fred Smith	WLW	4,890
28. Howard Milholland	KGO	4,873
29. D. R. P. Coats	CKY	4,815
30. Ralph Crowder	KOA	3,601
31. Victor Schmidt	WBBR	2,595

32. John Schilling	WHB	2,540
33. Ralph Freese	KOA	2,469
34. J. H. Cartier	CKAC	2,437
35. Paul Johnson	WCCO	2,419
36. Harold Isabelli	—	2,413
37. Clyde R. Randall	WSMB	2,410
38. Chester Gaylord	WCTS	2,349
39. Hank Goudy	WIP	2,348
40. Miss V. A. L. Jones	KSD	2,319
41. Pat Barnes	WHT	2,272
42. Quin A. Ryan	WGN	2,263
43. H. W. Grant	CFCN	2,236
44. Dr. George Young	WHAT	2,235
45. Neal Garland	—	1,182
46. Eddie Johnson	—	1,181
47. C. H. Hayes	KSL	1,175
48. N. Wetzel	—	1,166
49. J. Wynklopp	—	1,165
50. Ernest Chappel	WFBL	1,134
51. Logan Trumbull	KYW	1,129
52. Carl Stephen	WJAG	1,102
53. J. H. DePew	WCBD	990
54. Claire E. Morrison	KPO	987
55. R. K. Clark	KOA	985
56. J. H. Jay	WMBF	970
57. N. T. Granlund	WHN	961
58. R. H. Combs	CHNC	857
59. G. A. Wright	CNRA	856
60. J. G. Cummings	WOAI	855
61. G. C. Arnoux	KTHS	854
62. Bernard Strang	WEAR	848
63. Charles J. Messter	WCBR	846
64. Ralph C. Hodkinson	WKAR	845
65. Walter Darling	CFCF	844
66. H. I.	KFI	843
67. L. J. B.	WGY	842
68. Jennings Pierce	KGO	841
69. J. L. Reid	WJZ	840
70. George F. Ross	WRC	738
71. Magnolene Mike	KFDM	733
72. Lester Palmer	WOAW	629
73. Alfred Daniel	KPRC	628
74. Mrs. W. D. Reynolds	KLZ	623
75. George Spink	WDWF	622
76. C. A. Entekin	WCAH	621
77. William Marsh	WHO	620
78. F. E. Mullon	KDKA	619
79. A. W. Ryan	CNRO	518
80. George Bayles	KSAC	515
81. Charles Wellman	KFWB	514
82. Milton Cross	WJY	513
83. Roy E. Davis	WREO	512
84. D. J. Powers	CFCA	511
85. A. F. Edes	WBZ	510
86. William Fay	WGY	509
87. L. W. G.	WPC	410
88. —Hastings	KFI	312
89. Paul Reese	KFI	311
90. Ernest K. Kaiser	WOCL	310
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97. Harry Geise	WIBO	204
98. Joseph Sartory	WCAE	203
99. Mrs. B. G. Waters	WCTS	202
100. Lee W. Klinefelter	WBBW	201
101. Credo Harris	WHAS	200
102. B. MacDonald	WJAS	199
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112. K. M. Hance	WDAY	103
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114. J. F. Hitchcock	WHEC	101
115. Billy Knight	WIL	100
116. Joaquin Agusty	WKAQ	99
117. Harry Ehrhart	WLIT	98
118. Norton Alps	WMAK	97
119. J. J. Fanning	WNAC	96
120. Eugene N. Konecky	WOAW	95
121. F. Morris	WTAS	94
122. W. J. Damm	WHAD	93
123. D. Franklin	KFVC	92
124. Dean Fritz	KFUO	91
125. Arnold Cisler	KOCH	90
126. Fred Rogers	KDKA	89
127. Fred Carlton	CFAC	88
128. A. L. Hooper	CKCK	87
129. Jim Kirk	KFFR	86
130. Carl Haberlin	KFI	85
131. Frank Bohler	KHG	84
132. P. Townsley	WBOA	83
133. Irving Vermilya	WBBG	82
L. Atlax	WBBM	82
H. E. Bach	WBZ	82
George H. Jaspert	WBZ	82
A. G. S.	WBZ	82

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## Looking Ahead

When Radio Was in Its Infancy, Jack Nelson, announcer at old WDAP used to tell the fans to "laugh in their dreams" and they usually did after hearing the programs Jack put on the air. Now Mr. Nelson handles the mike at WJJD, the Loyal Order of Moose station at Mooseheart, Ill. This plant will be described on our next station feature page.

Fred Smith is Back from Europe, but there are two more of his interesting letters describing broadcasting conditions on the Continent to be published. The next to the last of these will appear next week.

Radio Movies Have Been Discussed for some time so next week we are going to tell how Norma Shearer and Lew Cody cooperated with a local Los Angeles station and several movie houses, and made the talking, jumping tintypes possible.

Overhauling Your Radio Set for the Coming Season is the subject of an interesting article in next week's issue written by James McDonald. Whether you bought your installation complete or constructed and assembled it yourself, the same rules apply. You'll be surprised to learn how much attention your set should have to put it back into first class shape.

Sustained Oscillations in a Vacuum Tube depend on several conditions which must be fulfilled and the circuits by which it is possible to secure this oscillatory state are numerous. Professor Moreton considers the tube from this angle in the next chapter of this A. B. C. series since the production of sustained oscillations and regeneration are very closely linked.

### SOLEMN OLD JUDGE SALUTES McNAMEE

CHICAGO.—As soon as George D. Hay, chief announcer at WLS, here, heard of the succession of Graham McNamee to the position he had held for a year as the World's Most Popular Announcer, he sent the following telegram of congratulation to New York. "Heartiest congratulations to the World's Best Announcer. From the first time I heard you I have held that opinion and it is with great pleasure that I turn the honors over to you this year."

### Newsstands Don't Always Have One Left

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### FANS OF THE WORLD CAST 1,161,659 VOTES

IT might be of interest to fans to know that the total number of votes cast in the 1925 Radio Digest Gold Cup Award Contest was 1,161,659. These votes came in from every state in the union, every province of Canada, Mexico, Cuba, many European countries, including India and China, the Samoan islands, Australia, New Zealand and Alaska. Even ships at sea sent votes.

The stamps on the letters would have been welcomed by any philatelist.

# NEWS BRIEFS FROM THE BROADCASTERS

## WORLD'S GREAT LAWYERS HEARD FROM DETROIT

Roxy Goes Abroad to Study Songs; New Trombonist at WIBO; Other News

Seven of the world's greatest lawyers were presented to the Radio audience recently by WJR, when Charles E. Hughes, former secretary of state, Lord Buckmaster, former Lord Chancellor of England, Frank B. Kellogg, secretary of state, Charles S. Whitman, former governor of New York, M. Manuel Fourcade, president of the Paris Bar association, and John G. Sargent, Attorney General of the U. S. were guests and speakers at the annual banquet of the American Bar association held in Detroit.

S. L. Rothafel sailed for Europe aboard the Leviathan September 5. The theater impresario and Radio star was accompanied by Arthur H. Sawyer, one of the leading spirits in the organization recently formed to build the new Roxy theater.

"Roxy" has disclosed that one of the main purposes of his trip will be to make an exhaustive study of the folk lore and songs of various European countries. It is his intention to present this folk music in programs at the new Roxy theater.

A new feature has been added on the Sunday afternoon concert at WIBO, The Nelson Brothers Bond and Mortgage Co., and the Russo-Florito orchestras, Chicago, in the person of Carroll Martin, nationally known trombonist, formerly with the Chicago Symphony orchestra, and now trombonist with the Orloilo orchestra, one of the Russo-Florito units. Mr. Martin is known by the tone he produces on the trombone which is almost the same as the human voice.

A model Radio program, the sort of a program that listeners long for but seldom get, is to be broadcast from the Sears-Roebuck Agricultural Foundation station, WLS, on Friday evening, October 9, it has been announced by E. I. Bill, director of the station. The program, which will last all through the night, will be in charge of Frank H. McDonald, president of the Broadcast Listeners Association of America, and his aids.

Grand opera is scheduled at KGO for Saturday evening, September 26, when "The Bohemian Girl" will be presented in Radio form. On the same evening a comedy touch will be added by the KGO Minstrels in thirty minutes of old-time minstrelsy.

The Trianon Ensemble began another engagement at the Hotel Muehlebach, Kansas City, September 14, and will continue to play the dinner hour concerts which have made them popular with the fans of WDAF, The Kansas City Star Radio station.

On Tuesday, September 15, the continuity programs which have made the Eveready Hour famous throughout the country, were resumed at WDAF and the usual chain of stations. The artists related in story and song their varied experiences on their vacations during the summer.

The testimonial dinner given in honor of Rear-Admiral W. S. Benson on September 19, will be broadcast over WRC, Washington, from the Mayflower Hotel. Newton D. Baker, former secretary of war, will be one of the principal speakers, and the music will be furnished by the United States Navy Band orchestra.

Gimbel brothers, Philadelphia, announced that their station, WIP, would be off the air from September 14 to 18, while they were changing over from generator to storage battery power. The station is to be reopened on September 19.

Mrs. Leora Sage McKennan, Soprano, sang some of her own compositions in Spanish from KDKA when the station put on a special program for Brazil listeners in celebration of the Brazilian Independence day.

Through the cooperation of the department of commerce, Station WRC, Washington, will continue through the fall and winter months a series of informative talks on the political and economic situation in the leading cities and countries of Europe and Asia. These talks will be given by representatives of the department, commercial attaches and chief of divisions who returned to the Capital from foreign posts this year.

Concerts selected from the works of well-known composers are now a regular feature of the Sears-Roebuck Agricultural Foundation station, WLS, on Tuesday and Friday nights beginning at 7 o'clock.

## DOBBS "WAISTS" FAT ON LEAN LISTENERS

DENVER.—In some cities the soil taken from an excavation for a building is used in another part of the city to build up low land. Nothing is wasted. Out here in Denver, Hugh Dobbs, the man who conducts the early morning health exercises over KGO, removes fat from stout people and "waists" it by putting it on the lean ones in his audience of some 300,000. Dobbs has worked out his system scientifically and figures that it takes one-twentieth of a watt of electrical energy expensed for every one individual in his large class.

## GOLF PROS LIKE TO PLAY RADIO COURSE

CINCINNATI.—Golf professionals who have been broadcasting instructive talks from Station WBAI here, are so enthused over their first appearance before the microphone that they are urging Paul A. Greene, manager of the United States Playing Card station, to continue the series. One "pro" sold a set of clubs the day following his talk on the proper balancing of clubs. Another received an offer from a golf magazine for a series of articles, while several reported that demands for "lessons" on the links increased.

## FAVOR WOMEN WITH SPECIAL LINK TALKS

### FIRST BIG COMBINE GIVING HOME SERVICE BILLS

Betty Crocker Will Talk Thrice Weekly to the Housewives of Thirteen Cities

MINNEAPOLIS.—On Monday morning, September 21, a new chapter in the history of broadcasting will begin when twelve of the principal broadcasting stations in the United States, from the Atlantic to the Pacific coast, will start the simultaneous broadcasting of the Betty Crocker home service talks.

Three times a week, on Mondays, Wednesdays, and Fridays at 10:45 a. m., local time, Betty Crocker will talk to the nation's housewives from the following stations: WEEI, Boston; WDAF, New York; WFI, Philadelphia; WCAE, Pittsburgh; WGR, Buffalo; WEAR, Cleveland; WWJ, Detroit; WHT, Chicago; KSD, St. Louis; WDAF, Kansas City; KFI, Los Angeles, and the Gold Medal station, WCCO, Saint Paul-Minneapolis.

These talks will deal with preparation of food for the table, model menus, party suggestions, proper diet for children, and in addition will include three complete cooking schools.

#### First National Woman's Link

It will be the first time that a group of large stations have been linked to broadcast a program especially for the feminine sex. It likewise will be the first time that the more powerful broadcasting stations on the continent have combined to broadcast a program of service rather than one of entertainment or some phase of national affairs.

The series, with brief interruptions at Christmas and Easter, will continue for twenty-nine weeks.

The talks by Betty Crocker, a nationally-known home economics specialist, were inaugurated by Washburn Crosby company last year through the Gold Medal station, WCCO, which they own and operate jointly with the business men of Minneapolis and Saint Paul. Three cooking schools were conducted over the air, as well as a club for girls and a series of talks dealing with domestic science. These talks were received with enthusiasm. As a result of the interest aroused, the Washburn Crosby company decided to make the program this year national in its scope.

#### Information of Value Plan

The importance and novelty of this program lies chiefly in its national scope. It is the purpose of the new Betty Crocker service to make the talks at once national and at the same time local in the field of each station broadcasting them.

The plan also brings out a new phase in commercial broadcasting. Heretofore, commercial Radio publicity has been devoted to linking up a trade name with entertainment, but the object of the Betty Crocker talks is to provide a service which, entirely without cost, is of direct value to practically every woman.

It also provides an opening whereby stations may find a means of sustaining themselves. The Washburn Crosby company in working out a plan of national commercial broadcasting on the service basis is taking on an experiment which may influence the whole future of Radio broadcasting. If it succeeds both from the standpoint of the company and from that of the twelve stations participating, there seems no reason why a new impetus should not be given to the development of commercial broadcasting of this nature on a sound basis.

## Sandman Back at WOC After Summer Vacation

DAVENPORT, Ia.—The WOC "Sandman" schedule, suspended during the summer months when most "kiddies" are out-of-doors, again become a regular part of the Chiropractic Radio station's winter schedule commencing on September 16, at 6:30 o'clock, and every evening thereafter, except on Sundays and Mondays, the latter night being silent night for WOC. The personality of the WOC "Sandman" during the coming season will be none other than L. Emery Wass, who is also chief announcer at the powerful Davenport station.

## KFNF Popular with Tourists

SHENANDOAH, Iowa.—One Sunday, not long ago, the Henry Field Seed company, owners of Station KFNF here, had over 1,200 visitors at their main building, and the number of their visitors every day is running from five hundred to six hundred depending on road conditions.

## London Talks with NRRL

LONDON.—Gerald Marcus, a well-known Radio amateur here, has been in Radio telephonic conversation with the U. S. warship Seattle (NRRL) in Wellington Harbor, New Zealand.

## AN INDIAN YOU SHOULD KNOW



Every time you put a nickel in the telephone, or at least nearly every time, you scratch the nose of the warrior pictured above, because he is Two Guns White Calf, the highest ranking chief of the Blackfeet Indians, who poses for the Indian head that appears on the buffalo nickel.

WHEN Princess Guiding Star of the Blackfeet Indians in Glacier Park sang some of her native songs from the studio of the Gold Medal station, Saint Paul-Minneapolis, WCCO, recently, her accompaniment was played on the tom-toms by Chief Two Guns White Calf, and Chief Crow Feathers. Princess Guiding Star is considered the most beautiful Indian girl in the world, and there has been talk of entering her in the beauty pageant at Atlantic City to compete for the title of "Miss America." Chief Two Guns White Calf, in addition to being the highest ranking chief of the Blackfeet Indians, was the model for the Indian head on the buffalo nickel. He recently brought a party of his tribesmen from Glacier Park to the Twin Cities on a

sightseeing tour. The chief was prevailed upon to broadcast from the studio in his native tongue. The trouble with Radio, according to the chief is that the Indian sign language cannot be transmitted. He was assured that there was another language that suffered equally from the same reason.

## Antipode Greets Antipode with MacMillan Wireless

LONDON.—Sir Joseph Cook, High Commissioner for Australia, has received a wire that Spencer Nolan, Jr., a Sydney Radio fan, has succeeded in getting in touch with the MacMillan expedition on the steamer Peary in Greenland.

Years ago Indians beat tom-toms around a camp fire in war dances to terrify the palefaces. Now they beat the same instruments around the WCCO microphone to entertain them. From left to right they are, Chief Two Guns White Calf, Princess Guiding Star, and Chief Crow Feathers.



# Fifteen Honorable Mention Cup Contestants

In the center, top of page, is Henry Field, winner of second place in the 1925 Gold Cup Award. Henry is chief announcer of KFNF. Left of him is Gene Rouse, WOAW, Woodmen of the World station, who finished third.

George Hay, WLS (above), 1924 cup winner, placed fourth. Frank S. Lane, KFRU (below), rates sixth place.

The famous Hired Hand, above, of WBAP, finished fifth. H. W. Arlin, below, K D K A pioneer, finished, ninth.

N. D. "King" Cole, of WHO (left), ran consistent and ended seventh, while "Uncle" John Daggett, KHJ, below, spurted at the close and finished eighth.

Leo Fitzpatrick, W D A F, above, tenth, and Jerry Sullivan, W Q J, below, 12th.

Lambdin Kay, WSB, left, hearing himself talk. He finished eleventh in 1924 and 1925.

W. G. "Bill" Hay, left, formerly of KPXX but recently added to WOK staff, finished thirteenth despite three months off the air.

Immediately above, left to right, are Robert Emery, WEEL, fourteenth, and Charles Erbstein, WTAS-WCEE, fifteenth in 1925 contest. In extreme right, lower corner, is Norman Brokenshire, ex-WJZ and now WRC, who spurted at the close and finished sixteenth.



# Graham McNamee, 1925's Best Announcer



In olden days the cry was "The King Is Dead! Long Live the King!", but in this day when kings are made and dethroned over night, the public uses the cry, "Bring on Another King!" And that is what we have done here. Last year another face graced this page as the people's choice for King of Announcers. Now it is Graham McNamee, chief announcer of WEA, who was elected 1925 Most Popular Radio Announcer in the recent Radio Digest Gold Cup Award. Mr. McNamee is the king for 1925 and instead of being crowned he will be presented with the Gold Cup as the insignia of his high rank at the Radio World's Fair, in New York, September 19. A large host of fans who helped elect him will witness his coronation which will be broadcast over several link stations.



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W. E. & M. Co.



# SHE RIVALRS THE TUNEFUL SKYLARK



Poets have long told of the tuneful skylark emitting sweet notes while soaring high over the earth. Now we have a human being doing much the same. Left photo shows the Radio equipment being put in the Sikorsky passenger plane at Mitchell Field, N. Y., preparatory to going aloft where Maxine Brown, the Sweetheart of the Air, right, is seen singing into the "mike" in the cabin of the air cruiser. The plane's motors were shut off and the ship glided during the broadcast to eliminate any hum. Photos by K. and H.



## STUDIO OF THE SKY IS LATEST FEATURE

### AIRPLANE BROADCASTS UP 6000 FEET ABOVE CITY

#### American Legion Plane Will Repeat New York City Aerial Music Treat Elsewhere

NEW YORK.—Radio Station WGBS was the first broadcaster to attempt to give Radio entertainment from an airplane in flight, recently, when the huge twelve-passenger Sikorsky hopped off from Mitchell field escorted by two U. S. government planes on a tour of the principal cities of the East to call attention to the American Legion endowment fund drive.

Maxine Brown ex-musical comedy star, sang and played on a piano in a specially constructed sound-proof studio while the plane was 6,000 feet and higher in the air. The program was broadcast by a Signal Corps SCR-134 transmitter of 50-watts in the plane, and picked up by a powerful receiving set on top of the Gimbel store while the plane was flying over the city and rebroadcast by the station. While men have radioed their conversation from airplanes in flight, which has been picked up and rebroadcast by Radio stations this was the first time that an attempt has been made to broadcast entertainment from the air.

#### May Include Other Cities

It is planned to have the plane travel to other cities and repeat this cloud broadcasting. Other stations scheduled to catch the waves from the plane and rebroadcast them are, WIP, Philadelphia; WGY, Schenectady; WMAF, South Dartmouth, Mass.; WCAE, Pittsburgh; WGR, Buffalo, and possibly WLS, Chicago.

Dailey Paskman, director of WGBS will be in charge of the broadcasting during the entire trip and Edward J. Content, chief engineer at WGBS, will officiate technically. The plane will be piloted by Igor Sikorsky the famous Russian inventor, personally, alternating with Colonel H. R. Hartney, who piloted one of the planes in the first transcontinental trip a few years ago.

One of the most interesting features in connection with the Sikorsky plane is that this ship is so constructed that it can glide through the air at high altitude, with both its motors shut off, for periods of ten minutes, so that the usual motor noise will not interfere with the Radio program.

## New Stations

WDOD, Chattanooga, Tenn., is now on the air with 500 watts. The Knoxville station, formerly WNAV, will be heard under the call WNOX. The new Nashville, Tenn., 500-watt equipment being installed by the National Life and Accident Insurance company will be on the air shortly, probably with the call WSM.

WOQ, Kansas City has increased its power to 1000 watts. WFBI of Camden, N. J., formerly a 250-watt station is now using 500 watts. WGY broadcasts on 2500 watts.

Richmond Hill, N. Y. is to have another 500-watt broadcaster, WWGL, owned by the Radio Engineering corporation and operating on 212.6 meters, perhaps the lowest wave used at the present time. Other Class A stations licensed this week are: WJBI, Red Bank, N. J., 218.8 meters, 250 watts; KFBS, Trinidad, Colo., 238 meters, 15 watts; WCLO, Camp Lake, Wis., 231 meters, 50 watts; WOL, Ames, Ia., WOK and WIBO, Chicago, have recently been transferred to Class B.

By the time this gets into print another Los Angeles broadcaster will be on the air—KNRC, wave length 208.3 meters, power 500 watts. The station is owned by a Radio distributing firm, Kierulff and Ravenscroft. The two firm members are old timers, having built the first KHJ transmitter, a 100-watt affair.

The following Class A stations were deleted last month: KFVC, Camden, Ark.; KFRM, Fort Sill, Okla.; KFUY, Butte, Mon.; WSAG, St. Petersburg, Fla.; KFQY, Belden, Neb.; KFVL, Vancouver, Wash.; WIBL, Joliet, Ill.; WIBE, Martinsburg, W. Va.; WABN, LaCrosse, Wis.; WGBY, New Lebanon, Ohio; WHBV, Columbus, Ga.; WFBN, Bridgewater, Mass.; KFVK, Sacramento, Calif.; WDAH, El Paso, Tex.; WABU, Camden, N. J.

## Hear Times-Star Shows on WLW Mondays

### Quality Concerts Follow Smith's Thematic Ideas

The Cincinnati Times-Star has resumed its Monday night programs at WLW with quality concerts meant to parallel those of last season. The symphonic orchestra of twelve men is being directed by Wm. Kopp, who had been busily engaged all summer as assistant conductor at the Zoo. Howard Hafford, whose tenor voice has won him the distinction of being one of Radio's most pleasing entertainers, will be featured every concert.

Fred Smith, studio director at WLW, has assisted in the arrangement of these programs by suggesting thematic ideas to be executed by the ensemble of Times-Star entertainers. The opening program, given on September 14, concluded with twenty minutes of "Good-bye to Summer." The second, to be given Monday, September 21, will have forty-five minutes devoted to "A Day in Dixie." The third, to be given Monday evening, September 28, will be called "A Day in Arcady."

## STRIKE STILL ON FOR SILENT NIGHT

### Fans All Over Country Send Pledges to Help Chicago in Fight

CHICAGO.—"I know I can win because I am in the right and I will not stop fighting until the victory is completed!"

This was the statement made by Frank H. McDonald, president of the Broadcast Listeners of America, when asked if he thought the silent night strike being conducted here by his organization would be successful.

"Pledges of sympathizers not to listen to the stations we have branded as unfair, because they persist in broadcasting on Monday nights in the Chicago territory, are pouring in from all over the country," continued Mr. McDonald. "Why in one mail I received pledges from Hoboken, St. Louis, Champaign county, Illinois, Janesville, Wisconsin, and Grand Rapids, Michigan, besides the usual hundreds that come from listeners near and in Chicago."

The following local stations have notified the B. L. A., of their intention to cooperate with them in the fight: WBBM, WGES, WLS, WENR, WFKD, WIBO, and WBCN. WWAE and WCBD, originally on the unfair list are now with the strikers.

WLS, the Sears-Roebuck Agricultural Foundation broadcasting station, will be silent on Tuesday evenings hereafter, beginning at 8 o'clock, central standard time. This step is taken by WLS to enable WCBD at Zion, which is on the same wave length, to have sufficient broadcasting time on another night of the week so as to insure a real silent night on Monday nights.

## 120 Radio Stations in Europe

PARIS.—According to the latest statistics there are at the moment 120 Radio transmission stations in Europe; 37 more are being constructed and a dozen more projected. The Geneva office of the international broadcasting bureau is busy keeping the waves straight.

## DOWN AT DIALS' ZERO BUT GETS PLENTY DX

### WOK Results on Low Wave Are Very Satisfactory

CHICAGO.—People are watching with interest the performance of Station WOK, the new Chicago broadcaster, because of its low wave length, 217.3 meters.

Colored pinheads in a large map of the United States and Canada, which hangs in the studio office, indicate the different cities in North America from which reports have been received that WOK programs have been heard.

This map shows WOK is coming in particularly strong along the Atlantic coast from Virginia to Maine, and, in fact, many of the correspondents have written that Station WOK came in like a local station, which they thought it was until they heard the operator announce "Station WOK, Chicago."

These reports came before the new station received its class B license and when it was operating on only 500 watts power. Local Radio engineers consider the record rather remarkable and indicative of what may be expected in the future from high-power stations operating in the low wave band.

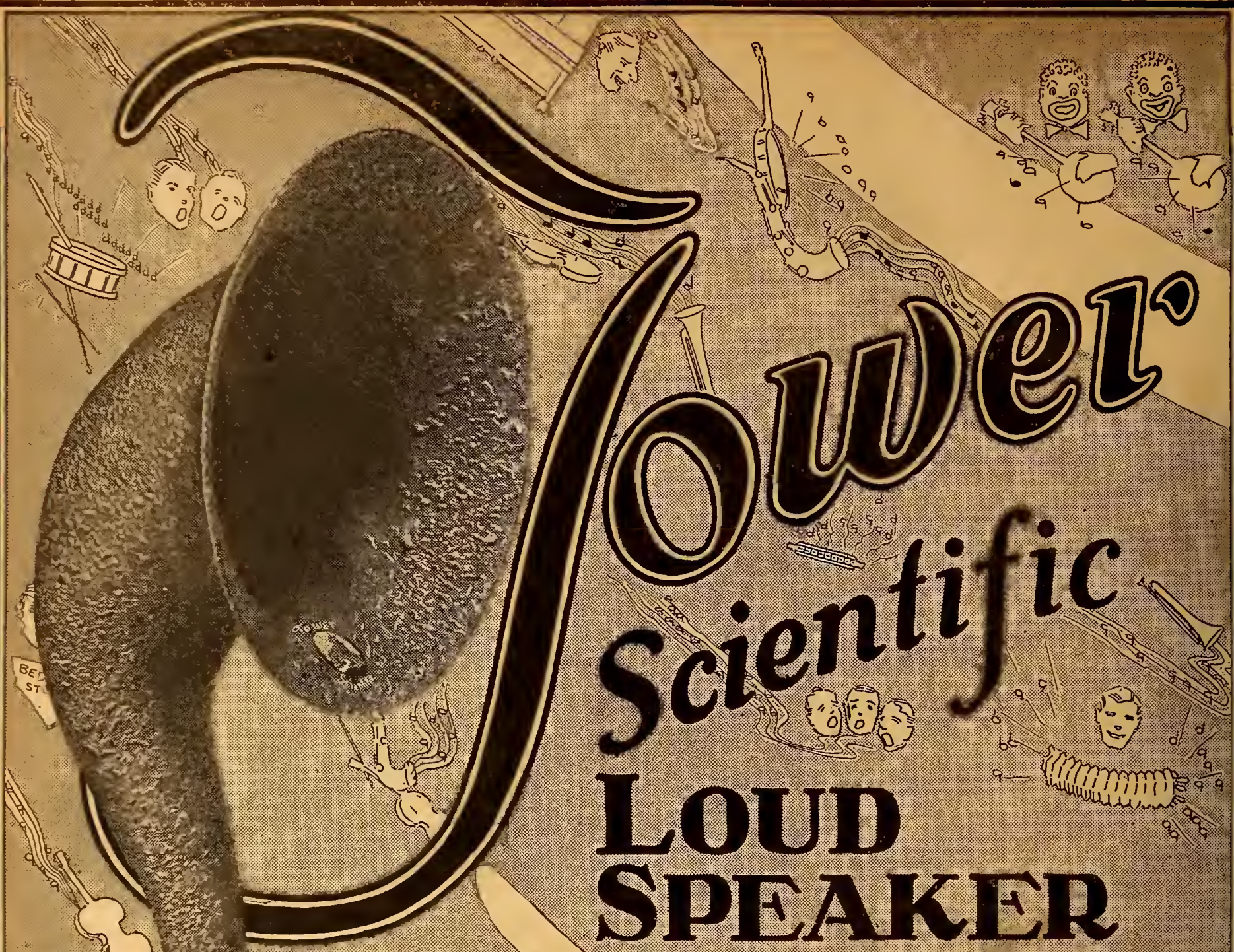
Another point of interest is that WOK gets its power from storage batteries instead of rectifiers or motor generators.

## HOOTERS ASK COURT TO TELL WHO'S WHO

PORTLAND, Ore.—"Who's Who in Hooting" is the question up for decision in the federal court of this city, where the Order of Owls, a fraternal organization, is asking an injunction to restrain the Keep Growing Wiser Order of Hoot Owls, a comic club of Radiophone KGW, from using the "owl" name. The OOO's say the KGW's through their frivolity are hurting the seriously taken lodge work. In the meantime the Radio fans are up in arms to defend KGW.

## RADIO PUTS WORDS INTO BABE'S MOUTH

CHICAGO.—Radio has been known to wake the kiddies in the morning and put them to sleep at night but here's an instance of Radio teaching them how to talk. A letter received at Radio Station WLS of the Sears-Roebuck Agricultural Foundation from Geo. W. Kesler, of Bondville, Ill., carries word to the effect that his little granddaughter learned to pronounce Chicago through hearing George D. Hay, "the solemn old judge" announcing.



# Tower Scientific LOUD SPEAKER

\$  
8.<sup>50</sup>

*Smashes Every Precedent  
—In Performance and Value*

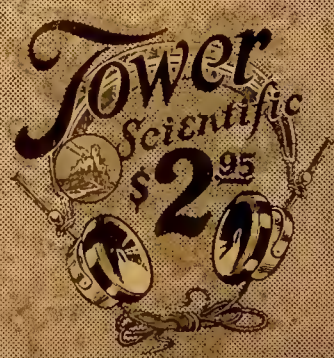
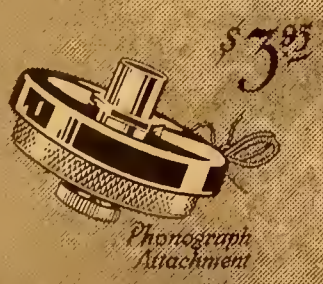
Looks and performs under every condition like a \$25.00 Speaker, but actually costs a fractional part. Its wonderful tone is due in part to the gooseneck horn, as graceful in appearance as it is scientifically correct. Meets the requirements of every type of broadcasting and Receiving Set.

*Wherever there are ears that hear there is a Tower Quality Product to Fit your Taste and Pocketbook.*

SOLD BY GOOD RADIO DEALERS EVERYWHERE

**TOWER MFG. CORPORATION**  
98 BROOKLINE AVE. BOSTON MASS.

*All Tower Loudspeakers  
equipped with  
adjustable units*



**WORLD'S GREATEST LOUDSPEAKER VALUES**



# RADIO-BELGIQUE HAS STRUGGLE TO EXIST

## ADMINISTRATION'S TAX IS 6,000 FRANCS A YEAR

### Listeners Also Taxed But Broadcaster Does Not Benefit—Hard Times in Belgium

Article VI—by Fred Smith, WLW Director

WHATEVER may be the moral, and however complete may have been my mistake, the unchangeable fact is that I went to Brussels with my mind already made up as to what conditions would prevail in the country at large and in the broadcasting field in particular.

When the great war was over in 1918 the little country of Belgium sprang back toward a life of victorious commerce with courage and faith. I myself saw that brave effort, having lived in Brussels from 1919 till near the end of 1920. And so, returning five years later, I had expected to find this industrious little country vigorous and happy as of old.

But alas indeed! A great change has come over that little nation which was set up a little over a hundred years ago by Napoleon to act as the watch dog of France. Faithfully the watch dog played its part.

I remember one day in 1919 sitting in a cafe with two Belgian men of affairs. A beggar entered the establishment and went from table to table asking for alms. One of the men with me gave him something quickly and told him to go away, explaining afterwards to me: "I am ashamed to see a beggar in our country. Such a thing was never known before the war."

Today, six years after that little episode, beggars are as thick in Brussels as in any other European city. In fact, they seemed much more numerous than in most of the cities we have visited so far. While we were eating dinner



M. Van Soust

# THEY ENTERTAIN OVERSEAS FANS



The Redele Young Ladies String quartet is a favorite with the Brussels Broadcasting station, and is planning to visit America soon for a tour of stations.

evening before last an ex-soldier with legs off at the hips came scooting through the room, his two hands holding a sort of wooden glove, and serving as crutches for swinging his body along. His head came just to the table tops. Nearly everyone gave him money.

Later in the evening we stopped at a cafe for refreshment just before going to our hotel. We sat down at one of the small tables on the sidewalk. A middle-aged woman came by and stopped just beyond the cafe. A moment later a much older woman with white hair, silvery white hair neatly brushed, came hobbling along, supporting herself on a cane and the chairs by the tables. Again, almost everyone gave her money. We have seen many other beggars during the two days spent in Brussels.

And how the gaiety of the people has changed into something else! The Belgians used to laugh so easily. Brussels is no longer a gay city. The people are poorly dressed. The hotels are far from crowded. There is a luxury tax on every-

thing imaginable, even on servants. If your bill at the restaurant amounts to over ten francs on goes the stamp and the tax. Taxicabs are much more expensive than in Paris—doubly so—and the drivers much more insistent about receiving handsome tips. In the hotels and the cafes the good natured atmosphere has disappeared, and everyone seems affected by the universal bad humor.

I had expected to find the government back of broadcasting one hundred per cent. I had imagined that the government was rigidly taxing the listeners and turning the money over to well-organized broadcasting companies furnishing the very best to the public. But another sort of miracle has happened; for some of the old fighting spirit of earnest men is in the blood of the broadcasters of Belgium who are working desperately to accomplish something worth while against great odds. The Brussels station is well known and liked throughout the (Continued on page 10)

# JAZZ AND CLASSICS TO FIGHT OVER KOA

## MICROPHONE SCENE OF BIG POPULARITY CONTEST

### Rocky Mountain Station Determines to Definitely Decide Long Debated Music Question

Is jazz taboo?

So far as the Rocky Mountain broadcasting station of the General Electric company is concerned—KOA at Denver—this much discussed question is to be settled for all time to come, during the early fall, when the classic is to be arrayed in all its armored glory against the modern jazz of syncopated fame.

It will be the occasion of a special program and musical struggle before the microphones, when exponents of jazz will be called upon to defend their cause in opposition to the classic. Leading artists of both schools are to take part.

#### Listeners to Be Judges

"Broadcast listeners from coast to coast are to judge this contest," declared Freeman H. Talbot, KOA studio director. "In making the awards public returns will be made by states and will include Canadian provinces and Latin American countries. From the standpoint of Radio listeners it will be possible to determine which sections of the country have turned to classic and which to jazz. Likewise, it will be interesting to know the musical attitude of listeners by sexes."

# "Nighthawks" Are Back on Air with Nightly Frolics

KANSAS CITY, Mo.—The "Merry Old Chief" and his Nighthawks of WDAF, the Kansas City Star, have resumed the broadcasting of their nightly frolics. During the summer months the Nighthawks schedule had been shortened to three nights a week, in order that listeners might "catch up" on a small amount of sleep which they had lost last winter.

# Irish to Broadcast Soon

WASHINGTON, D. C.—It is unofficially reported here that broadcasting stations will soon be erected at Dublin and Cork. The Irish Free State has announced a plan for the establishment of government broadcasters.

# Matched for Greater Performance Assuring Complete Radio Satisfaction

To furnish the kind of radio you have been waiting for, Stewart-Warner designed and perfected each individual unit, the Instrument, the Tube, the Reproducer, the Accessories.

And then, to complete radios greatest triumph, these units were matched together for perfect functioning with each other.

The results will be a revelation to you. The wonderful quality of tone, sensitiveness, volume and selectivity are due to the efficiency of these matched units.

Reproduction is so realistic that the artists seem to appear in your presence. Whether listening to local or distance stations you always have the satisfaction of "front row" seats with all the comforts of home.

Stewart-Warner engineering has simplified tuning to the last degree. A master wave length dial shows

the settings for the desired station. Women and children enjoy tuning the Stewart-Warner Radio.

Every model is a handiwork of master craftsmen. The exquisite finish of walnut enhances the beauty and richness of the home surroundings.

Stewart-Warner has blazed a trail in being the first to sell its radio products through exclusive dealers, who are pledged to give you the kind of service that means complete radio satisfaction.

The purchase of a Stewart-Warner Matched-Unit Radio is an investment that will pay big returns in uninterrupted radio enjoyment.

In order to realize complete radio satisfaction, it is of the utmost importance that you see and hear Stewart-Warner Matched-Unit Radio before purchasing.

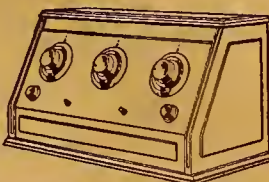
Model 400, Reproducer \$25.00  
Model 405, at.....\$19.50



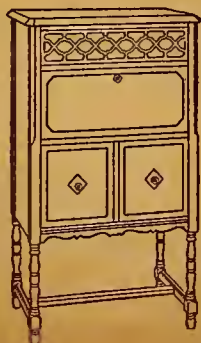
Model 300.....\$65.00



Model 325.....\$80.00



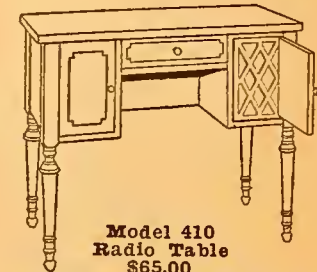
Model 305.....\$115.00



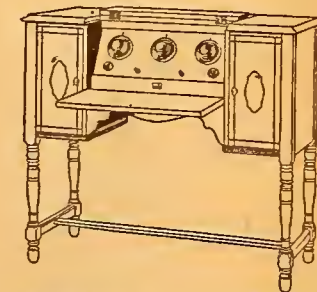
Model 310.....\$175.00



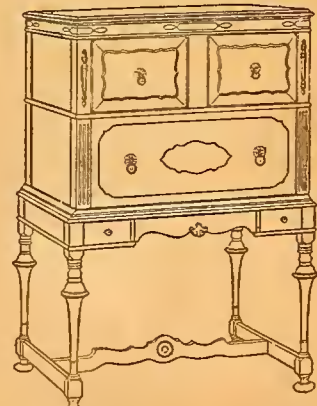
Radio Tube, Model 501A \$3.00



Model 410 Radio Table \$65.00 including built-in reproducer



Model 315.....\$285.00



Model 320.....\$450.00

# Stewart-Warner Matched-Unit Radio

INSTRUMENTS TUBES REPRODUCERS ACCESSORIES  
COPYRIGHT 1925 BY S.W.S. COR'N.  
STEWART-WARNER SPEEDOMETER CORPORATION, CHICAGO, U. S. A.

### The Reader's View

#### Repetition of Call Letters

I am writing to offer a suggestion to announcers. Many times one will tune in a station just as they are announcing. Their call letters have been given first and are not repeated before the close of the announcement. Sometimes the number is long and we are not interested in it except to learn where it is coming from.

Some announcers are all right and give their call letters after they have made the announcement and before the number begins. Then we are sure to know where it comes from.

Now my suggestion is that after the announcer has made the announcement that he repeat the call letters. It will be of help to those who listen in.—F. S. Weida, N. Y.

#### Re Dangers of Football

I am taking this opportunity to call your attention to an erroneous statement which appeared in your magazine dated August 29 on page 20. The statement to which I refer read as follows: "Today there is no more danger in playing football than baseball."

This statement is as near ridiculous as such a statement can be. In football as everyone that knows the game can readily testify, a player is subject to being piled on, kicked, as well as to many other forms of rough treatment. The spectator never thinks of these things when he sits comfortably back in his seat and shouts encouragement to the players. Baseball, not football is our national game.—P. C. H., Stanford, Conn.

#### Against Broadcast Advertising

In its early days the movie industry had some experience which I believe should guide the Radio industry today. I have in mind the growing abuse of utilizing radio for advertising purposes.

Note the following clipping from the September, 1913, issue of "Motion Picture":

"S. H. H., Los Angeles.—I feel just as you do about advertising on the screen, and I mean by this that advertising of tobacco, groceries, etc., in the films themselves is just as bad as slide advertising, and even worse. The practice has diminished of late and it will soon be discontinued entirely."

Apparently certain bright minds saw opportunities for advertising. Brighter minds, however, saw that it would be far better to curb those opportunities. I am sure—and I feel you will agree with me—that the movie industry today is better off for having abandoned this practice twelve years ago.

Now—if in some way, the practice of selling time by a broadcast station can be stopped, I am sure the Radio industry will have taken a tremendously important step forward. If commercializing is not stopped, the condition will grow much worse—and Radio will most certainly suffer.

I am directing this communication to about a dozen concerns prominent in the Radio field, hoping that through some of your association activity, you will find a solution.—K. B. S., Grand Rapids, Mich.

#### Newspaper Link Adds Many Features to WKRC Program

CINCINNATI.—Since Station WKRC, tied up with the Cincinnati Post and the Rudolph Wurlitzer company, it has added almost as many feature stunts to its programs as has the newspaper with which it cooperates.

Among the features now broadcast from this station are: Talks on dress designing and making by Dorothy Rachford, who says one can obtain an inspiration for a gown from a building cornice; lectures in cartooning by Clause Schaffer, who predicts that he will have many fans drawing pictures in a short time; broadcasting of the steam calliope from an Ohio river excursion boat; a Radio critic who criticizes the Post-Wurlitzer concerts given under the direction of Burnet C. Tutthill, who is to tour the leading stations of the country soon in search of new ideas; human interest stories by different Post feature writers about the other fellows job; and a song naming contest to be conducted by Freda Sanker, famous woman orchestra leader.

#### Thousand People See WHT Broadcasting in 24 Hours

CHICAGO.—One thousand persons is the estimated average number of visitors entertained at the WHT, Wrigley building studio, Chicago, in the course of twenty-four hours.

By means of a large double plate glass window in front of a terraced gallery seating about 100 people, visitors may view the studio and the artists. Loud speakers are connected with amplifying apparatus to enable the audience to hear as well as see what is going on.

The noon program attracts the greatest number, several hundred office workers stopping in on their way to or from lunch.

### ABOUT BELGIAN RADIO

(Continued from page 9)

other European countries I have visited. The government not only does not help the broadcasting station, but makes it pay a tax of 1,000 francs annually per kilowatt for the right to broadcast—and the station is a six kilowatt.

However, the listeners are taxed. Each set owner pays the government twenty francs a year.

Before leaving America I had corresponded with Mr. Huber, administrator of the Radio-Belgique. Immediately upon arriving I went to see him, and after some conversation he turned me over to M. Van Soust et Borkenfeldt, amiable director of the station. Mr. Van Soust went with us immediately to the broadcasting station.

#### Mrs. Smith Plays

My wife's photograph had already appeared in one of the Paris Radio magazines when she had played at the Radio-Paris, so Mr. Van Soust asked her if she wouldn't play just "one little morceau," which she did of course.

The programs are arranged along the following plan: Monday, operetta; Tuesday, concert of classical music, featuring

orchestra; Wednesday, selections from opera; Thursday, light and dance music; Friday, stunt night and special musical features; Saturday, chamber music and literature; Sunday night, a mixture.

Every night at nine news is given. Mixed with the news are some subtle advertisements—one way, at least, by which the company makes money, the rate being 150 francs for mentioning the name. Of course this must be done with some taste. For example: One night the man who was supposed to give the talk comes late to the studio. The microphone is left open, the announcer grows nervous, makes excuses, the man comes in very calmly, the announcer asks him what happened, telling him the Radio audience is waiting, the speaker then begins to explain how a friend had presented him with a pipe (naming a famous brand) and he naturally wanted to try it, and so on for a while until the announcer suddenly exclaims: "Heavens, the microphone is on!" The company has also done some commercial broadcasting, but outside firms have not yet been persuaded of the value of Radio publicity to any great degree.

The staff of the Radio-Belgique is full

of enthusiasm and ambition in spite of obstacles. Perhaps it indicates a rebirth of the former bouyant spirit of Belgium.

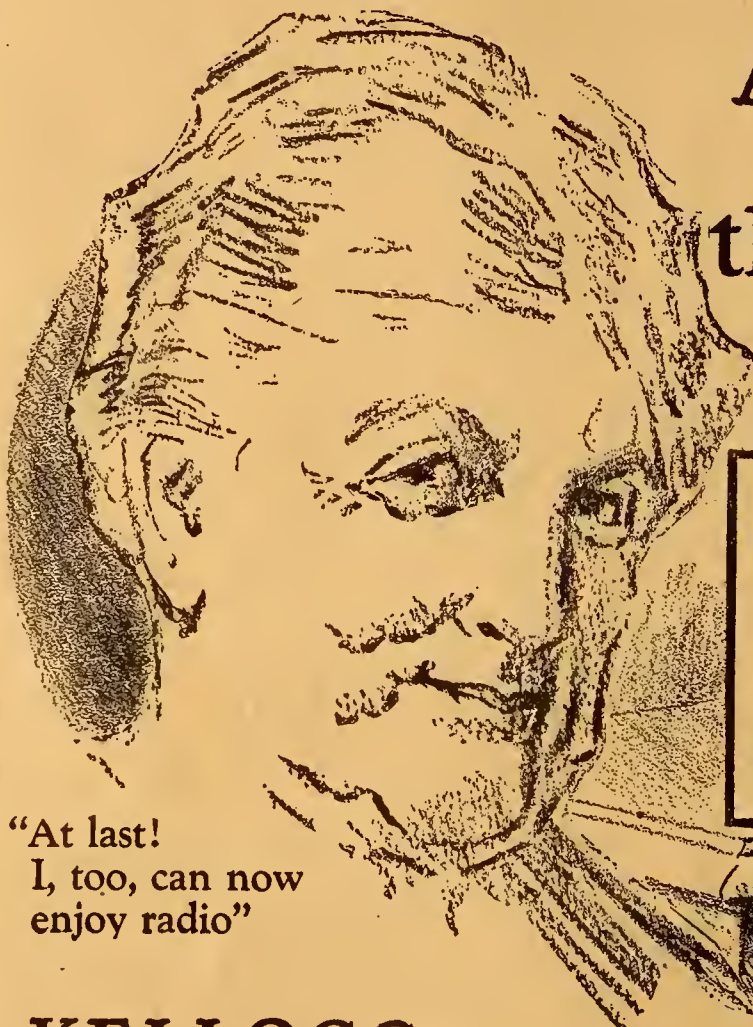
There is a non-stop, limited, four hour train from Brussels to Paris. In fact, it makes the journey in less than four hours. That is the train Marjory and I took.

The road bed is the roughest a train ever tried to stick to. Passengers emerge at last in the Gare de Nord, Paris, sore and stiff from the bouncing and the strain of trying to sit up straight. A Paris taxi-cab feels like one of those sumptuous chairs you sink into when you go to visit WEAF or some other elegant American broadcasting station.

And I tell all these things with the special hope that some of my fellow workers back in the States who may feel at times that they are up against a hard life will see how well off we really are in America.

I hope that some of them are following me in my travels, for all of us, on this side and that, belong to a great fraternity which needs the very best we have to give, and especially the warmest sympathy among ourselves.

(TO BE CONTINUED)



# A New Kind of Selectivity that Makes Tuning a Real Pleasure

"At last! I, too, can now enjoy radio"

## KELLOGG Has Produced the Radio Set for YOU

By perfecting, in the new 5-tube WAVE-MASTER, a new kind of selectivity, the Kellogg Switchboard & Supply Company has given a new definition to that much abused word.

No professional skill, no previous experience in radio set operation, is required to tune the WAVE-MASTER. A person who has never before touched a radio receiver can instantly bring in desired stations clear, "sweet" and strong.

Mother, sister and the youngsters now can share, not merely as listeners but in the greater fun and pleasure of operating this amazingly simple set.

With its single Selector dial, the WAVE-MASTER gives you what otherwise you can get only by using NINE separate receiving sets of any other types, each one differently adjusted.

For each point on the wavelength zone separator, you have on the Station Selector

dial an entirely different group of broadcasting stations.

Think of the greater selectivity! Think of the wide separation of stations in any one of the nine wavelength divisions. Think of the freedom from interference and the crowding so common on the dials or ordinary sets.

The world-wide prestige of the Kellogg Switchboard & Supply Company is your guarantee of the quality of the new WAVE-MASTER. For 28 years we have been recognized as leaders in the electrical industry, makers of precision telephone instruments, switchboards, etc. Kellogg high-grade parts have been favored by expert and professional designers of receiving sets since the beginning of radio.

To see and to prove by an actual trial the remarkable range of the WAVE-MASTER's one dial is a revelation. Don't fail to examine and compare it before buying any other receiver. Write us for the name and address of your nearest dealer.



Standard Model  
**WAVE MASTER**  
(5 Tube)  
Genuine Mahogany Cabinet  
Price f.o.b. Chicago  
**\$125.00**



The Kellogg  
Symphony Reproducer  
\$20.00



Wave Master Console, \$275.00  
(without battery table \$225.00)  
Wave Master Consoleette,  
\$235.00

### A Separate Circuit for Each 40 Meter Wavelength Band!

This remarkable tuning dial actually has a tuning range of 540 degrees—equal to 1½ times around a complete circle—over three times the station finding range of any other set.

All other radio frequency sets have variable capacity which must be tuned, usually with 3 different dials, to balance with their inductance coils. The WAVE MASTER'S inductance is not fixed but variable and is easily and quickly tuned with the one Station Selector dial, to balance the fixed capacities.

One Dial Control—Yet Greater Selectivity

Radio Dealers and Jobbers  
The WAVE-MASTER franchise, backed by Kellogg resources and our powerful advertising campaign, is most valuable. Open territories are going fast. Write or call on us at once for our money-making proposition.

KELLOGG SWITCHBOARD & SUPPLY COMPANY, 1069 W. Adams St., Dept. I, CHICAGO, ILL.

# WAVE MASTER

KELLOGG SWITCHBOARD & SUPPLY CO.

## ONE TROUPE TO GIVE ENTIRE KHJ PROGRAM

NOTED FRISCO SOCIETY IN THREE EVENING SHOWS

"Uncle" John Daggett Believes Public Will Like Whole Schedule of Like Music

LOS ANGELES.—Out of the West another Radio experiment is to be tried September 20, 21 and 22 when KHJ, the Times station, Los Angeles, is to try another method of presentation of a Radio program. This experiment is not to be technical in nature but musical.

Almost every Radio station seems to have in mind that variety is in truth the spice of life, and, therefore, a program should be the very soul of variety. It is nothing unusual for a program to consist of numbers by a dance orchestra, followed by a soprano singing an aria from one of the grand operas, then a Hawaiian trio and ending up with a hit singer who chants "Hotsy Totsy" with a peppy accent into the microphone, to say nothing of a poem or two and humorous remarks by the announcer.

### One Company to Perform

"Uncle" John Daggett, dean of station managers on the West Coast, believes that a percentage of the Radio audience might be more interested in one type of music throughout an entire program and that this one type of music could just as well be played by one organization, as by a variety of talent. So on the evenings mentioned, KHJ will make the experiment by giving a program solely by the San Francisco Chamber Music society.

The San Francisco Chamber Music society is the organization that has been selected to play in Washington upon the opening of Congress, October 30, which concert will probably be broadcast over the big link of the A. T. & T. After opening Congress the society will play in the music auditorium of the congressional library and has been selected by Mrs. Coolidge to play for the two big national musical festivals to be held next year, one in Washington in January or February and the other in Ojai, California, in April.

## Panhandle Publicity to Get Air in Near Future

Texas and New Mexico Towns Planning Programs

AMARILLO, Texas.—The Panhandle Publicity series of programs to be broadcast over station WDAG beginning September 26 is attracting considerable notice throughout this section of the state.

The best musical talent is being selected by each town and varied programs of interesting nature are to be expected. A speaker will be included on each program, but will be confined to only short talks that will tell the Radio world, in as few words as possible, the reason for the programs and why the entertainers are so enthusiastic about the community in which they live.

In view of the fact that WDAG has been broadcasting for some time on Tuesday and Thursday weekly, attention is called to the change being made to accommodate the Panhandle Publicity series. The programs are assigned as follow: Amarillo, September 26, 27, 28 and 29; Tulia, Texas, September 30; Silvertown, Texas, October 1; Plainview, Texas, October 2; Floydada, Texas, October 3; Littlefield, Texas, October 5; Clovis, New Mexico, October 6; Amherst, Texas, October 12 and Farwell, Texas-Texico, New Mexico, October 13.

The equipment at Station WDAG is being overhauled as well as the rebuilding of the studio. Added volume and better transmission are expected to result from these changes.

## Fall and Winter Schedules Go Into Effect Over WTIC

HARTFORD, Conn.—WTIC, the Travelers Insurance company's station here, began its fall and winter broadcasting schedule on Monday evening, September 14. The Hartford station is now on the air five nights a week, and silent on Saturday and Sunday.

There will be dinner music five evenings a week and on at least two evenings the station will broadcast dance music from one or more of its remote controls. The station plans a popular half hour each Friday night at 10:30 p. m., eastern time.

There will be several popular music lover programs during the fall and at least four "Familiar Music Nights," made up of programs requested by fans. Each Tuesday evening there will be an organ recital from the Austin Organ company studio, and intermittently WTIC will offer a male quartet, ladies quartet and a symphony orchestra.

## Batteries Alone WSBC's Supply

World Battery Company Comes on Air With Storage Battery Operated 1,000-Watt Transmitter

CHICAGO.—Making its maiden bow and bid for popular favor, the 1,000-watt transmitter sponsored by the World Battery company here, has taken "the air" using the call WSBC and a wave length of 210 meters.

The World Battery company transmitter, as the new outfit is designated, is supplied entirely by storage batteries, made up of identically the same materials as are used in the standard, stock battery supplied to Radio users for the operation of receiving sets.

For instance, the B or tube plate supply of 2,400 volts is furnished by the equivalent of over 400 ordinary, 6-volt,

receiving A batteries. By a switching arrangement these can be connected in straight series to operate the set or in series parallel for charging.

### Transmitter C Made of B's

The C or transmitter biasing batteries, as well as those used for the microphone circuits, are made up of the parts used in the standard 24-volt batteries such as are sold for the B supply in receiving sets.

Although the battery installation is a good deal more expensive than is the equivalent motor-generator set, it is felt that the additional expense is more than compensated for by the clarity of transmission.

The World Battery company extends a cordial invitation to all Radio fans and amateurs, novices and engineers to visit and inspect the transmitter and the unique battery power plant. It is contemplated that the new station, which will be located on the roof garden of the New Southern hotel here, will be on the air every night except Monday, beginning the middle of September.

## HOW TO KEEP THEM DOWN ON THE FARM

WASHINGTON, D. C.—Word received here states that an investigation of the ways that Radio is aiding agriculture in America, recently made for A. Atwater Kent, threw much light on the problem of how to keep the young folks on the farm. Farmers in many states, after stating that they used their apparatus chiefly to receive weather and market reports, added that, "it also keeps the young folks at home."

### Japs Hear from New Mike

WASHINGTON, D. C.—With the opening of another broadcasting station at Nagoya, Japan, Radio fans in Nippon can now listen in on stations in Tokyo, Osaka, and Nagoya. It is said that the Japanese are buying American Radio sets extensively, especially of the higher prices.

# GOLD SEAL TUBES

## One Man Tells Another!

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Gold Seal filament is a tube engineering accomplishment destined to revise the radio world's estimate of what fine reception is. And in a splendidly equipped plant, Gold Seal's standards and exhaustive double-tests send each tube out perfect.

If you use a tube rejuvenator, Gold Seals will help you get longer tube life. *They can actually be rejuvenated.*

A no-argument guarantee goes with every Gold Seal Tube. Your dealer in giving you this guarantee knows it means what it says because he knows the resources of the Gold Seal organization.

Just say Gold Seal to your dealer. You'll get the tube you have waited for. If your dealer is not yet supplied, write us direct.

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### Facts About Tubes

- 1—A tube and its guarantee are only as good as the intentions of the organization behind them.
- 2—Gold Seals are winning on tested merit.
- 3—Dealers stand back of them because we stand back of the dealers.
- 4—Gold Seal's engineers are radio experts; the Gold Seal plant is a reality and a model of efficiency.
- 5—There were six months of exhaustive experiment before Gold Seal Engineers would permit a single tube to be offered to the public.
- 6—Gold Seals are here to stay because they do perform.



# WBZ IN ANNIVERSARY CELEBRATION

## Sunday, September 20

(Continued from page 12)

songs, I. B. S. A. choral singers; 10:15, address, E. G. Wylam; 6:45 p. m., hymns, sacred songs, I. B. S. A. choral singers; 7, I. B. S. A. trio; Mr. and Mrs. B. P. Hollister; J. T. Reed, Cedric Reed, trombonist; 7:30, address, I. J. Morhouse.

**WCI, Chicago, Ill. (347.5),** 8-10 p. m., Jeannette Van Leinen, soprano; Mary Van Leinen, accompanist; Everett G. Mitchell, baritone; Ellen Cook, soprano; Frederick Mueller, German tenor; Catherine Diepenbroek, pianist; Fontello trio.

**WREO, Lansing, Mich. (285.5),** 10 a. m., Belfry Plymouth Congregational church; 10:30, service; 7:30 p. m., church service.

**WSAI, Cincinnati, O. (325.9),** 3 p. m., sermon, Rev. D. Wallace MacMillan; 8:10 chime concert, Robert Badley.

**WTAS, Elgin, Ill. (302.8),** 8-12, midnight, Purple Grackle orchestra; Herbie Mltz, Babe Payne, Phil Wilcox, Evelyn Johnson, Art Stillar, Romeo Vincent, Roland Hinkle.

**WWJ, Detroit, Mich. (352.7),** 11 a. m., St. Paul's Episcopal cathedral; 2 p. m., Detroit News orchestra; 6:20, Capitol theater gang.

### Central Standard Time Stations

**KFAB, Lincoln, Nebr. (340.7),** 4-5 p. m., vesper service.

**KFOM, Beaumont, Tex. (315.6),** 8-10 p. m., musical program.

**KFNH, Shenandoah, Ia. (266),** 10:15 a. m., services, First M. E. church; 2:30 p. m., Golden Rule song service; 8, Men's Gospel team; 6:30, regular services, Golden Rule Circle; 8, Union church services.

**KLOS, Independence, Mo. (441),** 11 a. m., stone church services; Robert Miller, organist; choir; sermon, J. F. Garver; 3:30 p. m., vesper services; Nina Smith, soprano; Alice Burgess, contralto; Frank Russell, bass; George Anway, tenor; sermon, Paul N. Hanson; 9, KLDs ladies' quartet; Walnut Park string orchestra; Mary Fields, soprano; 9:30, sermon, Edward J. Gleuzor.

**KOIL, Council Bluffs, Ia. (278),** 11 a. m., services, First Congregational church; Rev. J. R. Perkins, pastor; popular orchestral numbers, the Monarchs; Jerry McMillan, director.

**WAMD, Minneapolis, Minn. (243.8),** 6 p. m., dinner concert, Hotel Madison ensemble; 7, University of Minnesota program; 8, popular program; Gayle Wood, organ recital.

**WCBO, Zion, Ill. (344.6),** 8 p. m., Zion Junior choir, mixed quartet; Misses Sweeney and Naffziger, Mrs. Crowe, vocal trio; Dunn and Stewart, euphonium and

Arthur S. Garbett and guest artist; 8, First Church of Christ, Scientist.

**KHJ, Los Angeles, Calif. (405.2),** 6-6:30 p. m., Leighton's Arcadio cefestoria orchestra, Jack Cronshaw, leader; 6:30-7, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 7-7:30, organ recital, Arthur Blakely; 8-10, festival of chamber music, Los Angeles Soap Co.

**KNX, Hollywood, Calif. (336.9),** 7-8 p. m., First Presbyterian Church of Hollywood, Rev. Stewart P. MacLennan, pastor; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, program, Beverly Hills Nursery; Russian stringed quartet.

**KPO, San Francisco, Calif. (428.3),** 3-4 p. m., organ recital, Legion of Honor, Marshall Glasmann; 6, Waldemar Lind and Statos restaurant orchestra; 6:35, concert orchestra, Palace hotel, tyrus Trobbo, director; 8, Palace hotel orchestra; 8:30-10, Rudy Selger's Fairmont hotel orchestra; Wm. Schwartzman conducting.

**KTAB, Oakland, Calif. (215),** 10 a. m., Bible lecture, Prof. E. G. Linsley; 11, services, choir; 3 p. m., afternoon concert, organ recital; 7:45, church services.

**KTCL, Seattle, Wash. (305.9),** 1-2 p. m., Morea Cafeteria concert orchestra; 7:50-9:10, First Church of

Myro Glass, baritone; 7:15-8:15, program, Mark Strand theater; 8:30-8:45, "Tower Health Talk"; 8:45-9, Cameron Emsie, pianist; 9-10, A. and P. Gypsies; 10-10:15, Giuseppe di Benedotto, tenor; 10:15-10:30, Cameron Emsie; 10:30-11:30, Hotel Bessert Marino Roof orchestra.

**WEEI, Boston, Mass. (475.9),** 3 p. m., Chamber of Commerce organ recital, Lavis Welr, organist; 8:30, Big Brother club; 7:30, Brockton Fair broadcast; 8:30, health talk; 9, A. and P. Gypsies; 10, talk.

**WFI, Philadelphia, Pa. (394.5),** 1 p. m., Bellevue Stratford trio; 3, Loretta Kerk, pianist; 8:15, Bellevue Stratford Roof Garden orchestra.

**WGSS, New York, N. Y. (315.8),** 1:30-1:35 p. m., Scripture reading; 3-3:10, Interview, Elizabeth Bol-lalrs; 3:10-3:20, Florence Church, pianist; 3:20-3:40, talk on China; 3:40-3:50, talk, League of Women Voters; 4-6:30, Uncle Geebee; 7-7:15, new astrology, Belle Hart.

**WGCP, New York, N. Y. (315.6),** 3-3:15 p. m., Joe Sherman, songs; 3:15-3:18, Mirror race results; 3:18-3:30, Colla Zier, violinist; 3:30-3:45, Jano of WGPC; 3:45-3:48, Mirror race results; 4-5, Jack Palmer's Louisville jazz band; 5-5:15, Sam Williams and Al Plantadosi; 5:15-5:18, Mirror race results; 5:18-5:30, Juellie Hickam, singer; 5:45-5:48, Mirror race re-

Candelari's concert orchestra; 8, Mark Strand theater concert; 8:45, Camaron Emsie, pianist; 9, A. & P. Gypsies; 10, Giuseppe di Benedotto, tenor; 10:15, Camaron Emsie; 10:30, Isaac Marino Roof orchestra.

**WOR, Newark, N. J. (405.2),** 8:45-4 p. m., talk, Charm magazine; 6:15-6:30, "Words Often Mispronounced"; 6:30-7, Chateau Baltusrol orchestra; 7:15-7:30, sports talk; 7:30-7:45, Perry and Busal, two-man orchestra; 8-8:15, talk, Dr. George Little; 8:30-9:15, Branford theater program; 9:30-9:45, talk, Mr. Horstadt.

**WPG, Atlantic City, N. J. (298.8),** 4:30 p. m., ten musical; 6:45, request organ recital, Arthur Scott Brook; 7, Hotel Morton trio, J. Leonard Lewis, director; 8:45, announced; 9, Hotel Traynor concert orchestra; 10, Steeplechase Pier dance orchestra, Nick Nichols, director.

### Eastern Standard or Central Daylight Saving Time Stations

**CHIC, Montreal, Can. (356.9),** 8 p. m., CHIC Instrumental trio; prize winning artists.

**WBZ, Springfield, Mass. (333.1),** 6 p. m., Fourth anniversary program; Capitol theater orchestra; Margaret Tighe, organist; 6:32, Capitol theater orchestra; 8, Aleppo Drum Corps or "Blinders" band concert; 8:30, Capitol theater orchestra, Margaret Tighe, organist; 9, organ recital; 9:30, Philharmonic quartet; 9:45, Goldenrae-Trumpet quartet, Hayden Child, director; 10, Hotel Brunswick orchestra; 10:30, Copley Plaza orchestra.

**WCEE, Elgin, Ill. (275),** 10:30-12 midnight, Purple Grackle orchestra.

**WCX, Detroit, Mich. (517),** 2 p. m., news and market; 4:15, the Detroit Symphony trio; 6, dinner concert, Book-Cadillac hotel; 8, musical program.

**WEAR, Cleveland, Ohio (389.4),** 7-8 p. m., musical program, Loew's Allen theater.

**WGES, Oak Park, Ill. (250),** 5-7 p. m., John Stamford, tenor; Franklin Horstman, bass; Marguerite Ray, contralto; Franca Barge, violinist; Elsie Barge, pianist; 10:30-12, Eleanor Kaptan, violinist; John Rankel, baritone; Ruth Kalthoff, soprano.

**WGY, Schenectady, N. Y. (379.5),** 1 p. m., music; "Canned and Preserved Fruit," Jessie B. Lane; 1:30, Aala club orchestra; 5:30, dinner program, Hotel Van Curler orchestra; 6:35, Schenectady Hawaiian trio; Elizabeth Carrigan, contralto; Alice Bellinger, accompanist.

**WHT, Deerfield, Ill. (400),** 1 p. m., Grayling's string trio; educational feature; 7, classical program; Al Carney, organist; string trio; Dean Hemick, pianist; Hugh Asplowall, tenor; Wilkema and Martena; melody maids; Loftis concert; 8:30, Elmer Kaiser's River-view Park Melody Masters; Giesle brothers; Kitchen Klenzer Klassica; Fair Store band; 10:30, Walter Ford's Cheerio orchestra; songs, Kapp trio; musical saw, Harland Merrill; Fred Wilmer, pianist; 12, Pat Barnes, Al Carney, Duke Rehl, Walter Ford.

**WJR, Detroit, Mich. (517),** 7 p. m., studio orchestra, Jean Goldkette, director; 9, Jean Goldkette's serenaders.

**WKRC, Cincinnati, Ohio (326),** 8:15 p. m., Alvin Rechr's music makers; 8, dance music; 9, program, auspices Robert E. Bentley Poast, American Legion; 12, Wesley Helvey's troubadours.

**WLW, Cincinnati, Ohio (422.3),** 12:15 p. m., service,



Listen in Friday, September 25, to the program of CNRT, Toronto, Canada, and you will hear the pleasing voice of Elsie White, above. Her soprano voice has also entertained thousands from CHNC, Toronto Radio Research society.



Motorists should find special delight in hearing the soprano voice of Ruth Kalthoff (above) from the studio of WGES, Oak Park, Illinois, for Ruth's chief avocation, excepting broadcasting, is driving her car. She is regularly heard over the WGES mike and can always be counted on to draw heavy applause mail. To go on, we can say she has an excellent musical education, is happily married, plays the piano, is active in women's club work, plays golf and tennis, has dark brown hair and light blue eyes, is five feet seven inches tall and weighs just 148 pounds.

Christ, Scientist; 9:10-10:10, International Bible Students' association program.

## Monday, September 21

cornet soloists; Ida Peterson, soprano; William Dunn, euphonium soloist; Paul Stewart, cornetist; Eula Myhre, pianist; Edna Paxton, reader.

**WCCO, Minneapolis-St. Paul, Minn. (416.4),** 11 a. m., Westminster Presbyterian church, Minneapolis, Rev. John E. Bushnell, D. D., pastor; 4:10 p. m., House of Hope Presbyterian church, St. Paul, Rev. H. C. Swearingen, D. D., pastor; 7:20, Second Church of Christ Scientist, Minneapolis; 9:15, classical concert.

**WDAF, Kansas City, Mo. (365.6),** 4-5 p. m., program, Newman, Royal and Pantages theaters; 5-5:30, International Sunday school lesson, Dr. Walter L. Wilson; sacred hymns, quartet.

**WFAA, Dallas, Tex. (475.9),** 6:30-7:30 p. m., Radio Bible class, Dr. William M. Anderson; 8-9, First Methodist Episcopal church; 9:30-11, Jack Gardner's orchestra.

**WHAO, Milwaukee, Wis. (275),** 3:15 p. m., band concert.

**WHAS, Louisville, Ky. (399.8),** 9:57 a. m., organ prelude; 10, First Christian church, Rev. Dr. E. L. Powell; 4-5 p. m., Christ Church evening choral service.

**WHO, Des Moines, Ia. (526),** 11 a. m., University church service; sermon, Dr. C. S. Medbury; 7:30 p. m., Recce-Buches orchestra.

**WQAI, San Antonio, Texas (394.5),** 11 a. m., First Presbyterian church; 8 p. m., Central Christian church; 9:30-10:30, program, Panelope Borden, director.

**WOAW, Omaha, Nebr. (526),** 9 a. m., chapel service, Rev. R. Brown; 9 p. m., evening chapel service.

**WOC, Oavenport, Ia. (483.6),** 1-2 p. m., orchestra concert, Palmer Little symphony, Erwin Swindell, conductor; Paul J. Vipperman, tenor; 8-8:30, services, East Main Street church; 9:30-11:30, musical program, Palmer Little symphony, Erwin Swindell, conductor; soloists.

**WOS, Jefferson City, Mo. (440.9),** 8 p. m., religious services, Christian church, Rev. R. M. Talbert, pastor.

### Mountain Standard Time Stations

**KOA, Denver, Colo. (322.4),** 11:30 a. m., Augustana Lutheran church; 4 p. m., Augustana Lutheran church; 7:30, Augustana Lutheran church.

### Pacific Standard Time Stations

**KFWB, Hollywood, Calif. (252),** 9-11 p. m., Warner brothers movie frolic, Al Meyer's Aeolians; Frances St. George, jazzmania girl; Ray Kellogg, Bill Hatch, piano and violin.

**KGO, Oakland, Calif. (361.2),** 11 a. m., services, First Church of Christ, Scientist; 3:30 p. m., KGO Little symphony orchestra; Carl Rhodehamel, conducting;

Munday, silent night for: CKAC, CNRC, CNRE, CNRM, CNRR, CNRW, CNRT, KFOM, KFMO, KLDs, KTCL, KYW, PWX, WBAV, WBBM, WCAU, WCBQ, WEBH, WEBJ, WFL, WGBS, WGES, WGN, WHAS, WIP, WLS, WMAQ, WMBB, WOC, WQAI, WQJ, WRC, WREO.

### Atlantic or Eastern Daylight Saving Time Stations

**CHNC, Toronto, Can. (356.7),** 10 p. m., CHNC Chamber orchestra, Charles E. Bodley, director; Elsie Addison, contralto.

**WBBR, New York, N. Y. (272.6),** 8 p. m., jubilee vocal and instrumental entertainers; 8:10, world news digest; 8:25, Fred Franz, tenor; 8:35, Bible instruction; 8:45, Fred Franz, tenor; 8:55, jubilee.

**WCAE, Pittsburgh, Pa. (461.3),** 3 p. m., Loew's Aldine theater program; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 8:30, concert; 9, A. and P. Gypsies; 11, dance music, Sander's Inn.

**WCAU, Philadelphia, Pa. (277.6),** 8 p. m., Eully Buckley, contralto; Samuel Tucker, tenor; Elsie Tucker, pianist; 9, songs, Davy Dougherty; 9:30, concert; 10, Thomas Schwartz and his Blue Jackets dance orchestra.

**WCTS, Worcester, Mass. (268),** 7:15 p. m., Twinklo Twinkle tory teller; 8, concert program.

**WEAF, New York, N. Y. (491.5),** 4-4:15 p. m., Walter H. Preston, baritone; 4:15-4:25, Jeanne Kramer, pianist; 4:25-4:35, Walter H. Preston; 4:35-4:45, Jeanne Kramer; 4:45-5, "Indian Legends," Marie Collins Reaney; 6-7, dinner music, Waldorf-Astoria; 7-7:15,

ults; 6-6:15, Moe Mann, baritone; 8-8:15, Charles Con Thomee, pianist; 8:15-8:30, Lou Lefebvre, pianist; 8:30-8:45, Joseph Vallina, baritone; 8:45-9, Polla's Clover Gardens orchestra; 9-9:15, Vincent Laina, tenor; 9:15-9:30, Lillian Gordone, contralto; 9:30-9:45, Kennedy Harmony quintet; 10-10:15, Raymond Maher, baritone; 10:15-10:30, Polla's Clover Gardens orchestra.

**WGR, Buffalo, N. Y. (319),** 2:30-4:30 p. m., program; 6:30-7:30, Olympic dance orchestra; 9-9:30, concert, Marion Shaw; 9:30-10, J. Bloese, pianist; 10-10:15, Boris Golokov, mandolinist; 10:15-10:45, popular songs, Jack Little; 11-11 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

**WHAR, Atlantic City, N. J. (275),** 2 p. m., Seaside hotel trio; 7:30, stories for the little folks, Mildred C. Hagan; 8, Seaside hotel trio.

**WNN, New York, N. Y. (361.2),** 11-11:30 p. m., organ recital, Lexington theater; 11:30-12, Silver Slipper revue.

**WIP, Philadelphia, Pa. (508.2),** 1 p. m., Gimbel tea room orchestra; 3, recital; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

**WLT, Philadelphia, Pa. (394.5),** 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; Jennie Kneeder Johnson, soprano; Helen Munder Good, contralto; Marcella North, pianist; 4:30, Henry L. Wilson, baritone; Marcella North, accompanist; 7:30, Dream Daddy's bedtime stories; 8, "Short Agro Waves," Charles P. Shoffner; 9, movie review, James A. Nassau; 9:10, Stanley hour of music; Stanley theater symphony orchestra, Sidney Lowenstein, director; 10, Arcadia cafe dance orchestra.

**WNYC, New York, N. Y. (526),** 7:10-7:30 p. m., Original Charleston Five; 7:35-8, Original Charleston Five; 8-8:15, baseball results; 8:15-10:15, concert, WNYC studio; 10:15-10:30, "Trend of the Times," Dr. Sydney N. Ussher.

**WOO, Philadelphia, Pa. (508.2),** 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A.



Harrison Coles, tenor, will be heard 8 p. m. Saturday, September 19, in a program from KGO, the Oakland, California, station of the General Electric company. He has an exceptionally good microphone voice, critics say.

Rev. George Kase, minister; 4, talk, Rev. Ralph Schmidt; 7, dinner concert, Hotel Gibson orchestra, Robert Visconti, director; 8, Times-Star concert program; Times-Star orchestra, William Kopp, director. Howard Hafford, tenor; Billie Waterworth, pianist. Cino male quartet.

**WOK, Homewood, Ill. (217.3),** 12-2 p. m., Sandy Meek, tenor; Harry Conik, pianist; Jimmie Watson, baritone; George Irish, organist; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7:30, Ada Allen, soprano; Jimmie Watson, baritone; LeRoy North, pianist; Gus C. Edwards orchestra; 7:30-1, Paul Small, tenor; Buck Weaver, banjoist; Jimmie Cairns, tenor; Herman Simalko, violinist; Lew Butler, tenor; Sammy Williams, pianist; Harlan Merrill; Charles Bedzio, banjoist; LeRoy North, pianist; George Irish, organist.

**WORD, Batavia, Ill. (275),** 8:30 p. m., studio recital, Raymond B. Girvan violin school; 9:30, address, E. R. A., Dr. Mae T. Werk; 10, Bible questions and answers, N. M. Rice.

**WSAI, Cincinnati, O. (325.9),** 10 p. m., studio program; Helen Nugen, contralto; Richard Pavey, tenor; 11, Carl Schuett, pianist.

**WTAM, Cleveland, Ohio (389.4),** 6-7 p. m., Golden Pheasant orchestra; 8-11, musical comedy and light opera night; 11-12, Frank R. Wilson's Euclid Beach Park orchestra.

**WTAS, Elgin, Ill. (302.8),** 8-10:30 p. m., Purple Grackle orchestra; Herbie Mltz, Tommy Dunlap, Marie Wright, Art Stillar, Berger Wedbers, Roland Hinkle.

**WVIC, Hartford, Conn. (476),** 5:30 p. m., Emil Helmeberger's Hotel Bond trio; 6:45, talk, Prof. Frederick Slocum.

**WWJ, Detroit, Mich. (352.7),** 12:05 p. m., Julius Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra.

### Central Standard Time Stations

**KFAB, Lincoln, Nebr. (340.7),** 5:30-6:30 p. m., Buick Little symphony, Eelshaw's orchestra; 8:30-10:30, Belshaw's orchestra; Clyde Davis, singing violinist; Bert Grauenborst, banjoist and pianist.

**KFKX, Hastings, Nebr. (288.3),** 9-11 p. m., musical program, Walbach and Brach.

**KFNH, Shenandoah, Ia. (266),** 7 p. m., Smith-Belding trio.

**KFVE, University City, Mo. (240),** 6:30 p. m., "Amusement Review," Romaine Fielding; 10, concert, popular

(Continued on page 14)

# KGO FEATURES 'ROBIN HOOD' OPERA

## Monday, September 21

(Continued from page 13)

music, Brunswick-Balke-Collender Co., Orchestra Romaine.

KOIL, Council Bluffs, Iowa (278), 7:30 p. m., Francis Potter and his band orchestra; 8:30, "Raising Hogs Under Sanitary Conditions," Wilbur E. Orley; 11, Hotsy-Totsy hour; Art Detsy and his band.

WBAP, Ft. Worth, Tex. (475.9), 7:30-8:30 p. m., Ritz theater orchestra; 9:30, Ward's Trail Blazers.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 2:05 p. m., woman's hour; 2:30, afternoon concert; 4:05, Readers' club, Edith M. Stevens; 5:30, children's hour; 6:45, F. & R. Family.

WOAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's string trio; 6-7, School of the Air; Tell-Me-a-Story lady; Trifanon ensemble, 11:45-1 a. m., Night-hawk frolic; Merry Old Chief, Plantation players; Ted Meyn, organist; Eddie Kuhn's E. C. Athletic club orchestra.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., musical program, the Red Head Girl; 6:30-7:30, Artie Collins



One hardly ever tunes in on a regular evening program of WQJ, Chicago, without hearing the name of this young lady announced several times. She is Rose Vanderbosch, the official accompanist of the Rainbo Gardens-Calumet Baking Powder station. She is often heard in vocal numbers too.

and his Ozark Inn orchestra; 8:30-9:30, Sears-Roebuck Agricultural Foundation program.

WHAO, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8-10, Marquette university studio program; Herman Legg, tenor.

WHO, Oes Moines, Ia. (526), 7:30-8 p. m., Alex Lindblom, violinist; Stewart Watson, baritone; 8-9, program, Dean Holmes Cowper, director, Drake Conservatory of Music; 11-12, Corn Sugar orchestra.

WOAI, San Antonio, Texas (394.5), 8:30 p. m., Menger hotel trio.

WOAW, Omaha, Nebr. (526), 6 p. m., Phyllis Griswold, organist; 8:30, McGraw's popular period, Lillian Shaden, director; 6:15, Ray Muzzy's Carter Lake club orchestra; 9, concert, Omaha Radio Trade association.

WOC, Oavenport, Iowa (483.6), 5:45-6 p. m., chime concert.

WOS, Jefferson City, Mo. (440.9), 8 p. m., address, Hon. H. O. Harrawood; music, Christian college.

### Mountain Standard Time Stations

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 7:30, Sandman's hour; 8, scientific football, Tom McNamara; 8:10, St. Paul's Lutheran mixed quartet; Madge Roberts Hickock, contralto; Instrumental trio, Mrs. J. E. Owen, pianist, Carl Owen, violinist; J. E. Owen, cellist; Mrs. C. E. Reed, reader; vocal duet, Mrs. Gladys Evans, soprano; Mrs. Frank Stuart Robinson, contralto; R. K. Phillips, tenor; Fred E. Fankell, baritone; W. K. Farrand, baritone; KOA orchestra.

### Pacific Standard Time Stations

KFAE, Pullman, Wash. (348.6), 7:30-9 p. m., Norman Benson, haritone; "Price Cycles in Hogs," R. M. Turner; Mariette Segessenman, pianist; "The Size of the Stars," Dr. R. O. Hutchison.

KFWB, Hollywood, Calif. (252), 7-7:45 p. m., children's hour, Big Brother of KFWB; 7:45 question and answer period; Van Sisters stringed trio; J. Stanley Fulbright, tenor; 8-9, program, Star Motor Car company, Millon Dollar orchestra, Frank Pierce and Vic Beall, comedy songs, Rogers' Hawaiian trio; 9-10, program, E. P. Jones, Bill Hatch's orchestra, Don McNamee and George Green, accordion and banjo; 10-11, Warner Brothers frolic, direction, Charlie Wellman.

KGO, Oakland, Calif. (361.2), 3-4 p. m., program, Koble and Chase Ample studios; 5:30-6, Aunt Betty stories, KGO Kiddies' Klub, Ruth Thompson; 6-7, dinner concert; Theodore Strong, organist; 8, educational program: "The Value of Fruits in the Diet"; "Physical Culture for the Family"; "Hugh Barrett Debbs"; "Achieving Leadership Through Effective Public Speaking"; "How to Prepare a Speech"; Kenneth Williams; "Talks on Constructive Selling—Some Little Things"; B. J. Williams; "Chats About New Books"; Joseph Jackson; "It Pays to Analyze Character—Introduction"; Roscoe D. Wyatt; "Preliminary Course in Commercial Law—Mortgages and Trust Deeds"; M. W. Dobzynsky; "Inside Dope on Curling Automobiles"; Louis P. Signer; Arlon trio.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade caletoria orchestra, Jack Cronshaw, leader; 6:30-7, Art Hekman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 8-10, second evening festival of chamber music, Los Angeles Soap company.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wuritzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Harill orchestra, Paul Flinstel, leader; 7-7:30, Mutual Motors night contest; 7:30-8, program, Columbia Outfitting company; 8-9, program, L. W. Hickwell company; 9-10, program, Listonwalter and Gough; 10-11, Goodrich Silkertown Cord dance orchestra; Lillian May Challenger, contralto; 11-12, Ray Weir's Coconut Grove dance orchestra.

KPO, San Francisco, Calif. (428.3), 12:30 p. m., organ recital, Theo. J. Irwin; 1, Rudy Selger's Fairmont hotel orchestra, Wm. Schwartzman conducting; dance music, Joe Wright's dance orchestra; 5:30, children's hour, Big Brother of KPO; 6:35, Waldemar Lind and the States Itaurant orchestra; 7-7:30, Rudy Selger's Fairn at hotel orchestra, Wm. Schwartzman, conducting; 8-10, pia; 10-11, Waldemar Lind and the States Itaurant orchestra.

KTAB, Oakland, Calif. (215), 8-10 p. m., varied musical program, studio artists.

## Tuesday, September 22

Tuesday, silent night for: CHNC, CNRC, CNRE, CNRM, CNRW, CNRT, KFAE, KFKX, KOA, PWX, WAGB, WBAV, WBBR, WCBQ, WCTS, WEAO, WCGP, WHAD, WHAZ, WKAQ, WLIT, WOR, WOS, W8MB, WTAM.

### Atlantic or Eastern Daylight Saving Time Stations

CKAK, Montreal, Can. (410.7), 7 p. m., piano lessons, Emiliano Benard; 7:30, Windsor hotel ensemble; 8:30, concert, H. B. Montrose; 10:30, Harold Leonard's Red Jackets.

CNRA, Montreal, Can. (291), 9 p. m., radio program; organ recital, Prof. George Ross; CNRA dance orchestra Mr. Irving M. Gorman, accompanist.

WCAE, Pittsburgh, Pa. (412.3), 1 p. m., Loew's A-l-dine dinner concert; 1:30, the Sun line girl; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kay-

bee; 8, WEAF program; 8:30, Gold Dust Twins; 9, Eveready hour; 10, grand opera.

WCAU, Philadelphia, Pa. (277.6), recital, N. Snellenburg and company; J. Colgate, tenor; Virginia Klein, accompanist; 8, Maude Hanson Pettit, soprano; Jeanne Modave, cellist; Emily Sellers, pianist; 9, concert; 9:30, songs, Harry Link; 10:30, Billy Hayes and his Cathay Tea Garden dance orchestra.

WCTS, Worcester, Mass. (268), 8-8:30 p. m., Ross Gorman and his Earl Carroll Vanities orchestra; 8:30-9, program announced; 9-10, WEAF Eveready hour; 10-11, WEAF Grand Opera company, Cesare Sodero, director.

WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Allan L. Harris, banjoist-singer; 4:10-4:30, Joseph Prostackow, pianist; 4:30-5, women's program; 6-7, dinner music from Waldorf-Astoria; 7-7:10, musical program; 7:10-7:30, lecture, Columbia university; 7:30-8, musical program; 8-8:10, talk, Dudley E. Fowler; 8:10-8:30, Ross Gorman and his orchestra; 8:30-9, Gold Dust Twins; 9-10, "Eveready Hour"; 10-11, "Operatic Concert," WEAF grand opero company; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:30, musicale; 8, Earl Carroll theater dance orchestra; 8:30, Gold Dust twins, WEAF; 9, WEAF Eveready hour; 10, WEAF Grand Opera company.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford trio; 3, Carolee Hoffman, pianist; 6:45, Bellevue Stratford Roof Garden orchestra; 8:10, Ross Gorman and his Earl Carroll Vanities orchestra; 8:30, Gold Dust twins; 9, Eveready hour; 10, operatic concert.

WGCP, New York, N. Y. (315.6), 3-3:15 p. m., Andy Razaf, the yodeling kid; 3:15-3:18, Mirror race results; 3:18-3:30, Billy Rhodes, tenor; 3:30-3:45, Jane O'WGCP; 3:45-3:48, Mirror race results; 3:48-4, Jackie Darrel, tenor; 4-4:15, Wm. J. Rietz, songs; 4:15-4:18, Mirror race results; 4:18-4:30, Ida Nancy Smith, soprano; 4:30-4:45, Billy Basquette and Dave Kornstein; 4:45-4:48, Mirror race results; 4:48-5, Della Klordan, baritone; 5-5:15, Jane; 5:15-5:18, Mirror race results; 5:18-5:30, Jack Cohen; 5:30-5:45, Marez Doublier, saxophonist; 5:45-5:48, Mirror race results.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 8-11, WEAF, program, Earl Carroll theater; Gold Dust twins, Eveready hour, operatic concert.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, book review, Mrs. James Lord; 8, Seaside hotel trio; 11:15, Strand theater organ recital.

WHN, New York, N. Y. (361.2), 2:15-3:15 p. m., overture and vaudeville, Loew's State theater; 3:15-4:10, Lexington theater orchestra; 4:30-4:45, Uncle Robert's chat to children and grown folk; 7:30-8, Will Oakland's Chateau Shanley; 8-8:30, Colonial Aces; 8:30-8:45, Bob Miller and Lewis Piotti, songs; 9:30-10, Palisades Amusement Park orchestra; 11:30-12, Silver Slipper orchestra.

WIP, Philadelphia, Pa. (508.2), 1 p. m., Gimbel tea room orchestra; 3, recital; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, concert; 10:05, movie talk, Eli M. Orowitz; 10:30, Charles Verina's dance orchestra.

WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, pianist; 7:30, Dream Daddy's bedtime stories.

WNYC, New York, N. Y. (526), 6:30-6:40 p. m., "Home Economics," Mrs. Louis Reed Weizmiller; 6:45-7, song recital; 7:10-7:30, the Canadians; 7:35-8, the Canadians; 8-8:05, baseball results; 8:05-10:15, concert, WNYC studio.

WOO, Philadelphia, Pa. (508.2), 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra.

WOR, Newark, N. J. (405.2), 6:15-8:30 p. m., "Words Often Mispronounced"; 6:30-6:45, man in the moon; 6:45-7, Don Carlo orchestra; 7:15-7:30, sports talk.

WPG, Atlantic City, N. J. (299.8), 1:30 p. m., Hotel Ambassador luncheon music; 6:45, request organ recital, Arthur Scott Brook, organist; 7, Hotel Morton trio; 8:05, operalogue, "Faust," story of the opera, Thomas LeRue Hesselton; Ethel Dobson, soprano; Eran Prosser, tenor; L. Powell Evans, bass; Cecile Steiner, violinist; Alice Sachse, pianist; Arthur Brook, organist; 9, Hotel Ambassador concert orchestra; Harry Loriental, director; 10, organ recital; popular selections, Jean Welner; Mrs. Max Schulman, soprano.

### Eastern Standard or Central Daylight Saving Time Stations

KYW, Chicago, Ill. (535.4), 2:35-4 p. m., afternoon frolic; 6:35-7, Uncle Bob's bedtime story; 7-7:30, dinner concert, Congress hotel; 8-8:20, Adcle Brandt, contralto; Sallie Menkes, pianist; 8:20-8:45, speeches, Farm Bureau Federation; 8:45-9:30, musical program; 10-11:30, evening at home program; Applause club.

WBM, Chicago, Ill. (228), 5:30-6 p. m., Kiddie's Joy-Dicer club; 8-10, Samovar orchestra; Nate Caldwell, Charlie Garland, Eddie Lottis, Doris Ryan; 10-12, Stewart-Warner program; Jim Gleason, character singer; Paul Small, Joseph Balfieff, concert pianist; Marie Marzot, harpist; Joe Kromenberger, violinist; Alama orchestra.

WBZ, Springfield, Mass. (333.1), 6 p. m., Leo Relsman's Hotel Lenox ensemble; 8, concert; Henri Marcoux, baritone; Roger Nye, tenor; William E. Weston, accompanist; 8:30, Alandale Art studios hour.

WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.

WCX, Detroit, Mich. (517), 2 p. m., news and markets; 4:15, The Detroit Symphony trio; 6, dinner concert, Book-Cadillac hotel; 8, musical program; 10, The Red Apple club.

WEAR, Cleveland, O. (389.4), 7-8 p. m., organ recital, Vincent H. Percy; 8-9, Lesco hour; 9-10, musical program, Loew's State theater; 10-11, Cleveland Vocational bureau melody hour.

WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Lydia Lochner, contralto; Uptown theater; 9:30-10:30, Oriole orchestra; Dorothy Herman Blum, soprano; Frank Bordner, baritone; Loos Brothers; 11:30-1 a. m., Oriole orchestra; Sandy Meek, tenor; Harry Sooknik, accompanist; Jack Pennewell, twin guitarist; songs, Banks Kennedy, Paul Small.

WEBL, New York, N. Y. (272.6), 7-7:30 p. m., Dan Barnett's orchestra; 7:30-7:45, Juliette Lane, soprano; 8-8:10, railroad talk, G. T. Geer; 8:15-8:30, Aynon Comedy Four; 8:35-9, Edith Law, soprano.

WGBS, New York, N. Y. (315.6), 1:30-2:30 p. m., Blossom Heath serenaders; 3-3:10, talk, W. H. King; 3:10-3:20, Rosalie Blanchard, Walter Croft, vocal duets; 3:20-3:30, dance lessons, Jack Blue; 3:30-3:40, Rosalie Blanchard and Walter Croft; 3:40-3:50, piano lessons, Alfred Robyn; 3:50-4, Rosalie Blanchard, Walter Croft; 6-6:30, Uncle Geebee; 6:30-7, Vincent Sorey orchestra; 7-8, Arrowhead Inn orchestra; 8:20-8:35, Ralph de Wolfe, tenor; 9-10, Lovat Pipe band; 10-10:15, Rose Karaski, soprano; 10:30-11:30, Arrowhead Inn orchestra; 11:30-11:45, interview, Georgia Jessel.

WGS, Oak Park, Ill. (250), 5-7 p. m., Frank Ernest, pianist; Norman Kling, baritone; Harold Weaver, pianist; Christine Nisted, violinist; 10:30-1, Norelty Broadcasters' orchestra; Phil Wilcox, Clarence Parish, Pat Ward, Harber trio, Sandy McFarvin, Coyne Electrical school serenaders, Marie Wright.

WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 6:30-7:30, Drake concert ensemble, Blackstone string quintet; 8:30-9:30,

WGN string trio; 10:30-11:30, jazz scamper program, Drake dance orchestra.

WGY, Schenectady, N. Y. (379.5), 1 p. m., "The Straight and Narrow Street," one-act play; 5:30, Hotel Van Curler orchestra; 6:35, Ollie Yttru, pianist; 7, "Over the Seven Seas," Yokohama-Tokio-Nikko, WJZ; 7:30, Favorite melodies of bygone days; Matilda Bikelow Russ, soprano; James Crapp, bass; 10, W. Spencer Tupman's Hotel Mayflower orchestra, WRC.

WHT, Oeorfield, Ill. (400) 1 p. m., Grayling's string trio; 7, Jane McConnell, contralto; August Bredemeier, tenor; Eleanor Gilmour, soprano; Borden's selected vocal; 8:45, (238), Riverview Park Melody masters; 10:30, (400), Walter Ford's Cbeerio orchestra; Oscar Heather, tenor; Rita McFawn, soprano; 12, Pat Barnes, Al Carney, Duke Rehl, Walter Ford.

WJR, Detroit, Mich. (517), 7 p. m., studio orchestra, Jean Goldkette, director; 9, Jean Goldkette's serenaders.

WKRC, Cincinnati, Ohio (326), 10 p. m., Maxim Easty-luck, Russian haritone; George Weber, tenor; Pete Mincowski, violinist; Al Kirschner, pianist; Caroline Schlosser, reader; Gene Percuch, pianist; 10:30, John Arnold state talk; 11, classical program.

WLW, Cincinnati, Ohio (422.3), 12:15 p. m., Petrinella Trimburt, organist; 4, student recital; 6:30, organ concert, Gene Johnson; 7, WLW story lady, Mrs. Bertha W. Edmond's; 8, WLW orchestra heralds return of

Since "Roxy and His Gang" departed from the Capitol theater on their own venture, fans listening to the WEAF programs from that institution have been hearing the productions put on by the gentleman pictured here, Major Edward Bowes, managing director of the amusement place.



Senator Schultz; "Vy I Became a Radlo Fan," Senator Schultz; 8:30, Lyric male quartet; 9, Formica orchestra; Formica feature, "A Lover in Damascus."

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ; 6:30, Hotel LaSalle orchestra; 8, Carl Broman, pianist; 8:30, travel talk, Clara Laughlin; 8:50, musical program, Alexander Nakutin.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trifanon ensemble, Hazel O'Neil, Wayne King, Mildred Matejka, Innh Everat, Lindsey McPhall, Roy Trauger; 9-11, Trifanon orchestra; Woodlawn theater orchestra.

WOK, Homewood, Ill. (217.3), 12-2 p. m., Thomas B. Stephenson, tenor; Marianne Powell Babcock, soprano; Fred Witmer, pianist; Marie Dneprova, soprano; Gus C. Edwards orchestra; LeRoy North, pianist; George Irish, organist; 6-7, Genevieve Barry Burnham, soprano; Clement Laskowski, tenor; Gus C. Edwards orchestra; George Irish, organist; LeRoy North, pianist; 10-1, Gertrude Mugford, soprano; Kraft Harmony Boys; Evelyn Johnson, soprano; Jacobson & Ray, guitarists; Jack Armstrong, violinist; LeRoy North, pianist; Gus C. Edwards orchestra; George Irish, pianist; Herman Sinaiko, violinist.

WRO, Balavia, Ill. (275), 8:30 p. m., Renk and Bayer, violin and piano; 9, studio recital, Cosmopolitan School of Music and Dramatic Art; 10, Bible address, C. W. Angar.

WQJ, Chicago, Ill. (447.5), 1:45-2:45 p. m., questions and answers, Helen Harrington Downing; "The Modern Laundry," J. A. Heist; "Heating Your Home with Oil," F. A. Jones; 7-8, Rainbo Gardens orchestra; Adeline Keller, contralto; Muriel Kenady, soprano; Cora Rogers Woolverson, pianist; Kane McDuffee, whistler; 10-1, Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch, soprano; Frank Blasco, boy tenor; Will Rossiter; Mack sisters; 1-2, Ginger hour.

WREO, Lansing, Mich. (285.5), 8:15 p. m., Neo Motor Car company band.

WSAI, Cincinnati, O. (325.9), 7:45 p. m., chime concert, Robert Badgley; 8, Eveready hour, WEAF; 9, Virginia Bush, cornetist; Ruth Donnerberg, cellist; 9:30, Elizabeth Medert, violinist; Evelyn Read, pianist.

WSBC, Chicago, Ill. (210), 9-11 p. m., World Battery trio; Marie Wright, Phil Wilcox, Buck Weaver, Dennis Vanzos, Esther Thompson, Ann Fisher; Jack Young's Blue Blowers; other artists.

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

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Aurlot Craven; Phil Wilcox, Gladys Bagwell, Tell Taylor, Brock sisters, Rome Vincent, Phil Fleming, Erwin Smith.

WTC, Hartford, Conn. (476), 5:30 p. m., Hub Restaurant trio; 6, Paul J. Seary, bass; 6:20, bass solos; 7, musical appreciation, Dana S. Merriman; 7:15, studio program; 8:30, Austin organ company.

WV, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit New orchestra; 6, dinner concert; 7, concert from New York.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., Bulck Little symphony, Belshaw's orchestra; 8:30-10:30, Schmoller and Mueller program.

KFDM, Beaumont, Texas (315.6), 8-9 p. m., sacred program.

KFMQ, Fayetteville, Ark. (299.8), 9 p. m., mulcal program, H. E. Schultz, director.

KFN, Shenandoah, Ia. (266), 7 p. m., dipa organ concert.

KFVE, University City, Mo. (240), 8:30 p. m., "Amusement Review," Romaine Fielding; 10, Hausman Bros. entertainers.

KLDS, Independence, Mo. (441), 8 p. m., Mary Joan Parks, soprano; Brinda Ritter, pianist; Margaret Royster, violinist; N. Dawson Stephens, baritone.

KOIL, Council Bluffs, Iowa (278), 7:30 p. m., Original Harmo-Jazz orchestra; 9, Creighton university educational period; 11, Hotsy-Totsy hour; "The Orioles."

WAMQ, Minneapolis, Minn. (243.8), 12 noon, musical program; Charles Cordray, tenor; Bobby Chamberlain, soprano; Helen Collins, pianist; 6 p. m., Hotel Radisson ensemble; Helen McAneny, soprano; Hazel Stageberg, accompanist.

WBAP, Ft. Worth, Tex. (475.9), 7:30, Fiddle band, Kopperl, Texas; 9:30, Mrs. Bryan Usrey.

WCBQ, Zion, Ill. (344.6), 8 p. m., Zion band, celestial bell quartet; Misses Newcomer and Wedekind, vocal duet; Dorothy Bnl, soprano; Ruth Beem, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 2:05 p. m., "The World of Books," H. A. Bellows; 4:05, Readers' club, Eleanor Poehler; 6:30-7, "Gold Dust Twins"; 7-8, "Eveready Hour"; 8-9, grand opera.

WOA, Kansas City, Mo. (356.6), 2:30-4:30 p. m., Star's string trio; 6-7, School of the Air; dialect readings, C. M. Ragon; Tell-Me-a-Story Lady; Trifanon ensemble; 8-9:30, around the town with WDAF; 11:45-1 a. m., Nighthawk frolic; Merry Old Chief, Plantation players; Earl Coleman's orchestra; Eddie Kuhn's Kansas City Athletic club orchestra.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Beaumont band, Dr. Harry Cloud, director; 6:30-7:30, Frenley Moore and his Black and Gold serenaders; 8:30-9:30, Magnolia Petroleum company's baud, Paul Ashley, director; 11-12, special program, Palaco theater.

WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist.

WHAS, Louisville, Ky. (399.8), 4 p. m., music, Nusic Box; four-minute talk, auspices American Dental as-

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WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ; 6:30, Hotel LaSalle orchestra; 8, Carl Broman, pianist; 8:30, travel talk, Clara Laughlin; 8:50, musical program, Alexander Nakutin.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trifanon ensemble, Hazel O'Neil, Wayne King, Mildred Matejka, Innh Everat, Lindsey McPhall, Roy Trauger; 9-11, Trifanon orchestra; Woodlawn theater orchestra.

WOK, Homewood, Ill. (217.3), 12-2 p. m., Thomas B. Stephenson, tenor; Marianne Powell Babcock, soprano; Fred Witmer, pianist; Marie Dneprova, soprano; Gus C. Edwards orchestra; LeRoy North, pianist; George Irish, organist; 6-7, Genevieve Barry Burnham, soprano; Clement Laskowski, tenor; Gus C. Edwards orchestra; George Irish, organist; LeRoy North, pianist; 10-1, Gertrude Mugford, soprano; Kraft Harmony Boys; Evelyn Johnson, soprano; Jacobson & Ray, guitarists; Jack Armstrong, violinist; LeRoy North, pianist; Gus C. Edwards orchestra; George Irish, pianist; Herman Sinaiko, violinist.

WRO, Balavia, Ill. (275), 8:30 p. m., Renk and Bayer, violin and piano; 9, studio recital, Cosmopolitan School of Music and Dramatic Art; 10, Bible address, C. W. Angar.

WQJ, Chicago, Ill. (447.5), 1:45-2:45 p. m., questions and answers, Helen Harrington Downing; "The Modern Laundry," J. A. Heist; "Heating Your Home with Oil," F. A. Jones; 7-8, Rainbo Gardens orchestra; Adeline Keller, contralto; Muriel Kenady, soprano; Cora Rogers Woolverson, pianist; Kane McDuffee, whistler; 10-1, Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch, soprano; Frank Blasco, boy tenor; Will Rossiter; Mack sisters; 1-2, Ginger hour.

WREO, Lansing, Mich. (285.5), 8:15 p. m., Neo Motor Car company band.

WSAI, Cincinnati, O. (325.9), 7:45 p. m., chime concert, Robert Badgley; 8, Eveready hour, WEAF; 9, Virginia Bush, cornetist; Ruth Donnerberg, cellist; 9:30, Elizabeth Medert, violinist; Evelyn Read, pianist.

WSBC, Chicago, Ill. (210), 9-11 p. m., World Battery trio; Marie Wright, Phil Wilcox, Buck Weaver, Dennis Vanzos, Esther Thompson, Ann Fisher; Jack Young's Blue Blowers; other artists.

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

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Aurlot Craven; Phil Wilcox, Gladys Bagwell, Tell Taylor, Brock sisters, Rome Vincent, Phil Fleming, Erwin Smith.

WTC, Hartford, Conn. (476), 5:30 p. m., Hub Restaurant trio; 6, Paul J. Seary, bass; 6:20, bass solos; 7, musical appreciation, Dana S. Merriman; 7:15, studio program; 8:30, Austin organ company.

WV, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit New orchestra; 6, dinner concert; 7, concert from New York.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., Bulck Little symphony, Belshaw's orchestra; 8:30-10:30, Schmoller and Mueller program.

KFDM, Beaumont, Texas (315.6), 8-9 p. m., sacred program.

KFMQ, Fayetteville, Ark. (299.8), 9 p. m., mulcal program, H. E. Schultz, director.

KFN, Shenandoah, Ia. (266), 7 p. m., dipa organ concert.

KFVE, University City, Mo. (240), 8:30 p. m., "Amusement Review," Romaine Fielding; 10, Hausman Bros. entertainers.

KLDS, Independence, Mo. (441), 8 p. m., Mary Joan Parks, soprano; Brinda Ritter, pianist; Margaret Royster, violinist; N. Dawson Stephens, baritone.

KOIL, Council Bluffs, Iowa (278), 7:30 p. m., Original Harmo-Jazz orchestra; 9, Creighton university educational period; 11, Hotsy-Totsy hour; "The Orioles."

WAMQ, Minneapolis, Minn. (243.8), 12 noon, musical program; Charles Cordray, tenor; Bobby Chamberlain, soprano; Helen Collins, pianist; 6 p. m., Hotel Radisson ensemble; Helen McAneny, soprano; Hazel Stageberg, accompanist.

WBAP, Ft. Worth, Tex. (475.9), 7:30, Fiddle band, Kopperl, Texas; 9:30, Mrs. Bryan Usrey.

WCBQ, Zion, Ill. (344.6), 8 p. m., Zion band, celestial bell quartet; Misses Newcomer and Wedekind, vocal duet; Dorothy Bnl, soprano; Ruth Beem, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 2:05 p. m., "The

# KOA PLAYERS PRESENT 3-ACT COMEDY



The sunny South, Alabama to be exact, gave the young lady at the left to the Radio world. She is Lottice Howell, honor graduate of the Women's College of Alabama in voice and piano, now appearing at WEAF as a valuable addition to Major Bowes' Capitol theater group. The lady to the right, Marion M. Shaw, will be heard from WGR when she heads her own program on September 21.

## Tuesday, September 22

(Continued from page 14)

sociation; 7:30-9, Harmon Allan's orchestra; William S. Rinehart, tenor.  
 WHO, Des Moines, Ia. (526), 7:30-9 p. m., Bankers Life trio, Helen Birmingham, director; 11-12, Bankers Life Little Symphony orchestra, Leon A. Dasboff, director.  
 WQAI, San Antonio, Texas (394.5), 8:30-9:30 p. m., musical program, Miss Borden; 9:30-10:30, Jimmy's orchestra.  
 WOAW, Omaha, Nebr. (526), 6 p. m., popular program; 6:30, orchestra; 7:10, Radio review, Neal Jones; 9, concert, Omaha Radio Trade exposition; 12, Rialto Alarm.  
 WOC, Davenport, Iowa (483.6), 5:45-6 p. m., concert chimes; 6:30-7, musical program, "The Gold Dust Twins," WEAF; 7-8, musical program, "Eveready Hour," WEAF; 8-9, musical program, Pettit's Tri-city orchestra; A. P. Griggs, contralto.

### Mountain Standard Time Stations

CNRR, Regina, Can. (356), 8 p. m., Kiddies' bedtime story; Mrs. R. Taylor and concert party.  
 KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 7:30, News-Times concert.

### Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 7, Howard Beall, golf instruction; 7:30-9, program, Western's super-service garage, Hollywood stringed trio, Ashley sisters, Frank Stever, baritone; Ray Kellogg and Bill Hatch, the jazz twins; 9-10, program, H. L. Crockett, Hodon-Essex company, H. L. Crockett and his quartet; Way Watts and ukulele; Polly Boyette, soprano; 10-11, Warner Brothers frolic, direction, Charlie Wellman.  
 KGO, Oakland, Calif. (361.2), 4-5:30 p. m., Hotel St. Francis concert orchestra, Vinton LaFerrera, conducting; 6-7, dinner concert; Theodore Strong, organist; 8, selections from Robin Hood, comic opera; 9:50, "Radio Breezes," K. C. B.  
 KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Queen Titania and Sandman from Fairyland, Uncle John; Louis F. Klein, auto-harp and harmonica; 7:30, program, Zoellner Conservatory of music; 8-10, third evening festival chamber music, Los Angeles Soap company; 10-11, Art Hickman's Biltmore dance orchestra, Earl Burtnett, leader.  
 KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Feinstein, leader; 7-8, Don Clark and his La Monica orchestra; 8-10, KNX feature program, Carrie Preston Rittmeister; 10-12, movie night, Ray West's Coconut Grove dance orchestra.  
 KPD, San Francisco, Calif. (428.3), 2:30 p. m., matinee program, direction, Michael Gatto; 3:30, Palace hotel orchestra, Cyrus Trobber, director; 5:30, children's hour, Big Brother; 8:40, Waldemar Lind and States Restaurant orchestra; 7-7:30, Rudy Selger's Fairmont hotel orchestra, Wm. Schwartzman, conducting; 8-9, program; May Dearborn Schwab, soprano; 9-10, operatic program, Mona Motor Oil company; 10-11, Jack Coakley's Cabirians.

KTAB, Oakland, Calif. (215), 8-10 p. m., "Mutual Stores' night," quartet; Grace Adams East, cornetist; vocal and instrumental solos.  
 KTCL, Seattle, Wash. (305.9), 12:30-1:30 p. m., Meves Cafeteria concert orchestra; 7-8, Simonds Saw and Steel company program.

## Wednesday, September 23

Wednesday, silent night for: CHNC, CKAC, CNRC, CNRE, CNRM, CNRW, CNRT, KFOM, KFKX, KGO, KLOS, KTCL, WBAV, WBBR, WCAU, WCBO, WCTA, WFAA, WFI, WGPC, WGY, WHAR, WHAZ, WIP, WMC, WOAW, WORO, WPG, WRC, WREO.

### Atlantic or Eastern Daylight Saving Time Stations

CNRM, Montreal, Can. (411), 9 p. m., studio program, R. M. S. Regina orchestra, Bandmaster Albert Traher, director.  
 CNRO, Ottawa, Can. (435), 8 p. m., Chateau Laurier concert orchestra; 9, Madame Victor Nolet, pianist; Victor Nolet, baritone; instrumental trio; Oscar Barrette, tenor; Edouard Gosselin, violinist.  
 WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Lovo's Aldine theater program; 6:30, dinner concert; 7:30, Sunshine girl; 8:30, Pooley period, WEAF; 9, Watermann hour, WEAF; 11, Loew's Aldine theater program.  
 WCAU, Philadelphia, Pa. (277.6), 8 p. m., Lyric trio, Ernestine Bacon, soprano; Florence Haelin, violinist; Dorothy Powers, harpist; 9, Charles Gilpin, composer of the Mask and Wig; 9:30, recital.  
 WCTS, Worcester, Mass. (268), 7:15 p. m., Twinkle Twinkle story teller; 8, concert program.  
 WEAF, New York, N. Y. (491.5), 4-4:45 p. m., Sadrian string trio; 4:45-5, "A Trip to Amsterdam, Jan J. Carles; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, United Synagogue of America; 7:30-8, concert, United States Army band; 8-8:30, Huyler's Foremost Four; 8:30-9, "Pooley Period," 9-10, "Waterman's Points of Progress—Richelieu," 10-11, Ipana troubadours; 11-12, Hotel Bossert Marine Roof orchestra.  
 WEBJ, New York, N. Y. (272.6), 8-8:30 p. m., McLeans dance orchestra; 8:45-9, Eddie Burke, Irish piper; 9-9:15, Isabel Henderson, soprano; 9:15-9:30, Eddie Burke; 9:30-10, operatic arias in Italian, Michele Bontempo.  
 WEEI, Boston, Mass. (475.9), 5:30 p. m., Ye Middleton Arms orchestra; 6:30, Big Brother club; 7:30, C. B. Collins, tenor; 8, Huyler's Inc. musicale; 8:30, Earl Nelson and his uke; 9, L. E. Waterman company program; 10, Ipana troubadours.  
 WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford trio; 3, Loretta Kerk, pianist; 6:45, Bellevue Stratford concert orchestra.  
 WGBS, New York, N. Y. (315.6), 1:30-2:30 p. m., Strand Roof orchestra; 3-4, Beethoven matinee musicale; 6-6:30, Uncle Geebee; 6:30-7:30, Yerkes Flotilla orchestra.  
 WGPC, New York, N. Y. (315.6), 3-3:15 p. m., Frank Gallasi, pianist; 3:15-3:18, Mirror race results; 3:18-3:30, Jane of WGPC; 3:30-3:45, Charlotte Trysmann, pianist; 3:45-3:48, Mirror race results; 3:48-4, Johnny Tucker, songs; 4-4:15, Harold Glenn, whistler; 4:15-4:18, Mirror race results; 4:18-4:30, Clarence Williams, trio; 4:35-4:48, Mirror race results; 4:48-5, Jane; 5-5:15, Bob Ward and his three little Wards; 5:15-5:18, Mirror race results; 5:18-5:30, Dick Bernard, songs; 5:30-5:45, Ed. J. Brown's Society orchestra; 5:45-5:48, Mirror race results; 5:48-6, Marie McCl-

Call, soprano; 8-8:15, Ukulele Lou Hayer; 8:15-8:30, Lew Pallark and Jack Yellen; 8:30-8:45, Dick and Flo Bernad, song; 8:45-9, Win J. Hietz, songs; 9-9:15, Eikar Duffly, tenor; 9:15-9:30, Jack Smith, personality plus; 9:30-10, Indianas orchestra; 10-10:15, Sam Williams and Al Plantobost; 10:15-10:30, Polla's Clover Gardens orchestra; 10:30-10:45, Lillian Gordon, contralto; 10:45-11, Polla's orchestra.  
 WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., program; 6:30-7:30, two piano recital, Gospel melodists; 9-11, WEAF program, L. E. Waterman and company, Ipana Troubadours; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director.  
 WHN, New York, N. Y. (361.2), 2:45-3:15 p. m., Carl White's entertainers; 3:15-4:15, Jimmy Clarke and his entertainers; 10-10:30, Roseland dance orchestra; 10:30-11, Pallades Amusement Park orchestra; 11-11:30, Silver Slipper orchestra.  
 WIP, Philadelphia, Pa. (500.2), 1 p. m., Gimbel tea room orchestra; 3, concert; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.  
 WKAQ, San Juan, P. R. (340.7), 8 p. m., municipal band.  
 WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 7:30, Dream Daddy, bedtime stories; 10, Arcadia cafe dance orchestra; 11, Karl Bonawitz, organist.  
 WNYC, New York, N. Y. (526), 6-6:30 p. m., elementary Spanish lessons, V. Harrison Berlitz; 6:30-7, ad-

vanced Spanish lessons; 7:10-7:30, dance program; 7:35-8, dance program; 8-8:05, baseball results; 8:05-10-15, concert.  
 WOO, Philadelphia, Pa. (508.2), 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, Elmer Grosse and his versatile orchestra; 8:30, Pooley period; 9, "Waterman's Points of Progress," Richelieu; 10:30, A. Candelori's Roof Garden dance orchestra.  
 WOR, Newark, N. J. (405.2), 6:15-6:30 p. m., "Words Often Mispronounced," Dr. Vizetelly; 6:30-7, Ben Goldfarb's Bluebird orchestra; 7:15-7:30, sports talk; 7:30-8, Vincent Lopez orchestra; 8-8:10, "Topics of the Day," Spencer Armstrong; 9:30-9:45, "Choosing a Profession," Frank G. Wadsworth; 10-10:15, Sam Slegel, mandolin virtuoso; 11-12, Zit's Casino orchestra.

Eastern Standard or Central Daylight Saving Time Stations  
 KYW, Chicago, Ill. (535.4), 6:35-7 p. m., Uncle Bob's bedtime story; 7-7:30, Congress hotel dinner concert; 7:33-7:43, "Entertaining Plans," Vivette Gorman; 7:43-7:53, talk, Chicago Motor club; 8-9, musical program, Edison symphony orchestra, Morgan L. Eastman, conductor; 11-12:30, revue; Charles Dornberger's orchestra; organologic.  
 PWX, Havana, Cuba (400), 8:30-11 p. m., Malecon band stand concert, Captain Jose Molina Torres, band leader.  
 WBBM, Chicago, Ill. (226), 5:30-6 p. m., Kiddies' Joy-Digger club; 8-10, Sunset quartet; Doris Ryan, pianist; Vera Harding, contralto; Charlie Garland; Nate Caldwell, Eddie Loftis; Samovar orchestra; 12-2 a. m., Stewart-Warner program; Alamo orchestra; Honky Tonky Gloom Chasers; Earl Bergman, banjoist; Harold Anderson, accordionist; Charlie Garland, Nate Caldwell, Eddie Loftis, Lew Russell, Murray Smith.  
 WBZ, Springfield, Mass. (333.1), 6 p. m., dinner concert, Hotel Kimball trio, Jan Geerts, director; 6:32, nature story, Thornton W. Burgess; 8, Helen Beckwith Ryan, contralto; 8:15, Dorothy Curtis, pianist; Elmer Curtis, trumpet; 8:45, Albert Heer, bass-baritone; 9, Hotel Brunswick orchestra.  
 WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.  
 WCC, Detroit, Mich. (517), 2 p. m., news and markets; 4:15, concert; 6, dinner concert, Book-Cadillac hotel; 8, musical program.  
 WEAR, Cleveland, Ohio (389.4), 7-8 p. m., dinner concert, Ivan Francis, director.  
 WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Florence Behrend, soprano; Howard Neumiller, pianist; 9:30-10:30, Oriole orchestra; Corall and Gosden; Robert York, tenor; 11:30-1, Oriole orchestra; Correll & Gosden; Robert York, tenor; Oriole orchestra.  
 WGES, Oak Park, Ill. (250), 5-7 p. m., Richard Dale, baritone; Louise Wyse, soprano; John MacFarlane, bass; John Stamford, tenor; 10:30-1 a. m., Kampus Kollegians orchestra; Rose Sweeney, soprano; Frank Gallery, tenor; Lew Russell, Sue Oimstead, ukulele soloist; DeWitt & Owen; Evans Lloyd, baritone.  
 WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 6:30-7:30, Drake concert ensemble, Blackstone string quintet; 8:30-9:30, WGN string trio; 10:30-11:30, jazz scamper, Drake hotel dance orchestra.  
 WHT, Oerfield, Ill. (400), 1 p. m., Grayling's string trio; 7, Al Carney, organist; Pauline Suchs, soprano; Oscar Heather, tenor; Kitchen Kleazer Klässes; Dean Remick, pianist; Jelke musical moments; 8:45, (238), Riverview Park Melody masters; 10:30, (400), Walter Ford's Cheerlo orchestra; Carl Strodel, baritone; Hickey and Johnson; Manfred Gottlieb, pianist; 12, Pat Barnes, Al Carney, Duke Rehl, Walter Ford.  
 WJR, Detroit, Mich. (517), 7 p. m., studio orchestra.

Jean Goldkette, director; 9, Burroughs hour.  
 WKRC, Cincinnati, Ohio (326), 8 p. m., book review, Alice B. Coy; 8:15, Marlon McKay and his orchestra; 9:45, studio features.  
 WLW, Cincinnati, Ohio (422.3), 12:15 p. m., Irene Downing, Marjory Hehstret, piano and organ duets; 4, Shut-in program; 7, dinner concert, Hotel Gibson orchestra; Robert Visconti, director; 10, Cino male quartet; Instrumental trio, violin, cello and piano; 11, organ concert, Johanna Grasse; Cincinnati zither players, Ruth Hohe, Charles Hohe and A. Hochreick; organ solos, Johanna Grasse.  
 WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ; 6:30, George Fankner, the story lady; 8, musical program, Grant Hadley; 9, WMAQ players.  
 WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon ensemble; Canterbury; Rebecca Agulnick, Bernard Senescu, Marie Caruso; 0-11, Trianon orchestra; Woodlawn theater orchestra; Edward Hines, Lefty Tyler, Clyde Hager.  
 WOK, Homewood, Ill. (217.3), 12-2 p. m., Harold Morava, tenor; Jean Carlson, soprano; Leiby North, pianist; George Irish, organist; Gus C. Edwards orchestra; 8-7, Robert York, tenor; Jane McConnell, contralto; Eleanor Gilmour, soprano; LeRoy North, pianist; Gus C. Edwards orchestra; George Irish, organist; 10-1, Ned Miller, tenor; Rita McFawn, soprano; Si Berg, ukulele soloist; Johnny Burns, bass; Dave Kapp & Company; Harold Morava, tenor; Williamson Brothers; Herman Sinalko, violinist; LeRoy North, pianist; George Irish, organist; Gus C. Edwards orchestra.  
 WORO, Batavia, Ill. (275), 8:30 p. m., Renk and Beyer, violin and piano; 8:45, hymns and sacred songs, I. B. S. A. choral singers; 9, address, Calvin H. Swingle.  
 WQJ, Chicago, Ill. (447.5), 1:45-2:45 p. m., Rainbo Gardens orchestra; Gertrude Wolf Quentlin, soprano; Henrietta Nolan, violinist; Izora Logan Reynolds, reader; 10-1, Rainbo Skyarks; Dr. C. B. Roe, baritone; Melodians; Esther Trostrud, mezzo soprano; Alice Hessner, pianist; Fontella trio; Gail Bandell, tone; Car. Carl Bertschinger, pianist; Melodians; Esther Trostrud, mezzo soprano; Alice Hessner, pianist; Fontella trio; Gail Bandell, contralto; Fred A. Johnson, reader; Clarence Thieders, tenor; Sandy Meek, Scotch tenor; Harry Sosnick, pianist; J. Edwin Peterson, bass; 1-2, Ginger hour.  
 WSAI, Cincinnati, Ohio (325.9), 10 p. m., golf talk; 10:10-12, Richard Gray, baritone; Evelyn Stone, soprano; Grace Baine, piano; string quartet.  
 WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner music; 9-10, organ recital; 10-11, artists; 11-12, Frank R. Wilson's Euclid Beach park orchestra.  
 WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Evelyn Johnson, Art Stiller, Balo Payne, Herbert Schroeder, Roland Hinkle, Clarence



Mrs. Leora Sage McKennan (above), soprano, is a regular feature of KDKA. Her Spanish compositions have been heard in the Latin American countries and in South America during the station's special broadcasts for these distant parts.

Parrish, Pat Ward, Harry Davis, Si Berg, West Town Harmony boys.  
 WVIC, Hartford, Conn. (476), 5:30 p. m., Hotel Bond trio; 8:30, Colt Park orchestra.  
 WWJ, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra; 9, dance program.

### Central Standard Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., Buick Little symphony, Belshaw's orchestra; 8:30-10:30, Ralph Hall, banjo-uke; Walkiki trio, Hawaiian entertainers; Mabel and Julius Ludlam, violinist, pianist; Belshaw's orchestra.  
 KFMQ, Fayetteville, Ark. (299.8), 7:30 p. m., farm flosophy, Cy Adams; "Farm Water Works," D. G. Carter; "Burr Clover," A. D. McNair; "Home Demonstration for Farm Women," Conie Bongsler.  
 KFNF, Shenandoah, Iowa (266), 7 p. m., Henry Field Seed company.  
 KFVE, University City, Mo. (240), 6:30 p. m., "Amusement Review," Romaine Fielding; 10, selected numbers, Leona Bloomer; Mrs. Elsa Herzog, accompanist; Paul and Jack Snyder, entertainers de luxe.  
 KOIL, Council Bluffs, Iowa (278), 6:30 p. m., dinner program, College club orchestra; 7:30, program, Virginia Mulholland; artists; 11, Hotsy-Totsy hour; Original music makers.  
 WAMO, Minneapolis, Minn. (243.8), 12 noon, musical program; Emery White, Jim McDonough, banjo duos; Rose Lieberman, pianist; 7, "A Night in Venice"; Lucille Fletcher, soprano; Ted Fletcher, tenor; duets; Etta Landry, pianist; Norma Martin, organist; 10, dance program.  
 WBAP, Ft. Worth, Tex. (475.9), 7:30 p. m., Panther Hawaiian trio; 9:30, popular concert.  
 WCCO, Minneapolis-St. Paul, Minn. (416.4), 2:05 p. m., woman's hour; "Should I Adopt a Child?" Charles L. Burt; 2:30, afternoon concert; 7, midweek church

(Continued on page 16)

# HARMONY CLUB ENTERTAINS AT W

## Index to Popular Concerts

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

### Popular

#### Atlantic or Eastern Daylight Saving Time Stations

**Saturday, September 19:** 6:30, WGBS; 8:15, WFAF; 8:45, WIP; 10, WCAU; 10:15, WFAF, WNYC; 10:45, WFAF.

**Sunday, September 20:** 9, WNYC; 10, WNYC.

**Monday, September 21:** 7:30, WMCA; 7:45, WNYC; 8:30, WAHG, WOR; 8:45, WAHG; 9, WHAR, WOR; 9:30, WGR, WMCA; 12, WAHG.

**Tuesday, September 22:** 7, WMCA; 8, WHAR, WHN; 8:15, WFAF; 8:30, WCAU, WHN, WJAR; 8:45, WIP; 9:30, WCAU.

**Wednesday, September 23:** 8:15, WAHG; 9, WMCA; 10, WAHG; 10:15, WNYC; 11, WCAE; 11:30, WMCA.

**Thursday, September 24:** 7:30, WFAF; 8, WHN; 8:45, WIP; 9, WHN; 9:30, WCAU; 10:15, WHN.

**Friday, September 25:** 7, WEBJ, WGR; 7:45, WAHG; 8, WFAF, WHN; 8:15, WAHG; 8:45, WLIT; 8:50, WEEL; 9, WAHG; 9:30, WCAU; 10, WLIT; 10:15, WNYC; 10:35, WAHG; 10:45, WFAF; 11:30, WLIT.

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

**Saturday, September 19:** 6:20, WWJ; 8, WBBM, WHT, WLS, WMAQ, WTAS; 8:30, WMBB; 9, WBBM, WLS, WTAM; 9:30, WMBB, WTAS; 10, WBBM, WGBU, WKRC, WLS, WQJ; 10:30, WCEE, WGES, WHT, WJJD, WTAM; 11, WBBM, WGES, WLS, WQJ; 11:30, WCEE, WJJD; 12, WBBM, WHT, WLS, WQJ, WSAI; 1, WBBM, WQJ, WTAM; 2, WTAM.

**Sunday, September 20:** 6:20, WWJ; 8, WBBM, WTAS; 8:30, WBZ, WMBB; 9, WBBM, WTAS; 9:15, WHT; 9:30, WMBB; 10, WTAS; 10:30, WGES; 11, WGES, WTAS; 12, WBBM, WJJD; 1, WBBM, WJJD.

**Monday, September 21:** 6, WBBM; 8, WLW, WTAS; 9, WTAS; 9:30, WHAZ; 10, WLW; 10:15, WHT; 10:30, WCEE, WJJD; 11, WHT; 11:30, WCEE, WHT, WJJD; 12, WHT, WJJD.

**Tuesday, September 22:** 6, WBBM, WTAS; 8:30, WMBB; 9, WBBM, WHT, WTAS; 9:15, WREO; 9:30, WEBH, WMBB; 10, WBBM, WLS, WQJ, WTAS; 10:30, WCEE, WEBH, WGES, WGN, WHT, WJJD, WLS, WQJ; 11, WBBM, WHT, WLS; 11:30, WCEE, WEBH, WGES, WHT, WJJD, WLS, WQJ, WSAI; 11:30, WCEE, WEBH, WJJD; 12, WGES, WQJ; 12:30, WEBH, WJJD; 1, WQJ.

**Wednesday, September 23:** 8, WFAF, WLS, WTAS; 8:30, WBBM, WMBB; 9, WBBM, WKRC, WTAS; 9:30, WEBH, WMBB; 10, KYW, WHT, WIBO, WQJ, WSAI; 10:30, WCEE, WEBH, WGN, WHT, WJJD; 11, KYW, WGES, WHT, WIBO, WLS, WQJ, WSAI; 11:30, WCEE, WEBH, WJJD; 12, WGES, WQJ; 12:30, WEBH, WJJD; 1, WQJ.

**Thursday, September 24:** 8, WBBM, WTAS; 8:15, WREO; 8:30, WMBB; 9, WBBM, WTAS; 9:30, WEBH, WMBB; 10, WBBM, WQJ, WTAS; 10:03, WLW; 10:30, KYW, WEBH, WGN, WHT; 11, WHT, WQJ, WTAS; 11:15, WLW; 11:30, WEBH; 12, WBBM, WIBO, WQJ; 12:30, WEBH; 1, WIBO, WQJ; 2, WIBO.

**Friday, September 25:** 8, WBBM, WTAS; 8:30, WBZ, WEBH, WMBB; 9, WBBM, WTAS; 9:30, WMBB; 10, KYW, WEBH, WIBO, WLS, WMBB, WTAS; 10:15, WHT; 10:30, WCEE, WGN, WJJD, WQJ; 11, KYW, WEBH, WHT, WIBO, WLS; 11:30, WCEE, WJJD, WQJ; 12, WEBH, WIBO, WQJ; 12:30, WJJD; 1, WQJ.

**Central Standard Time Stations**  
**Saturday, September 19:** 6:30, WFAA; 7, KSD; 8:30, WOAI, WSMB; 9, KFRU; 9:25, KTHS; 9:30, WSMB; 10, KFRU, KFVE; 10:45, WSB; 11, WBAP, KFRU, KFVE, WOAW.

**Sunday, September 20:** 9:30, WFAA, WOAI; 11, WBAP.

**Monday, September 21:** 6:30, WFAA, WOAW; 6:45, WCCO; 7:30, KFAB; 8, KFAB, KFRU; 8:30, KFAB, WMC, WOAI, WSMB; 9, KFRU; 9:30, WSMB; 10, KFVE, WOAW; 10:45, WSB.

**Tuesday, September 22:** 6:30, WOC; 8, WCCO, WSB; 8:30, WOAI; 10, KFVE; 10:30, KFRU, WOAW; 10:45, WSB; 11:30, KFRU; 12, WOAW.

**Wednesday, September 23:** 7:30, KFAB; 8, KFRU; 8:30, KFAB, WSMB; 9, KFRU; 9:30, WSMB; 10, KFRU, KFVE; 10:45, WSB; 11:45, WDAF.

**Thursday, September 24:** 6, WOAW; 8, WCCO; 8:30, WOAI, WSMB; 9, WOAW; 9:30, WSMB.

**Friday, September 25:** 8, KFAB, WDAF; 8:30, KFAB, WOAI; 9, WHAD; 10, KFVE; 10:45, WSB; 11, KFRU, WMC; 11:45, WDAF; 12, KFRU.

**Mountain Standard Time Stations**  
**Wednesday, September 23:** 10, KFWA.

**Friday, September 25:** 10, KFWA.

**Pacific Standard Time Stations**

**Saturday, September 19:** 8, KFWE, KNX; 9, KNX, KPO; 10, KFWE, KFI; 11, KNX; 11:30, KHJ, KTCL; 12, KNX; 12:30, KHJ; 1, KNX; 1:30, KHJ.

**Sunday, September 20:** 8, KHJ; 9, KFWE; 10, KFWE.

**Monday, September 21:** 9, KNX; 10, KFWE; 11, KFWE; 12, KFWE.

**Tuesday, September 22:** 8, KFWE, KNX; 9, KNX, KPO; 10, KFWE, KNX; 11, KFWE.

**Wednesday, September 23:** 8, KGW, KPO; 9, KFWE, KNX; 10, KNX; 11, KFWE; 11, KNX.

**Thursday, September 24:** 8, KHJ; 9, KHL, KTAB; 10, KFWE, KHJ; 11, KNX.

**Friday, September 25:** 8, KFWE; 9, KFWE, KHJ, KNX; 10, KFWE, KNX; 10:30, KGW; 11, KFWE, 11:30, KGW; 12, KFWE, KNX; 1, KNX.

**KFWB, Hollywood, Calif. (252), 6-7 p. m., children's hour, Big Brother of KFWB; 7-7:30, Mutual Motors mirth contest; 7:30-8, program, Beverlyridge company; Louise Howatt, pianologues; Richard Coburn, tenor; Beverlyridge Hawaiians; 8-9, program, John Wright, the right tailor; Wright orchestra; Barbara Bunnell, blues singer; Kathryn Martin, soprano; 9-10, Joe Martin's Studio Six orchestra; Violet Frost, blues singer; Emma Klammel, soprano; 10-11, Warner Brothers frolic, direction, Charlo Wellman.**

**KGO, Oakland, Calif. (381.2), 3-4 p. m., violin recital; 4-5:30, Hotel St. Francis concert orchestra, Vinton LaFerrara conductor; 6-7, dinner concert; Theodore Strong, organist.**

**KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Blitmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies' hour, Dick Winslow, juvenile reporter; Mickey Melban, Baby Muriel MacCormac, screen starlets; Uncle John; 8, Dr. Mars Baumgardt, scientific lecturer; 8:30-10:30, program, F. B. Miller Hudson-Exsex company, J. Howard Johnson; 10:30-11:30, Art Hickman's Blitmore hotel dance orchestra, Earl Burtnett, leader.**

**KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wur-titzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra; Paul Finstein, leader; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-9, program, Security Trust and Savings bank; 9-10, program with a flick, Hercules Gasoline company; 10-11, hour of dance music.**

**KPO, San Francisco, Calif. (428.3), 1 p. m., Rudy Sel-gers' Fairmont hotel orchestra, Wm. Schwartzman, conducting; 2:30, matinee program, Dukou's Komakou's Royal Hawaiians; 5:30, children's hour, Big Brothers; 6:10, Waldemar Lind and States Restaurant orchestra; 7-7:30, Rudy Selgers' Fairmont hotel orchestra, Wm. Schwartzman, conducting; 8-9, Atwater Kent artists; 9-10, dance music, Goodrich Silvertown Cord orchestra; 10-11, Waldemar Lind and States Restaurant orchestra.**

**KTAB, Oakland, Calif. (215), 9-11 p. m., studio program, contralto, baritone, pianist.**

### Thursday, September 24

**Thursday, silent night for: CNRE, CNRR, CNRT, KFAB, KFAE, KFDM, KFXX, KFMQ, KFOA, KFVE, KOA, KSD, KTCL, PWX, WAHG, WBAP, WCEE, WEBI, WHAD, WHAZ, WJJD, WLIT, WOR, WOS, WTAM.**



#### Atlantic or Eastern Daylight Saving Time Stations

**WBBR, New York, N. Y. (272.6), 8 p. m., Watch-tower Instrumental trio; 8:10, Stanley Gohlinghorst, baritone; 8:20, Sunday school lesson; 8:40, Stanley Gohlinghorst, baritone; 8:50, Watchtower instrumental trio.**

**WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater program; 4:30, Sunshine girl; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 9, Atwater Kent artists, WFAF; 10, Goodrich Silver-town Cord orchestra, Joseph Knecht, director.**

**WCAU, Philadelphia, Pa. (277.6), 6:30 p. m., Billy Hayes and his Cathay Tea Garden dance orchestra; 7:30, N. Snellenburg and Company symphony orchestra; 8, Radio minstrels; 9, Barry O'Moore, Irish tenor; 9:30, songs of yesterday, Frank Cooke; 10, Sesqui Centennial hour.**

**WCTS, Worcester, Mass. (268), 5:15 p. m., Twinkle Twinkle story teller; 8-9, WFAF "Pop" concert; 10-11, Silvertown Cord orchestra, Joseph Knecht, director.**

**WEAF, New York, N. Y. (491.5), 4-4:45 p. m., Roy Nichols Recording orchestra; 4:45-5, talk, Cameron Rogers; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, Greater New York Federation of Churches; 7:30-8, Cushman's serenaders; 8-8:30, "Pop" concert; 8:30-9, talk, George Elliott Cooley; 9-10, Atwater Kent Radio artists; 10-11, Silvertown Cord orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.**

**WEEL, Boston, Mass. (475.9), 4 p. m., Joe Herman's Terrace garden orchestra; 6:30, Big Brother club; 7:30, George Sykes, tenor; 8, Pop concert; 9, Atwater Kent artists; 10, Goodrich Silvertown Cord orchestra.**

**WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Strat-ford trio; 3, Loretta Kerk, pianist; "Hoosier" Radio Exchange, Mabel Swint Ewer; 6:45, Bellevue Stratford Roof Garden orchestra; 8, popular concert; 9, Atwater Kent Radio artists; 10, Silvertown Cord orchestra; 11, Bellevue Stratford dance orchestra.**

**WGBS, New York, N. Y. (315.6), 1:30-1:45 p. m., Inez Quick, soprano; Helen Herman, contralto, 3-3:10, talk, Helen Hopkins; 3:10-3:20, Charlotte Cortina, soprano; 3:20-3:30, talk, Allico Barnhill; 3:30-3:40, Charlotte Cortina; 3:40-3:50, harmony lessons, Alfred Robyn; 3:50-4, Charlotte Cortina; 6-6:30, Uncle Gebea.**

**WGCP, New York, N. Y. (315.6), 3-3:15 p. m., Marguerite Austin, soprano; 3:15-3:18, Mirror race results; 3:18-3:30, Jack Cohen, pianist; 3:30-3:45, Jane of WGCP; 3:45-3:48, Mirror race results; 3:48-4, Nate Osborne, composer; 4-4:15, Paul Dennker and his Collogians orchestra; 4:15-4:18, Mirror race results; 4:45-4:48, Mirror race results; 5-5:15, Jane; 5:15-5:18, Mirror race results; 5:18-5:45, Sidney Basha and his orchestra with Andy Razaf, the yodeling kid; 5:45-5:48, Mirror race results; 6-6:15, Theo. Alban, tenor.**

**WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., program; 6:30-7:30, Vincent Lopez Hotel Stratford dance orchestra, Harold Gleer, director; 8-11, WFAF, Atwater Kent Radio artists; Goodrich Silvertown Cord orchestra.**

**WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, lecture period; 8, Seaside hotel trio; 9, vocal and instrumental concert.**

**WHN, New York, N. Y. (361.2), 12:30-1 p. m., Marsh McCurdy, organist; 3:15-4:30, Lexington theater orchestra; 8-8:30, Will Oakland's Chateau Shanley; 8:30-8:45, Ethel West, soprano; 9-9:30, Jimmy Clarke and his entertainers; 9:30-10, Palisades Amusement Park orchestra; 10:15-10:30, Loew's vaudeville head-liners.**

**WIP, Philadelphia, Pa. (508.2), 1 p. m., Glimbol tea room orchestra; 3, recital, talks; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 10, dance orchestra.**

**WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, pianist; 7:30, Dream Daddy's bedtime stories.**

**WNYC, New York, N. Y. (526), 6:30-6:40 p. m., "Homo Economics," Mrs. Louis Reed Welzmillier; 6:45-7, Club Arcady orchestra; 7:10-7:30, Club Arcady orchestra; 7:35-8, Club Arcady orchestra; 8-8:15, baseball results; 8:15-10:15, concert.**

**WOO, Philadelphia, Pa. (508.2), 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital 7:30, A. Candelori's concert orchestra.**

**WOR, Newark, N. J. (405.2), 6:15-6:30 p. m., "Words Often Mispronounced"; 6:30-7, Cinderella orchestra; 7:15-7:30, sports talk.**

**WPG, Atlantic City, N. J. (299.8), 1:30 p. m., Hotel Moroton music, J. Leonard Lewis, director; 4:30, Chalfonte Haddon Hall tea music; 6:45, request organ recital, Arthur Scott Brook; 7, Hotel Ambassador dinner music; 8:15, organ recital, Arthur Brook; Mildred Matthews, soprano; 9:15, Hotel Traymore concert orchestra; 10:15, Steeplechase Pier orchestra, Nick Nichols, director.**

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

**KYW, Chicago, Ill. (535.4), 2:35-4 p. m., afternoon frolic; 6:35-7, Uncle Bob's bedtime story; 7-7:30, Congress hotel dinner concert; 7:35-7:53, speeches, American Farm Bureau Federation; 8-8:20, reading, Rev. C. J. Pernin; 8:20-9:15, Katherine Johnson, soprano; Sallio Menkes, pianist; artists announced; 9:15, "Capable Cooks Circulate Cheer," John C. Cut-**

Upper left, lovely Anna Russo, will entertain with a group of Italian arias sung only as this charming daughter of Italy can, at WAHG before she sails for her sunny home country shortly. Right, Lena Milam, violinist for KFDK, is director of music in the Beaumont, Tex., schools.

ting; 10-11:30, evening at home program; Aerial Minstrels, H. A. "Shorty" Fall, and A. W. "Sen" Kanev.

**WBBM, Chicago, Ill. (226), 5:30-6 p. m., Kiddies' Joy-digger club; 8-9, Samovar orchestra; Charlie Garland, Nate Caldwell, Eddie Loftis, Jim Gleason; 9-10, Stewart-Warnor program; Alamo orchestra; Maria Margot, harpist; Lew Russell, Joseph Raleff, pianist; Earl Bergman, banjoist; 10-12, Samovar orchestra; staff artists, Hazel McBroom, contralto; Paul Small; Doris Ryan, pianist; Patsy O'Sullivan harpist.**

**WBZ, Springfield, Mass. (333.1), 6 p. m., Leo Rels-man's Hotel Lenox ensemble; 8, McEnelly's singing orchestra; 8:30, Percy Appleby, tenor; Ruth Appleby, accompanist; 9, Harold Cruinnier, fiddler.**

**WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.**

**WCX, Detroit, Mich. (517), 2 p. m., news and markets; 4:15, The Detroit Symphony trio; 6, dinner concert, Book-Cadillac hotel; 8, musical program.**

**WEAR, Cleveland, O. (389.4), 7-8 p. m., dinner-dance concert, Marjoria Moore and her Melody Mads; 8-9, R. T. L. program; 9-10, Chauncey Lea and his orchestra; 10-11, organ recital, Vincent H. Percy.**

**WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Orlole orchestra; Uptown theater; 9:30-10:30, Orlole orchestra; 11:30-1, Orlole orchestra; stories, Wayne Myers; Paul Small, Loos Brothers.**

**WGES, Oak Park, Ill. (250), 5-7 p. m., Katherine O'Brien, reader; Eleanor Kaplan, violinist; Margaret Samuelson, pianist; Joy Small, whistler; Lucille Engel, violinist; 10:30-11 p. m., Sun Dodgers orchestra; Dorothy Knox; Reynerton sisters; Phil Wilcox, Walter Kirsch, Ben Kanter, Lew Butler, Parls and Ward.**

**WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert, Blackstone string quintet; 6:30-7:30, Drake concert ensemble, Blackstone string quintet; 8:30-9:30, WGN string trio; 10:30-11:30, jazz scamper, Drake hotel dance orchestra.**

**WGY, Schenectady, N. Y. (379.5), 1 p. m., music; "Organization of Thought," Lola Gutman; 1:30, organ recital, Stephen E. Bolsclari; 5:30, dinner program, Hotel Ten Eyck; 6:35, book chat, W. F. Jacob; 6:45, WGY orchestra; Mary Findlay Ades, pianist; 7:30, U. S. hand program, WRC; 9, Royal hour of music, WJZ; 10:30, organ recital, Stephen Bolsclari.**

**WHT, Oerfeld, Ill. (400), 1 p. m., Gralling's etring trio; 7, Ruth Lyon, soprano; John Clark, baritone; Wilkens and Martens; Al Carney; 8:45, (238), River-view Park Melody Masters; 10:30, (400), U. S. L. Battery of entertainers; Walter Ford's Chaarlo orchestra; Howard Serehon, tenor; Gertrude Hugford, soprano; 12, Pat Barnes, Al Carney, Duke Rehl, Walter Ford.**

**WJR, Detroit, Mich. (517), 7 p. m., studio orchestra, Jean Goldkette's orchestra; 9, Jean Goldkette's serenaders.**

**WKRC, Cincinnati, Ohio (326), 10 p. m., Marlon McKay's Swiss Garden orchestra; 11, classical program.**

**WLW, Cincinnati, Ohio (422.3), 12:15 p. m., Mildred Prilge, organist; 4, piano recital, Adalida Apfel and pupils; 7, dinner concert, Hotel Gibson orchestra, Robert Viscontti, director; 10, three-minute message, Civil Service department, U. S. government; 10:03, Doharty Malady boys; 10:45, WLW concert orchestra, strings and reeds.**

**WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 8, lecture; 8:20, Boy Scout program; 8:35, musical program; 9:30, LaSalle dance orchestra.**

**WMBB, Chicago, Ill. (250), 7-8 p. m., Trlanon en-semble; 9-11, Trlanon orchestra; Dave Williams, Elsie White, Hallwalls; Harold Stokes, Woodlawn theater orchestra.**

**WOK, Homewood, Ill. (217.3), 12-2 p. m., August Bredeleer, tenor; Edythe England, violinist; Gus C. Edwards orchestra; Loloy North, pianist; George Irish, organist; 6-7, Helen Smith, soprano; William Bal-hatchet, tenor; George Irish, organist; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1, Sandy Meek, tenor; Harry Sosnik, pianist; Bill Bourke, Sonny Brown, harmony duo; Ned Becker, comedian; WII-**

### Wednesday, September 23

(Continued from page 15)

service, St. Andrew's Episcopal church, Rev. George Buzzelle, rector; 8, WFAF, Ipana Troubadours; 10, dance program, Wallie Erikson's Coliseum orchestra; 11:30, organ recital, Eddie Funstedter; 12:30-1:30 p. m., WFAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Fata's string trio; 6-7, School of the Air; address, Tell-Me-a-Story lady; Trlanon ensemble; 8-9:15, classical music, Star's string orchestra; solos; 11:45-1, Nighthawk frolic, Merry Old Chief; Plantation players; Ted Meyn, organist; Eddie Kubna's K. C. Athletic club orchestra.

**WHAO, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8, band concert; 11:30, Edmund Filch, organist.**

**WHAB, Louisville, Ky. (399.8), 1 p. m., musical selections, Harry S. Currier; 7:30-9, K. & I. Terminal Railroad orchestra.**

**WHO, Des Moines, Iowa (528), 6:30-7:30 p. m., Iteeve-Hughes orchestra; 7:30-9, Smith Sisters, Harmony girls; Harry Armigold, Robert Robertson, banjoists; Sam Goodhalter, Ben Jordan singing popular song hits; Homer Hinton, pianist; 9-10:30, Corn Sugar orchestra; Jimmie Fliz, director; 10:30-12, dance program.**

**WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m., army night.**

**WOC, Davenport, Iowa (483.6), 3-3:30 p. m., "Home Management," Aunt Jane; 1-4:15, musical program, artists, Manuoketa, Iowa; 5:45-6, chime concert; 6:30-6:50, Sandman, 8-9, Ipana Troubadours, WFAF; 9-10, Erwin Swindell, organist; Walter K. Voss, bass.**

**WOS, Jefferson City, Mo. (440.9), 8 p. m., musical program, Lincoln university.**

**Mountain Standard Time Stations**

**KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater orchestra; 9:30, Herbert White and his Silver State orchestra; 7:30, Book of Knowledge; 8, scientific foot-hall, Tom McNamara; 8:10, "Intimate Strangers," KOA player; 10, dance program.**

**Pacific Standard Time Stations**

**CHNC, Toronto Can. (356.7) 9 p. m., Charles B. Bodley and his orchestra Dwight Wilton baritone; Gerrard J. Kells, tenor**

**KFAC, Pullman, Wash. (348.0), 7:30-9 p. m., Vera Bolke, soprano; "Men and Organizations," Rev. Clay Palmer; "How a Smut Immune Wheat Variety Is Made," D. E. F. Gainer; book reviews, Alice Lindzey Webb.**



# P; 'BLACKSMITH SHOP' OVER WGR



In circle, smiling Nell Paxton, pipe organist with Crandall's Metropolitan symphony, often heard from WRC, Washington. At right is the unnamed leader of the Travelers Jonglurs, popular with the audience of WTIC at Hartford, Conn.



WHAS, Louisville, Ky. (399.8), 4 p. m., musical selections, Music Box; 7:30-8, Louisville Music and Radio company.

WHO, Des Moines, Iowa (528), 7:30-9 p. m., Bankers' Life trio, Helen Birmingham; 11-12, Bankers' Life Little Symphonic orchestra, Leon A. Dashoff, director.

WOAI, San Antonio, Texas (394.5), 8:30-9:30 p. m., singer hotel trio; 9:30-10:30, Jimmy's Joya dance music.

WOAW, Omaha, Nebr. (526), 8 p. m., popular program; 6:25, to be announced; 6:45, Randall's Royal Pontenelle orchestra; 9, concert, Omaha Radio Trade exposition.

WOC, Oaenport, Ia. (483.8), 3-3:30 p. m., "Home Management," Aunt Jane; 5:45-8, chimo concert; 8:30-9:30, sandman; 7-8, musical program, Atwater Kent Radio artists; WEAF; 8-9, musical program, "The Silvertown Cord Orchestra," WEAF; 11-12, LeClaire orchestra; Peter MacArthur, baritone.

Mountain Standard Time Stations

CNRC, Calgary, Can. (455.8), 7 p. m., bedtime story; 9, Hayden quartet; Albert Garner, tenor; Ben Skinner, tenor; vocal duet, Messrs. Skinner and Bothman.

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra.

Pacific Standard Time Stations

KFWB, Hollywood, Calif. (252), 7:40 p. m., "golf," Howard Beall; 7:50, Jack Roaz, fishing scout; 8-9, program, Starr Piano Company, Hollywood Rhythm Kings; Ina Mitchell Butler, soprano; Wm. Mays, pianist; 9-10, program, Don P. Smith, Inc., Diana-Moon dance orchestra; Dan Gridley, tenor; Richard twins, violin duets; 10-11, Warner brothers frolic, direction, Charlie Wellman.

KGO, Oakland, Calif. (361.2), 4-5:30 p. m., Hotel St. Francis concert orchestra; Vinton LaFerra conducting; 5:30-6:30, friend to boys, George W. Ludlow; 8, "The Fortune Hunter," four act comedy, KGO players; Arlon trio; 10-12, Ben Black's orchestra.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies hour, Dickie Brandon, screen juvenile, Uncle John; 7:45, "health talk," Dr. Phillip M. Lovell; 8-10, program, Young's Market Company, Nera Chlberg; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burnett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wur-litzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finsteln, leader; 7-8, program, John A. Evans Corporation; 8-9, program, Weber Baking Company; 9-10, program, Globe Ice Cream Company; 10-11, Ray West's Coconut Grove dance orchestra, Ambassador hotel.

KPO, San Francisco, Calif. (428.3), 12:30 p. m., organ recital, Theodore J. Irwin; 1, Rudy Selger's Fairmont hotel orchestra, Wm. Schwartzman conducting; 2:30, studio program; 3:30, Palace hotel concert orchestra, Cyrus Trobbe, director; 5:30, children's hour, Big Brother; 6:40, Waldemar Lind and States Restaurant orchestra; 7-7:30, Rudy Selger's Fairmont hotel orchestra, Wm. Schwartzman, conducting; 8-9, program, Caswell Coffee Company; 9-10, program, direction of Walter Wenzel; 10-11, Jack Coakley's Cablrians.

KTAB, Oakland, Calif. (215), 9-11 p. m., musical program.

Friday, September 25

Friday silent night for: CHNC, CKAC, CNRC, CNRM, CNRR, CNRW, KFMA, KGO, KLOS, PWCY, WBBR, WCBQ, WFI, WGBS, WHAZ, WIP, WKRC, WLW, WOR, WRC, WREO, WSAI, WSMB, WTAM.

Atlantic or Eastern Daylight Saving Time Stations

CNRA, Moncton, Can. (291), 8 p. m., Kiddies' time, Aunt Ida; 9, play, "Nothing But the Truth," St. Bernard's Institute Players, J. Edgar O'Brien, director; CNRA dance orchestra; Mrs. Irvine Malcolm, accompanist.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater program; 6:30, dinner concert, William Penn hotel; 8, address; 8:30, James Bridge's entertainers.

WCAU, Philadelphia, Pa. (277.8), 8 p. m., Albert Susman, violinist; Eddie Blum, pianist; 9, Robert Fraser, blind gospel singer; Mrs. Emma Becker, pianist; 9:30, Ronnie Cormack, songs; 10:30, Jack Myers Musical Architects dance orchestra.

WCTS, Worcester, Mass. (268), 7:15 p. m., Twinkle Twinkle story teller; 8, program announced.

WEAF, New York, N. Y. (491.5), 4-4:10 p. m., Minnie Well, pianist; 4:10-4:25, Hazel A. Dudley, soprano; 4:25-4:45, Minnie Well, pianist; 4:45-5, "The Dreadful Shark," Ida Mellen; 6-7, dinner music, Waldorf-Astoria; 7-7:30, Gene Ingraham's Great Notch Inn orchestra; 7:30-7:45, "Sir Hobgoblin and the Smile in the Sky," Blanche Elizabeth Wade; 7:45-8, Dorothy Chancellor Currey, pianist; 8-8:30, Happiness Candy boys; 8:30-9, Eagle Neutrodyne trio; 9-10, Spear and Company's home entertainers; 10-10:15,

WMAQ; 8:45, KDKA, KYW; 9, WEAR, WORD, WSAI; 10, KYW, WEAR, WKRC; 10:30, KDKA; 12:30, WHT.

Wednesday, September 23: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:15, WJJD; 6:30, WGN; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:15, WJJD; 7:30, WCX, WEBH, WHT; 8, KYW, WBZ, WCX, WTAM; 8:15, WBZ; 8:30, PWX, WBZ, WCX, WGN, WORD; 8:45, KDKA; 8:50, WBZ; 8:55, WMAQ; 10, WLW, WTAM; 11, WLW.

Thursday, September 24: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:15, WJJD; 6:30, WGN; 6:45, WGY; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ, WSAI, WWJ; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WTAM; 8:15, WHAZ; 8:30, WBZ, WCX, WHAZ; 8:45, KDKA; 9, WBZ, WKRC, WORD, WTAM; 9:15, WBZ, WHAZ; 10, WSAI, WTAM; 11, WLW; 12:30, WHT.

Friday, September 25: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WGY; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ, WWJ; 7:10, WTIC; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WEBH, WRC, WTIC; 7:45, KYW, WSAI; 8, KYW, WBZ, WCX, WEAR, WSAI; 8:10, WTIC, WREO; 8:30, WBZ, WCX, WGN,

Atlantic or Eastern Daylight Saving Time Stations

Saturday, September 19: 6, WEAF; 6:05, WIP; 6:30, WCAE; 6:45, WPG; 7, WEAF, WNYC; 7:30, CKAC, WEAF, WGBS; 7:35, WNYC; 7:45, WEAF; 8, WBBR, WEAF, WFI, WHAR, WIP, WMCA; 8:05, WEAF, WPG; 8:15, WNYC; 8:20, WEAF; 8:30, WCAE, WFI, WMCA; 8:40, WBBR; 8:45, WEAF, WGR; 8:50, WIP; 9, WMCA, WPG; 10:30, WEAF.

Sunday, September 20: 6, WOO; 6:30, WCAE; 7:20, WCAE, WCTS, WEAF, WEEL, WJAR; 8, WGBS, WGCP; 8:15, WEAF, WGCP, WLIT; 8:45, WJY; 9, WBBR, WHAR, WMCA; 9:15, WCTS, WEEL, WJAR; 9:30, WGCP; 10, WBBR, WIP; 11, WHAR.

Monday, September 21: 6, WEAF; 6:05, WIP; 6:30, WCAE; 7, WEAF; 7:30, WEEL, WOO; 7:45, WAHG, WEEL; 8, WAHG, WBBR, WCTS, WGCP, WHAR, WOO; 8:15, WEAF, WNYC; 8:30, CHNC, WAHG, WBBR, WEEL; 8:45, WEAF, WGCP, WOO; 9, WCAE, WEEL, WLIT, WMCA, WNYC, WOO; 9:15, WAHG; 9:30, WEAF; 9:40, WEAF, WOO; 10, WAHG, WEAF, WOO; 11, WHN.

Tuesday, September 22: 6, WEAF; 6:05, WIP; 6:30, WCAE, WGR; 7, CKAC, WEAF, WGR; 7:30, CKAC, WCAU, WEAF, WEEL, WJY; 8, WCAE, WCAU, WEEL, WGR, WIP, WJY; 8:15, WEBJ, WNYC; 8:30, WCAE, WEAF, WEBJ, WEEL, WFI, WGBS; 8:50, WIP; 9, WCAE, WCAU, WEAF, WEEL, WFI, WGBS, WGR, WJAR; 9:30, WGBS, WGR; 9:50, WIP; 10, WCAE, WEAF, WEEL, WFI, WGR, WMCA; 11, WHAR.

Wednesday, September 23: 6, WEAF, WGR; 6:05, WIP; 6:30, WCAE; 7:30, WEAF, WEEL, WOO; 7:45, WNYC; 8, WAHG, WCAU, WEAF, WEEL, WOO; 8:15, WAHG, WNYC; 8:30, WAHG, WEEL, WMCA; 8:45, WEBJ; 9, WCAE, WCTS, WEAF, WEEL, WGR, WMCA, WOO; 9:15, WEBJ; 9:45, WEBJ; 10, WGR, WOO; 10:40, WEAF, WEEL.

Thursday, September 24: 6, WEAF, WGCP; 6:05, WIP; 6:30, WCAE; 7, CKAC; 7:30, WCAU, WGBS, WEEL, WHAR, WOO; 8, WBBR, WCAU, WEAF, WEEL, WFI, WGR, WIP, WJAR; 8:15, WNYC; 8:30, WHAR; 8:40, WBBR; 8:50, WIP; 9, WCAE, WCAU, WEAF, WEEL, WFI, WGR, WMCA; 9:30, WGBS, WMCA; 10, WCAE, WCTS, WEAF, WGR, WEEL, WMCA.

Friday, September 25: 6, WEAF, 6:05, WIP; 6:30, CNRT, WCAE; 7:10, WNYC; 7:30, WCAU, WEBJ, WEEL; 7:45, WEAF, WNYC; 8, WEBJ, WEEL, WGCP, WGR, WHAR, WJAR, WOO; 8:15, WAHG, WNYC; 8:30, WAHG, WCAE, WEBJ, WEAF, WMCA, WOO; 9, WCAE, WEAF, WJAR, WMCA, WOO; 9:15, WEAF; 9:30, CNRT; 9:45, WGCP; 10, WEAF, WOO; 10:15, WNYC; 10:45, WHAR; 11, WHAR.

Eastern Standard or Central Daylight Saving Time Stations

Saturday, September 19: 6, KYW, WCX, WIBO, WGES, WMAQ, WTAM, 6:30, WGN; 6:45, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:15, WJJD; 7:25, WGY; 7:30, WRC; 7:35, KYW, WLW; 7:45, WLS; 8, WIR, WORD, WSAI, WTAM; 8:15, WSAI; 8:30, PWX, WGN; 8:45, KDKA; 9, WMAQ; 9:15, WSAI.

Sunday, September 20: 6, WCX, WGES; 6:30, WHT; 6:45, WORD; 7, WEAR, WEBH, WGY, WMBB; 7:45, WGY; 8, WBZ, WCX, WLS, WLW, WQJ; 8:15, WREO, WWJ; 8:30, WEBH; 8:45, WBZ; 9, WGBU, WGN, WGY, WQJ; 10, WGBU, WKRC.

Monday, September 21: 6, WBZ, WCX, WGES, WMAQ, WTAM, WWJ; 6:30, WGN; 6:55, WTIC; 7, WEAR, WHT, WJR, WLW; 7:15, WJJD; 7:20, WWJ; 7:30, WCX, WHT; 7:40, WGY; 8, WBZ, WCX, WTAM; 8:15, WHAZ; 8:30, WBZ, WCX, WHAZ; 8:45, KDKA; 9, WBZ, WKRC, WORD, WTAM; 9:15, WBZ, WHAZ; 10, WSAI, WTAM; 11, WLW; 12:30, WHT.

Tuesday, September 22: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WGY, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WMBB, WQJ, WWJ; 7:10, WTIC; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WEBH, WRC, WTIC; 7:45, KYW, WSAI; 8, KYW, WBZ, WCX, WEAR, WSAI; 8:10, WTIC, WREO; 8:30, WBZ, WCX, WGN,

Central Standard Time Stations

Saturday, September 19: 6, KFAB, WOAW; 6:15, WCCO; 6:30, WFAA, WSMB; 7:30, KFNE, WHAS; 8, WCCO, WSB; 8:30, WFAA, WHAS, WMC; 9, WOAW, WOC.

Sunday, September 20: 6, WAMD; 7:30, WHO; 8, KFDM, WCCD, WOS; 9, WAMD; 9:15, WCCO; 9:25, KTHS; 9:30, WOC; 10, KFVE; 10:30, WOC.

Monday, September 21: 6, KFAB, WOAW.

Tuesday, September 22: 6, KFAB, WHAD, WOAW; 6:05, WCCO; 6:25, WOAW; 6:30, WSMB; 7, KSD, WCCO, WOC; 7:30, KFAB, KFNE, WHAS, WHO; 8, KFDM, WOC; 8:30, WFAA, WHAS, WMC; 9, KFME, WOAW; 9:25, KTHS; 10, WOAW; 11, WFAA, WMC.

Wednesday, September 23: 6, KFAB, WHAD; 6:30, WHO, WOAW, WSMB; 7, KSD; 7:30, KFNE, KSD, WHAS, WHO; 8, WCCO, WDAF, WOS; 8:30, WHAS, WOAI; 9, WOC; 9:25, KTHS; 11:30, WCCO, WHAD.

Thursday, September 24: 6, WHAD; 6:30, WFAA, WOAW, WSMB; 7, WCCO, WOC; 7:30, KFNE, WHAS, WHO; 8, WCCO, WDAF, WOS; 8:30, WHAS, WOAI; 9, WOC; 9:25, KTHS; 10:45, VSB.

Friday, September 25: 6, KFAB, WHAD; 6:15, WCCO; 6:30, WFAA, WOAW, WSMB; 7, KSD; 7:30, KFNE, KSD, WHAS, WHO; 8, KFDM, KSD, WCCO, WOS, WSB; 8:30, KFXX, WFAA, WHAS, WHO, WMC; 9, KFDM, KFXX, WOAW, WOC; 9:05, WCCO; 9:25, KTHS; 10, KFXX.

Mountain Standard Time Stations

Monday, September 21: 6:30, KOA; 8, KOA.

Tuesday, September 22: 6:30, KOA; 7:30, KOA.

Wednesday, September 23: 6:30, KOA; 8, KOA.

Thursday, September 24: 6:30, KOA; 9, CNRC.

Friday, September 25: 6:30, KOA; 8, KOA; 8:30-10:30, CNRE.

Pacific Standard Time Stations

Saturday, September 19: 6, KFOA, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 7:30, KNX; 8:10, KGO; 8:15, KHJ.

Sunday, September 20: 6:30, KHJ; 6:35, KPO; 7, KHJ, KNX; 8, KHJ, KNX, KPO; 9, KHJ, KNX; 10, KNX.

Monday, September 21: 6, KFOA, KGO; 6:30, KNX; 6:45, KFOA; 7, KPO; 7:30, KNX; 8, KHJ; 10, KHJ.

Tuesday, September 22: 6, KFOA, KGO, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 8, KGO, KHJ; 8:30, KFOA; 9, KPO.

Wednesday, September 23: 6, KFOA, 8:30, KNX; 7, KNX; 8, KGO, KPO; 9, KPO.

Thursday, September 24, 6, KHJ; 6:30, KNX; 7, KNX; 8, KGO, KPO; 9, KPO.

Friday, September 25: 6, KFOA, KGO, KHJ; 6:15, KPO; 6:45, KFOA; 7:30, KFAE, KNX; 8, KHJ, KNX, KPO; 8:30, KFAE, 9, KPO.

(Continued on page 24)

## 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, September 19: 6, WEAF; 6:05, WIP; 6:30, WCAE; 6:45, WPG; 7, WEAF, WNYC; 7:30, CKAC, WEAF, WGBS; 7:35, WNYC; 7:45, WEAF; 8, WBBR, WEAF, WFI, WHAR, WIP, WMCA; 8:05, WEAF, WPG; 8:15, WNYC; 8:20, WEAF; 8:30, WCAE, WFI, WMCA; 8:40, WBBR; 8:45, WEAF, WGR; 8:50, WIP; 9, WMCA, WPG; 10:30, WEAF.

Sunday, September 20: 6, WOO; 6:30, WCAE; 7:20, WCAE, WCTS, WEAF, WEEL, WJAR; 8, WGBS, WGCP; 8:15, WEAF, WGCP, WLIT; 8:45, WJY; 9, WBBR, WHAR, WMCA; 9:15, WCTS, WEEL, WJAR; 9:30, WGCP; 10, WBBR, WIP; 11, WHAR.

Monday, September 21: 6, WEAF; 6:05, WIP; 6:30, WCAE; 7, WEAF; 7:30, WEEL, WOO; 7:45, WAHG, WEEL; 8, WAHG, WBBR, WCTS, WGCP, WHAR, WOO; 8:15, WEAF, WNYC; 8:30, CHNC, WAHG, WBBR, WEEL; 8:45, WEAF, WGCP, WOO; 9, WCAE, WEEL, WLIT, WMCA, WNYC, WOO; 9:15, WAHG; 9:30, WEAF; 9:40, WEAF, WOO; 10, WAHG, WEAF, WOO; 11, WHN.

Tuesday, September 22: 6, WEAF; 6:05, WIP; 6:30, WCAE, WGR; 7, CKAC, WEAF, WGR; 7:30, CKAC, WCAU, WEAF, WEEL, WJY; 8, WCAE, WCAU, WEEL, WGR, WIP, WJY; 8:15, WEBJ, WNYC; 8:30, WCAE, WEAF, WEBJ, WEEL, WFI, WGBS; 8:50, WIP; 9, WCAE, WCAU, WEAF, WEEL, WFI, WGBS, WGR, WJAR; 9:30, WGBS, WGR; 9:50, WIP; 10, WCAE, WEAF, WEEL, WFI, WGR, WMCA; 11, WHAR.

Wednesday, September 23: 6, WEAF, WGR; 6:05, WIP; 6:30, WCAE; 7:30, WEAF, WEEL, WOO; 7:45, WNYC; 8, WAHG, WCAU, WEAF, WEEL, WOO; 8:15, WAHG, WNYC; 8:30, WAHG, WEEL, WMCA; 8:45, WEBJ; 9, WCAE, WCTS, WEAF, WEEL, WGR, WMCA, WOO; 9:15, WEBJ; 9:45, WEBJ; 10, WGR, WOO; 10:40, WEAF, WEEL.

Thursday, September 24: 6, WEAF, WGCP; 6:05, WIP; 6:30, WCAE; 7, CKAC; 7:30, WCAU, WGBS, WEEL, WHAR, WOO; 8, WBBR, WCAU, WEAF, WEEL, WFI, WGR, WIP, WJAR; 8:15, WNYC; 8:30, WHAR; 8:40, WBBR; 8:50, WIP; 9, WCAE, WCAU, WEAF, WEEL, WFI, WGR, WMCA; 9:30, WGBS, WMCA; 10, WCAE, WCTS, WEAF, WGR, WEEL, WMCA.

Friday, September 25: 6, WEAF, 6:05, WIP; 6:30, CNRT, WCAE; 7:10, WNYC; 7:30, WCAU, WEBJ, WEEL; 7:45, WEAF, WNYC; 8, WEBJ, WEEL, WGCP, WGR, WHAR, WJAR, WOO; 8:15, WAHG, WNYC; 8:30, WAHG, WCAE, WEBJ, WEAF, WMCA, WOO; 9, WCAE, WEAF, WJAR, WMCA, WOO; 9:15, WEAF; 9:30, CNRT; 9:45, WGCP; 10, WEAF, WOO; 10:15, WNYC; 10:45, WHAR; 11, WHAR.

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

Saturday, September 19: 6, KYW, WCX, WIBO, WGES, WMAQ, WTAM, 6:30, WGN; 6:45, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WLW, WMBB, WQJ; 7:15, WJJD; 7:25, WGY; 7:30, WRC; 7:35, KYW, WLW; 7:45, WLS; 8, WIR, WORD, WSAI, WTAM; 8:15, WSAI; 8:30, PWX, WGN; 8:45, KDKA; 9, WMAQ; 9:15, WSAI.

Sunday, September 20: 6, WCX, WGES; 6:30, WHT; 6:45, WORD; 7, WEAR, WEBH, WGY, WMBB; 7:45, WGY; 8, WBZ, WCX, WLS, WLW, WQJ; 8:15, WREO, WWJ; 8:30, WEBH; 8:45, WBZ; 9, WGBU, WGN, WGY, WQJ; 10, WGBU, WKRC.

Monday, September 21: 6, WBZ, WCX, WGES, WMAQ, WTAM, WWJ; 6:30, WGN; 6:55, WTIC; 7, WEAR, WHT, WJR, WLW; 7:15, WJJD; 7:20, WWJ; 7:30, WCX, WHT; 7:40, WGY; 8, WBZ, WCX, WTAM; 8:15, WHAZ; 8:30, WBZ, WCX, WHAZ; 8:45, KDKA; 9, WBZ, WKRC, WORD, WTAM; 9:15, WBZ, WHAZ; 10, WSAI, WTAM; 11, WLW; 12:30, WHT.

Tuesday, September 22: 6, WBZ, WCX, WGES, WIBO, WMAQ, WTAM, WWJ; 6:30, WGN; 6:45, WGY, WJJD; 7, KYW, WEAR, WHT, WIBO, WJR, WMBB, WQJ, WWJ; 7:10, WTIC; 7:15, WJJD; 7:25, WGY; 7:30, WBZ, WCX, WEBH, WRC, WTIC; 7:45, KYW, WSAI; 8, KYW, WBZ, WCX, WEAR, WSAI; 8:10, WTIC, WREO; 8:30, WBZ, WCX, WGN,



STATIONS IN ORDER OF WAVE LENGTHS USED

Table with 6 columns: Meters Call, Meters Call, Meters Call, Meters Call, Meters Call, Meters Call. Lists various radio stations and their corresponding wave lengths.

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 in three different standard times; Eastern, Central and Pacific. Two of these are presented each week. Listeners using one of the three kinds of time named, should utilize the table printed in that time and so designated by its headline.

TO HEAR EUROPE SOON

(Continued from page 1) It was to have been opened on September 1. So powerful is the new station that, it is believed, the reception of distant programs will not be badly interfered with by static except on the worst of nights.

"The vast population from the Gulf of Mexico on the south to the Canadian provinces on the north as well as the region between the Atlantic ocean on the

east to the Rock Mountains on the west, will be distinctly benefited by the mid-continent chain, as our stations are so located as to insure excellent reception for all sections." The new mid-continent chain is already functioning. A number of national advertisers have been secured.



I S L O D Y N E

at the New York Radio Show



Only Use Six Tubes At the new B. B. C. station there will be one linking-up receiver for use in connection with broadcasts from the wave band of from 300 to 500 meters, and another for shorter bands for long distance reception, the direction finding apparatus being installed for checking interference and providing stations with their proper calibration.

NEW MIDWEST CHAIN

(Continued from page 1) The stations comprising the chain are KSD, the St. Louis Post-Dispatch; WBAP, the Fort Worth Star-Telegram; WHAS, the Louisville Courier-Journal and the Louisville Times; WDAF, the Kansas City Star; WJR, the Jewett Radio and Phonograph company, associated with the Detroit Free Press; and WHT, operated by the Radiophone Broadcasting corporation, Chicago.

One set—Thorola Islodyne—will have a reason for every claim. Thorola Islodyne selectivity will be positive even in the New York congested area because Thorola Low-Loss Doughnut Coils do not pick-up, inter-couple, or promote wasteful feedback. Thorola Islodyne range and volume will be overwhelming because only Thorola Low-Loss Doughnut Coils permit the Isolated Power principle of concentrating full strength on the selected station alone. Thorola uniformity—similar results from all Thorola receivers—will be shown to avoid disappointment for buyers and embarrassment for dealers—because the factors of reception are made measurable by Thorola Islodyne action. And Thorola Islodyne tone will be the tone to be expected of the creators of Thorola Loud Speakers!

REICHMANN COMPANY, CHICAGO

See the new line of Thorola Speakers with the self-harmonizer and other betterments; and with the Bakelite horn that is the largest Bakelite form in production. The golden throat-band identifies Thorola Loud Speakers.

ALSO ON DISPLAY: Thorola Low-Loss Straight Line Frequency Condensers, and Thorola Low-Loss Doughnut Coils, sold in sets of three and individually.

PRICES: 5-tube Thorola Islodyne in Walnut \$115—in Thorocco \$85. Thorola 4 Speaker \$25—Thorola Jr. \$15—Thorola Low-Loss Doughnut Coils, complete set of 3, \$12—per coil \$4. Thorola Low-Loss Straight Line Frequency Condensers \$5.50 and \$6.

AT THE SHOW — GET A DOUGHNUT

# An Evening at Home with the Listener In

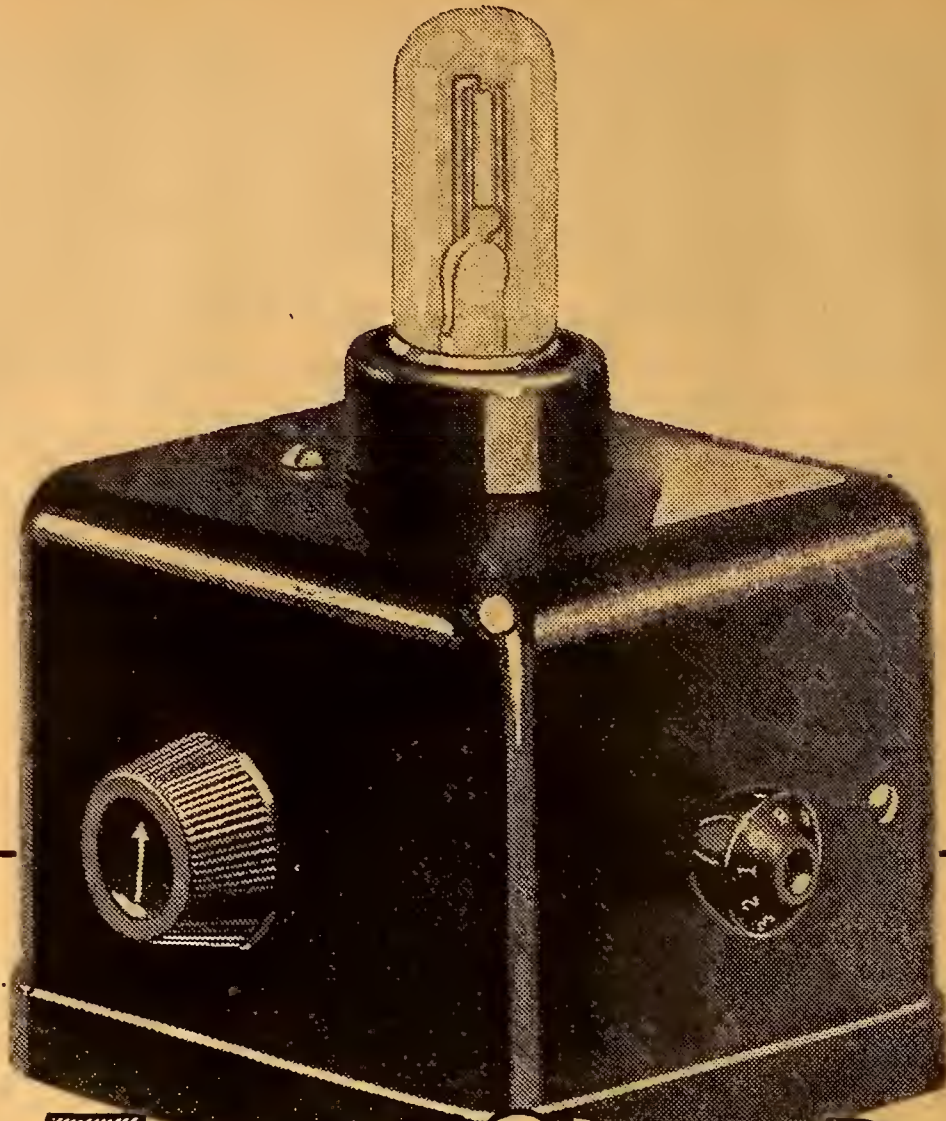
(FOR CENTRAL TIME)

(Tabular form and listings copy-righted. Reproduction is forbidden.)

(FOR PACIFIC TIME)

Call	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	
AT9	Silent	5:00-6:00	Silent	Silent	Silent	7:00-8:55	Silent	AT9	Fort Bragg, N. C.	435	Silent	3:00-4:00	Silent	Silent	Silent	5:00-7:55	Silent	AT9	
CFCA	Silent	8:00-7:00	Silent	Silent	7:15-8:15	7:15-8:15	Silent	CFCA	Toronto, Ont.	358.9	Silent	4:00-5:00	Silent	5:15-6:15	5:15-6:15	6:15-6:15	Silent	CFCA	
CFCN	11:00-1:00	Silent	Silent	Silent	Silent	9:00-10:00	Silent	CFCN	Calgary, Alta.	434.5	9:00-11:00	Silent	Silent	Silent	Silent	7:00-8:00	Silent	CFCN	
CHNC	Silent	Silent	6:00-7:00	Silent	Silent	7:00-8:00	Silent	CHNC	Toronto, Ont.	358.9	Silent	Silent	4:00-5:00	Silent	Silent	5:00-6:00	Silent	CHNC	
CJCA	10:00-12:00	6:30-9:30	8:30-10:30	8:30-9:00	7:00-9:00	10:00-12:00	0:00-12:00	CJCA	Edmonton, Can.	516.9	8:00-10:00	8:30-7:30	8:30-6:00	6:30-7:00	5:00-7:00	8:00-10:00	7:00-11:00	CJCA	
CKAC	5:30-9:00	Silent	Silent	5:30-9:00	Silent	8:30-9:00	Silent	CKAC	Montreal, Que.	410.7	3:30-7:00	Silent	Silent	3:30-7:00	Silent	3:00-7:00	Silent	CKAC	
CKY	8:30-8:15	7:00-9:45	Silent	8:30-10:45	Silent	8:00-9:00	8:30-9:45	CKY	Winnipeg, Man.	364.4	4:30-8:15	5:00-7:45	Silent	6:30-8:45	Silent	8:00-7:00	6:30-7:45	CKY	
CNRD	6:30-11:30	Silent	Silent	6:30-11:30	Silent	6:30-11:30	Silent	CNRD	Dttawa, Ont.	434.5	4:30-9:00	Silent	Silent	Silent	4:30-9:30	Silent	Silent	CNRD	
CYB	10:30-11:45	Silent	Silent	9:15-10:15	Silent	Silent	Silent	CYB	Mexico City, Mex.	370	6:30-9:45	Silent	Silent	Silent	Silent	Silent	Silent	CYB	
CYL	Silent	8:00-9:30	Silent	6:00-9:30	Silent	Silent	6:00-9:30	CYL	Mexico City, Mex.	480	Silent	8:00-7:30	Silent	Silent	Silent	Silent	8:00-7:30	CYL	
CYX	Silent	Silent	9:15-10:30	Silent	Silent	Silent	0:15-10:45	CYX	Mexico City, Mex.	330	Silent	Silent	7:15-8:30	Silent	Silent	Silent	7:15-8:45	CYX	
KDKA	7:45-6:55	6:00-7:00	7:45-8:55	7:45-10:30	5:30-10:30	7:00-10:30	7:45-8:55	KDKA	Pittsburgh, Pa.	309.1	5:45-8:55	4:00-5:00	5:45-8:55	5:45-8:30	5:45-8:55	5:00-6:30	5:45-8:55	KDKA	
KFAB	5:30-8:30	4:00-6:00	6:30-10:30	6:00-12:00	5:30-10:30	Silent	5:30-10:30	KFAB	Lincoln, Nebr.	340.7	3:30-4:30	2:00-3:00	3:30-6:30	3:30-6:30	3:30-6:30	Silent	3:30-8:30	KFAB	
KFAE	Silent	Silent	0:30-11:00	Silent	9:30-11:00	Silent	9:30-11:00	KFAE	Pullman, Wash.	348.6	Silent	Silent	7:30-9:00	Silent	7:30-9:00	Silent	7:30-9:00	KFAE	
KFDM	Silent	8:00-9:00	Silent	8:00-10:30	Silent	Silent	8:00-10:30	KFDM	Beaumont, Texas	315.6	Silent	6:00-7:00	Silent	8:00-8:00	Silent	Silent	6:00-8:00	KFDM	
KFI	8:45-2:00	6:00-1:00	6:15-1:00	8:45-1:00	8:45-1:00	8:45-1:00	8:45-1:00	KFI	Los Angeles, Calif.	467	6:45-12:00	4:00-11:00	8:45-11:00	8:45-11:00	8:45-11:00	6:45-11:00	8:45-11:00	KFI	
KFKX	Silent	Silent	0:00-11:00	Silent	Silent	Silent	0:00-11:00	KFKX	Haystack, Nebr.	268.3	Silent	Silent	7:00-9:00	Silent	Silent	Silent	7:00-9:00	KFKX	
KFMQ	Silent	Silent	Silent	9:00-10:00	7:30-8:30	Silent	Silent	KFMQ	Fayetteville, Ark.	299.8	Silent	Silent	Silent	7:00-8:00	5:30-6:30	Silent	Silent	KFMQ	
KFNH	7:30-9:30	6:30-9:15	7:30-9:30	7:30-9:30	7:30-9:30	7:30-9:30	7:30-9:30	KFNH	Bhenandoah, Va.	286	5:30-7:30	4:30-7:15	5:30-7:30	5:30-7:30	5:30-7:30	5:30-7:30	5:30-7:30	KFNH	
KFOA	8:00-1:30	Silent	6:00-12:00	6:00-12:00	6:00-12:00	6:00-12:00	6:00-12:00	KFOA	Seattle, Wash.	454.3	6:00-11:30	Silent	8:00-10:00	8:00-10:00	8:00-10:00	Silent	6:00-11:30	KFOA	
KFUD	Silent	8:15-9:15	6:00-9:00	Silent	9:15-10:15	Silent	Silent	KFUD	St. Louis, Mo.	545.1	Silent	6:15-7:15	6:00-7:00	Silent	7:15-8:15	Silent	Silent	KFUD	
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	University City, Mo.	240	6:00-10:00	Silent	6:00-10:00	6:00-10:00	6:00-10:00	Silent	6:00-10:00	KFVE	
KFWA	Silent	Silent	10:00-11:00	Silent	10:00-12:00	Silent	10:00-12:00	KFWA	Dgden, Utah	261	Silent	Silent	6:00-9:00	Silent	8:00-10:00	Silent	8:00-10:00	KFWA	
KFWB	10:00-1:00	11:00-1:00	0:00-1:00	9:00-1:00	0:00-1:00	0:30-1:00	10:00-1:00	KFWB	Hollywood, Calif.	252	6:00-11:00	9:00-11:00	7:00-11:00	7:00-11:00	7:00-11:00	7:00-11:00	7:00-11:00	KFWB	
KGO	10:00-2:00	5:30-11:00	10:00-12:00	10:00-12:00	8:00-9:00	10:00-2:00	8:00-9:00	KGO	Oakland, Calif.	381.2	6:00-12:00	3:30-9:00	8:00-10:00	8:00-10:00	8:00-10:00	6:00-7:00	6:00-12:00	KGO	
KDW	8:00-10:00	9:45-11:00	8:00-9:00	0:45-2:00	11:00-1:00	0:45-2:00	11:00-12:30	KDW	Portland, Ore.	491.5	6:00-8:00	7:45-9:00	8:00-7:00	7:45-12:00	9:00-11:00	7:45-12:00	9:00-10:30	KDW	
KHJ	7:30-4:00	8:00-12:00	8:00-12:00	7:30-1:00	7:30-1:00	7:30-1:00	7:30-1:00	KHJ	Los Angeles, Calif.	405.2	5:00-2:00	8:00-10:00	6:00-10:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:30	KHJ	
KIAF	Silent	4:00-5:00	9:00-10:00	Silent	0:00-10:00	Silent	9:00-10:00	KIAF	Sihlhook, Minn.	421	Silent	2:00-3:00	7:00-8:00	Silent	7:00-6:00	Silent	7:00-8:00	KIAF	
KJR	10:30-12:00	9:15-11:00	9:00-1:00	10:30-12:00	9:00-12:00	10:30-2:00	10:30-1:00	KJR	Seattle, Wash.	384.4	Silent	7:00-8:00	7:00-11:00	Silent	7:00-10:00	6:30-12:00	6:30-11:00	KJR	
KJS	Silent	9:15-11:30	Silent	10:00-11:00	Silent	10:00-11:00	Silent	KJS	Los Angeles, Calif.	293.9	Silent	7:15-9:00	Silent	6:00-9:00	Silent	6:00-9:00	Silent	KJS	
KLDS	Silent	6:30-10:00	Silent	8:00-9:00	Silent	6:00-9:00	Silent	KLDS	Independence, Mo.	440.9	Silent	4:30-6:00	Silent	6:00-7:00	Silent	8:00-7:00	Silent	KLDS	
KLX	Silent	Silent	8:00-1:00	Silent	8:00-1:30	Silent	8:00-12:30	KLX	Oakland, Calif.	508.2	Silent	Silent	8:00-11:00	Silent	6:00-11:30	Silent	8:00-10:30	KLX	
KNX	7:30-4:00	9:00-12:30	8:30-2:00	8:30-2:00	7:30-1:00	7:30-1:00	7:30-2:00	KNX	Hollywood, Calif.	336.9	5:30-2:00	7:00-10:30	8:30-12:00	6:30-12:00	5:30-11:00	5:30-11:00	5:30-12:00	KNX	
KOA	9:00-12:00	5:00-10:00	7:30-10:00	7:30-10:00	7:30-10:00	7:30-8:30	7:30-8:30	KOA	Denver, Colo.	322.4	7:00-10:00	8:00-8:00	8:30-8:00	5:30-7:30	5:30-10:00	5:30-8:30	5:30-6:00	KOA	
KDIL	7:30-12:00	7:30-9:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	KDIL	Council Bluffs, Ia.	276	5:30-11:00	5:30-7:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	5:30-11:00	KDIL	
KPD	6:35-2:00	6:30-12:00	8:30-1:00	6:30-1:00	8:30-1:00	8:30-1:00	9:00-1:00	KPD	San Francisco, Calif.	426.3	6:35-12:00	6:30-10:00	6:30-11:00	8:30-11:00	6:30-11:00	6:30-11:00	7:00-11:00	KPD	
KPRC	7:30-10:00	6:00-9:00	7:30-10:30	7:30-10:00	7:30-10:00	7:30-10:00	7:30-10:00	KPRC	Houston, Texas	298.0	5:30-8:00	6:00-7:00	5:30-6:00	5:30-6:00	5:30-6:00	5:30-6:00	5:30-6:00	KPRC	
KSD	7:00-8:00	Silent	9:00-10:00	7:00-8:00	7:00-8:00	Silent	7:00-8:00	KSD	St. Louis, Mo.	545.1	5:00-6:00	Silent	7:00-8:00	5:00-6:00	5:00-6:00	Silent	5:00-7:00	KSD	
KSL	9:00-12:00	10:00-12:00	9:00-12:00	10:00-12:00	9:00-12:00	9:00-12:00	10:00-12:00	KSL	Salt Lake City, Utah	299.6	7:00-10:00	6:00-10:00	7:00-10:00	6:00-10:00	7:00-10:00	7:00-10:00	8:00-10:00	KSL	
KTAB	Silent	5:30-10:15	10:00-11:00	10:00-12:00	11:00-1:00	11:00-1:00	10:00-12:00	KTAB	Oakland, Calif.	215	Silent	3:30-6:45	6:00-9:00	8:00-10:00	9:00-10:00	9:00-11:00	8:00-10:00	8:00-10:00	KTAB
KTCL	6:50-2:00	9:50-12:10	Silent	9:00-10:00	Silent	Silent	0:00-2:00	KTCL	Seattle, Wash.	305.9	6:50-12:00	7:50-10:10	Silent	7:00-6:00	Silent	7:00-12:00	Silent	KTCL	
KTHB	9:25-11:00	9:25-11:00	9:25-10:45	9:25-10:45	9:25-10:45	9:25-10:45	9:25-11:00	KTHB	Hot Springs, Ark.	374.6	7:25-9:00	7:25-9:00	7:25-6:45	7:25-8:45	7:25-8:45	7:25-6:45	7:25-9:00	KTHB	
KTW	Silent	9:00-11:30	Silent	Silent	Silent	Silent	Silent	KTW	Seattle, Wash.	455	Silent	7:00-9:30	Silent	Silent	Silent	Silent	Silent	KTW	
KWKH	9:00-12:00	Silent	10:00-3:00	0:00-12:00	Silent	6:00-9:00	Silent	KWKH	Sireveport, La.	261	7:00-10:00	Silent	8:00-1:00	7:00-10:00	Silent	6:00-7:00	Silent	KWKH	
KYW	6:00-9:00	3:00-4:00	6:00-10:00	6:00-10:30	6:00-12:30	6:00-10:30	6:00-12:30	KYW	Chicago, Ill.	535.4	5:00-6:00	1:00-2:00	Silent	4:00-6:30	4:00-6:30	4:00-6:30	4:00-10:30	KYW	
NAA	Silent	Silent	6:45-7:00	6:45-7:00	6:45-7:40	6:45-7:40	6:45-7:40	NAA	Radio, Va.	434.5	Silent	Silent	4:45-5:00	4:45-5:00	4:45-5:00	4:45-5:00	4:45-5:00	NAA	
PWX	7:30-10:00	Silent	Silent	Silent	7:30-10:00	Silent	Silent	PWX	Havana, Cuba	400	5:30-6:00	Silent	Silent	Silent	Silent	Silent	Silent	PWX	
WAHD	10:00-12:00	Silent	6:00-12:00	Silent	5:30-10:00	Silent	6:00-9:00	WAHD	Richmond, N. Y.	315.6	6:00-10:00	Silent	4:00-10:00	Silent	3:30-6:00	Silent	4:00-7:00	WAHD	
WAMD	10:00-11:00	2:00-10:00	Silent	10:00-11:00	10:00-11:30	10:00-11:30	10:00-11:00	WAMD	Minneapolis, Minn.	243.8	6:00-9:00	12:00-8:00	Silent	6:00-9:00	6:00-9:00	6:00-9:00	6:00-9:00	6:00-9:00	WAMD
WBAP	7:00-8:00	11:00-12:00	7:30-12:00	7:30-10:45	7:30-10:45	7:30-10:45	7:30-10:45	WBAP	Fort Worth, Tex.	475.9	5:00-6:00	9:00-10:00	5:30-10:00	5:30-6:45	5:30-6:45	5:30-6:45	5:30-6:45	5:30-6:45	WBAP
WBAR	Silent	10:00-11:00	9:00-10:00	Silent	6:00-9:00	7:30-6:30	Silent	WBAR	Sihlhook, Wis.	406	Silent	6:00-9:00	7:00-6:00	Silent	6:00-7:00	Silent	Silent	WBAR	
WBAV	Silent	Silent	7:00-9:00	Silent	Silent	Silent	7:00-9:00	WBAV	Columbus, O.	293.9	Silent	5:00-7:00	Silent	Silent	Silent	Silent	5:00-6:00	WBAV	
WBBM	7:00-1:00	3:00-1:00	Silent																

# Startling! Revolutionary! These



Crosley is the world's largest builder of radio sets and has built up a tremendous volume by offering the highest quality receiving sets at the lowest prices. More than a million satisfied users is the strongest testimonial of Crosley quality, simplicity, durability and value.

**\$1000  
Grand Prize!**  
*Pedigreed Puppies  
and Larger Crosley  
Radios as Monthly  
Awards*

Who will send Crosley the best verified report of reception with a one-tube radio between September 1st and March 1st of next year?

Who will send the best report each month?

\$1000 prize for the best report for the entire period. A real live pedigreed puppy each month as first monthly prize and larger Crosley radio sets as other prizes.

In case of tie, identical prizes with that tied for, will be awarded each tying contestant. Contest open to all, except Crosley employees, no matter where you are or what set you own or use, factory or home built. Reports of reception must be verified. Judges may ask for affidavits.

Full details of the contest and entry cards are packed with each Crosley Pup or may be obtained from any Crosley dealer or upon application to The Crosley Radio Corporation, Cincinnati, Ohio. Try for the prizes as many times and as often as you like.

Remember! The Crosley "Pup" is offered as a real selective, long range receiving set. It requires one dry cell, one B battery block, one WD-12 tube, a pair of head phones and antenna. Other similar one-tube Crosley receivers bring in stations from coast to coast, with frequent reports of trans-Atlantic reception in the United States.

## The CROSLLEY Pup

**A Genuine Armstrong Regenerative Double  
Circuit Receiver**



Radio, with all its romance, knows no more magic name than Crosley.

From the time that Powel Crosley, Jr., first enabled millions to build their own sets by offering parts at a fraction of existing prices—down to the present day, radio progress and Crosley achievements have gone hand in hand. Now Crosley announces not only vital improvements in radio performance—but in the Crosley "PUP" offers this finer performance at the lowest price in radio history.

This compact, efficient receiver is a development of the famous Crosley one tube set, with which Leonard Weeks, of Minot, N. D., heard the Mac-Millan Polar expedition while the rest of America listened in vain.

The employment of the double circuit not only reduces radiation to a minimum, but radically improves selectivity. It can be tuned through local stations more readily. Under average conditions, its radius, with head phones, is 1500 miles or more.

You can use the "PUP" to check the performance of your larger set; to entertain the youngster whose curious fingers cannot resist the lure of dials and switches; to install in the maid's room, or even in your office—for the air is full each day. You can take it on canoe trips, picnics, outings, and on your business journeys—for it's only half the size of a shoe box.

Engineered and built to the strictest standards of Crosley quality, this genuine long distance set can be offered at the phenomenal price of \$9.75 only because of its simplicity and Crosley's tremendous manufacturing facilities.

**\$9.75**  
WITHOUT ACCESSORIES

ADD 10% TO ALL PRICES WEST OF ROCKY MOUNTAINS

Crosley manufactures receiving sets which are licensed under Armstrong U. S. Patent No. 1,113,119 and priced from \$9.75 to \$60.00 without accessories.

Crosley owns and operates WLW first remote control super-power broadcasting station

# CROSLLEY

THE CROSLLEY RADIO CORPORATION  
CINCINNATI

# new developments of Powel Crosley, Jr.

## 3 Tubes Do the Work of 5 in These New SUPER-TRIRDYNS!

You have not heard the perfection of radio reception until you have listened to these two new Super-Trirdyns. There is no radiation. Distant stations come in clear and sharp on the loud speaker and can be accurately logged. Solid mahogany cabinets of exquisite beauty and design.

### DE LUXE COMBINATION

At the extreme right sketched in outline is the new Super-Trirdyn Special De Luxe Combination. It consists of a handsome solid mahogany table, the Super-Trirdyn Special (batteries self contained) and the Musicone De Luxe. Sold separately if desired. Table \$25. Musicone \$27.50. Combination \$112.50.

### Other CROSLY RADIOS for Every Pocketbook

In the Crosley one-tube sets, one tube does the work of three, making possible the enjoyment of real long distance reception with dry batteries. Model 50, without accessories, \$14.50. Model 50 Portable, without accessories, \$16.00.

More than 150,000 Crosley two-tube 51's have been made and SOLD in less than two years. Local and nearby stations on loud speaker always and distance up to 1500 miles

under average conditions. Model 51, without accessories, \$18.50. Model 51 Portable, without accessories, \$23.50.

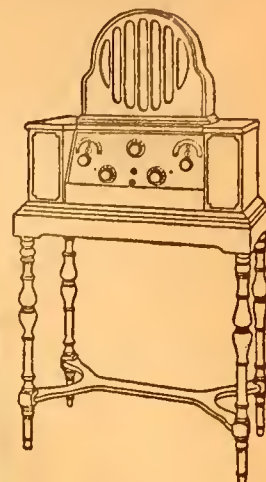
The Crosley three-tube sets embody the Armstrong regenerative circuit and two stages of audio frequency amplification. Distant stations come in on the Musicone with exceptional clearness and volume. Model 52, without accessories, \$27.50. Model 52 Portable, without accessories, \$32.50.

### BETTER PERFORMANCE—BIGGER VALUES

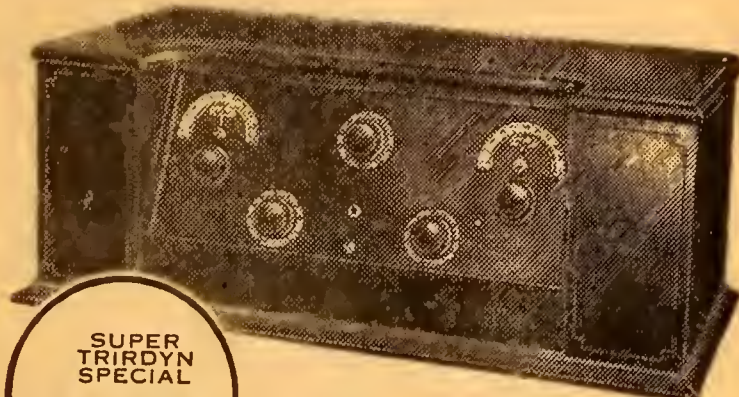
The new low-priced models shown below represent radical improvements in selectivity, performance, appearance and value. More selective control and improved receptivity have been achieved by the use of the new worm type tickler, the new

Crosley vernier plate condenser and the double circuit. Radiation is thus reduced to a minimum. Both are genuine Armstrong regenerative circuits, the 51 with one stage of audio frequency amplification; the 52 with two.

SUPER TRIRDYN REGULAR \$50



SUPER TRIRDYN SPECIAL \$60

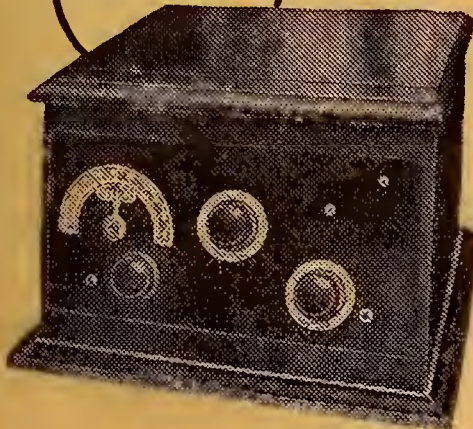



**Crosley Musicones**  
Rapidly Replacing Other Types of Loud Speakers

The Crosley Musicone reproduces the full tonal range of the human voice and music without distortion, overtones, or chattering. It requires no adjustments nor additional batteries. Listen to the Crosley Musicone once—and you will never be satisfied with the best loud speaker you have ever heard. Covered by basic patents ..... **\$1750**

**The Musicone De Luxe**  
The Musicone has been artistically combined with a clock case of beautiful mahogany with a grilled screen. Price of Musicone De Luxe ..... **\$27.50**

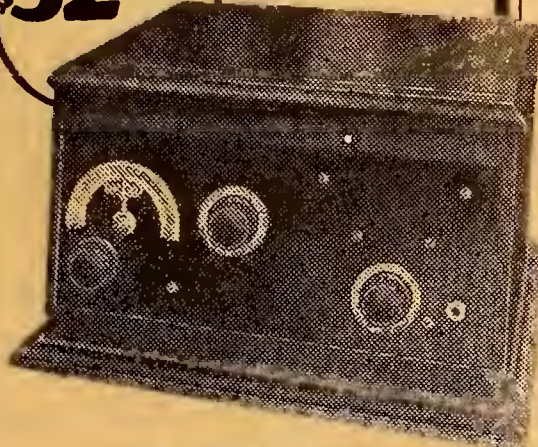
\$23.50



New 2-Tube 51 Special De Luxe

Beautifully finished mahogany cabinet—sloping panel, new style controls—engraved metal dials—cabinet will hold all necessary dry cell batteries. Priced without accessories.

\$32.50



New 3-Tube 52 Special De Luxe

Exquisitely finished mahogany cabinet of latest design. Popular sloping panel, new style controls and art metal dials. Cabinet will hold all necessary dry cell batteries. Priced without accessories.

# RADIO

THE CROSLY RADIO CORPORATION  
CINCINNATI

See the Crosley line at your dealers or write for full descriptive catalog

# Radio Digest Illustrated

Published by the Radio Digest Publishing Company, Inc.  
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Vol. XIV Saturday, September 19, 1925 No. 11

## Proper Toll Advertising

WE ARE rapidly approaching the era of "magazine" broadcasters. In fact, already a number of stations of the toll class may be called magazines of the air.

These magazines, like their kin of ink and paper, have "reader" interest dependent upon the nature of toll and regular programs broadcast. If the regular programs, the "reading matter," are risqué or bore-some, or if the toll programs, the "advertisements," are shoddy or brazen, the "magazine" or toll station is soon known for its low standard by its "readers," the listeners.

Proper toll advertising programs are the salvation of American Radio broadcasting. The better a station succeeds with following out high standards in its "publishing," the longer that station will survive, the greater its "circulation" or audience will be, and the more revenue it will yield for itself and its advertising clients.

Notably successful in holding to high standards are WEAJ and WHT, the one in New York, the other in Chicago. KHJ, Los Angeles, and KFWB and KNX, of Hollywood, Calif., also are of high quality.

The toll station must be of high quality to survive. Everything it radiates must be of the best, and its advertising hints, if we may go so far as to even suggest hints, must be of the most indirect and subtle nature. Survival of the fittest is already playing its part—even in the toll station field.

A good toll station—mark WEAJ or WHT—if not harassed by its advertising clients who may think they know how to advertise on the air but sadly don't, is one of the best "buys" for the national (and sometimes local) advertiser.

Will the "magazine" broadcaster be the ultimate type of station in this country? We are destined to believe so. Few organizations are capable of keeping step with the fast progressing demands of newer and better equipment; with the fast progressing taste of the listening public who demand the best, and will accept no substitutes. We are going to predict, regardless of the criticism that may arise, that ninety per cent of the watts output, in other words power, of all American broadcasters combined, will be radiated by "magazine" stations within the next five years—or less.

## Mr. McNamee Wins

"GOOD evening, ladies and gentlemen of the Radio audience," says Graham McNamee, Gold Cup Award announcer for 1925. Good evening, Graham. We are happy to know that you have received the signal honor of announcerdom. You won it—fairly and squarely. You have much in your make-up that other announcers, aye, even Radio artists, would do well to pattern after.

Your voice is always so clear and distinct, well modulated and pleasing. Your enunciation is careful and your pronunciation proper. You do not bore your audience with tiresome buncombe. Your descriptions of scenes of action being microphoned are often more vivid and complete than caught by our own eyes.

We have missed your satisfying voice-personality during your absence from the studio. Seldom do we have occasion to say that we miss artists or announcers when they, through illness or other emergencies, are unable to broadcast.

May you continue to do as well in the future as you have in the past, and may we always wait with that fond expectancy for the programs we know you are going to announce.

## Let's Adopt Piezo Crystals

PIEZO crystals, so the Westinghouse company after thorough research proclaims, will end ninety per cent of present interstation interference. The magic crystal has the power to hold transmitting stations to their exact assigned wave lengths.

Why not then make it mandatory that every broadcaster be equipped with this device? Why not have the bureau of standards calibrate each crystal and charge the cost of the crystal and calibration to the broadcaster when the license to broadcast is issued?

## RADIO INDI-GEST

### To Li'l Oscar (My Radio Partner)

Li'l Oscar is so temperamental!  
Li'l Oscar can be mean;  
Sometimes I think  
Little devils dance an infernal May-pole dance  
About his sound-post—  
Then he squeaks and scratches.

But Li'l Oscar can sing—and you will sob;  
He can make you think  
You tread on azure mists where time is not—  
Sublimated passion . . . . . ecstasy of hope!

Li'l Oscar is so temperamental!  
But I love him!  
Li'l Oscar, my violin! POLLY WOGG.

We got a thrill when we heard Polly Wogg raving about Li'l Oscar, her Radio partner in her weekly act over WBCN, because we thought she meant our Swedish friend who appeared in this column last week. Now we learn that she refers to a fiddle. Oh, well, these Radio stars are toodling temperamental anyway!

### . . . . . and . . . . .

Indi Dear:—I have always wanted to learn the code but I never could get interested in dots and dashes. However, I have just got a new girl named Dorothy, and hence, I am very much interested in "Dots" now. Here is where you come in. Can you suggest something that would make me think of dashes? If so, perhaps I could learn the code. HI AMPER.

P. S.—Never mind. A sudden desire has come over me to be able to make good dashes on short notice. Her father has fixed that. Thanx just the same. H. A.

We learned the code a similar way. Her name was Dot too, and we learned the letter A first by making a dash after Dot.

## Song of the Bootleg Tube

(To Queen DX)

"Oh, how I miss you to-night."

### Suggestion to Directors

Dear Indi:—Why doesn't some program director be original and make his listeners imagine they are on an airship, or a boat, or a limited train, name the—(insert station call here)—and take them all over the country stopping at the cities from which he receives telegrams complimenting the station. CAP.

And now we approach fall, the time of the year when bugs with sets to show off to friends begin cussing the single circuit tuners in the neighborhood and blaming them for poor reception just as they blamed the static during the summer. Later on in the winter the favorite alibi will be cracked insulators filled with ice short circuiting the aerial which has probably been torn down during the last sleet storm.

### Did You Know That:

1. There are very few Radio sets on the Kamchatka peninsula?
2. That they never heard of static on the Island of Mindanao until some American landed there with a Radio set?
3. That the buzz of bumble bees has no effect on oscillating tubes?
4. That John Jones of Centerville built an aerial exactly 99 and 99/100 feet long?
5. This list does not mean anything?

## Almost as Tough as the Steak

Dear Indi:—Ain't ther sum law again resterants havin' Radio sets goin' wile they serve sup? Went into one of them wite tile "Lady asked" joints the other nite to spend my last dime for Java and. They had a Radio and the guy speakin' was tellin' how they were broadcastin' from the two buck a throw cover charge palace I used to dish up the groceries at before I learned to pick horses that also ran. RAINY DAY.

## And You Can Still Hear 'Em?

Dear Mr. Indi-Gest, Esq.: It has come to my notice that the Chicago broadcast listeners are in the throes of a disgustingly vulgar Radio "strike." What a commonplace and inferior way of doing things! It really is quite nauseating, don't you know? Now why not be gentlemen and desist from such ribaldry. Although I agree that it isn't nice for Chicago stations to transmit on Monday evenings, why not be gentlemanly and fair to the stations and give them an equal chance. Now I have a most admirable remedy. I simply ground my aerial and remove the tubes from the set. Then, if the Chicago stations come through, I listen to them. PERCIVAL.

## I. Cansellum Gyp Radio Co.

(Located Two Jumps Prior to Sheriff)

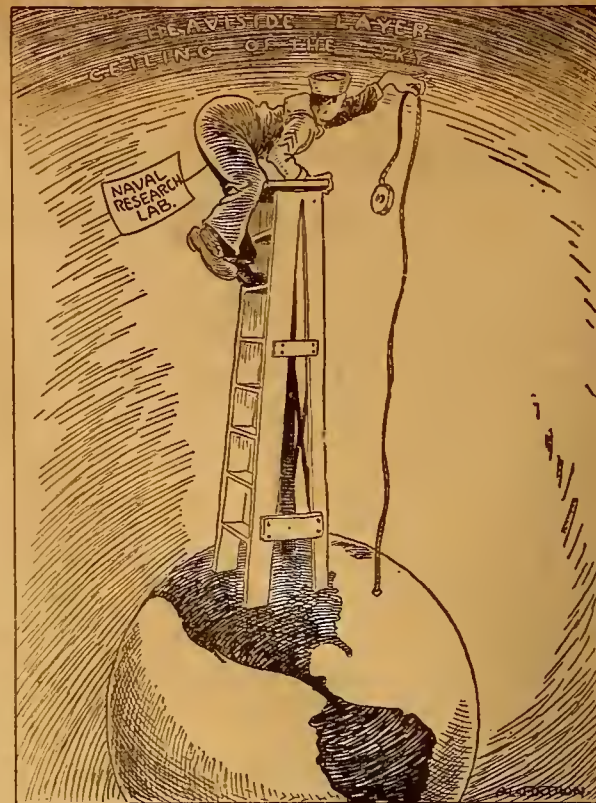
Dear Sir: In reply to your highly valued inquiry of the umteenth instant, beg to state that our complete production for the next four years is completely sold out. There is considerable doubt if we can fill your order for a carload of "Distemperdyne Nines" (twenty year case) before that date.

However, there is a possibility that we can sneak out of our new two-million dollar factory enough to fill your requirements if you increase your order to two carloads and send certified check in advance for same.

Opportunities don't always come so easy and quick like this, but your a nice man and I like you. Reinit check in enclosed envelope. Cordially,  
P. I. S. H./I. C. I. CANSELLUM.

Bet if we had an aerial as long as the tape the gob is holding in the upper right hand corner of this page we could get 210 on a crystal set.

## Hitting the High Spots



## Condensed

BY DIELECTRIC

Superpower stations are new yet and their exact status is not firmly fixed. Even with such high-powered broadcasters licensed to regular transmission, a whole winter's season would elapse before the Radio public could unitedly proclaim pro or con; so many things enter into the question, such as interference during ideal DX conditions which seldom exist in the summer months. WGY made a wonderful test station and fans had the opportunity to express their opinion of the first superpower broadcasting anywhere in the world. How far can it be heard in winter?

Many fans have not acquired the habit of tuning to the lower meters, thinking possibly that all the stations worth hearing have been allotted the higher waves. Well, no one will deny that it is much easier to separate these stations on the majority of sets, but a great deal that would please may be received on meters less than three hundred. WBBM, Chicago, is one of these broadcasters and it has as attractive dance programs as are put on the air from any station. Drop down on the dials.

The "Lullaby" from Jocelyn is not a modern musical number by any means, which perhaps assures its longevity, nor is it necessary that certain instruments render the number to please. William Metcalfe included this selection in his recital of organ music from Station WTAM, Cleveland. His programs are worthy of the effort to tune to this station and the organ is an instrument comparable to any to be heard by Radio.

WOC, Davenport, presented a program recently of orchestra music well calculated to dodge unfavorable criticism. The director chose selections from both a classical and popular repertoire with dance numbers of the enduring type. Jazz no longer litters the air so continuously as it did a year ago and the demand of Radio audiences is more and more for music that carries some message other than dime novel material. Broadcasting stations are not unmindful of the wishes of those to whom they would appeal, so fear not that the less desirable will smother the good.

WNYC, the municipal broadcasting station of the city of New York, allowed listeners an opportunity to hear some of the better-known operas. All of the performances were given in the open to enthusiastic opera lovers and to the Radio public. Charles Marshall of the Chicago opera company and Bianca Soroya of the San Carlo company gave distinction to the singing of their respective parts in the operas of Cavalleria Rusticana and Pagliacci. To listeners in, the orchestra drowned the voices at times.

Given a well-trained male quartet, even the oldest of songs which were popular a number of years ago, still hold the attention. Add to the excellent singing of these numbers a setting such as KDKA, Pittsburgh, arranged for its listeners and you have something out of the ordinary. I refer to the old-fashioned straw ride planned for the amusement of all who cared to listen. A touch of newness to program saves a great many BCLs to the ranks and any competent director should possess the ingenuity required.

Because it was neither singing, syncopating saxophones, nor dry lecturing, WCAP's program of organ and chimes music from the Metropolitan M. E. church, Washington, D. C., found a large responsive audience. Full, rich tones from the chimes made an habitual listener shake off any semblance of blasé tolerance to really delight in an hour of such music.

# A. B. C. Course in Radio Fundamentals

## Chapter XXVI—Regenerative Amplification

By David Penn Moreton

THE regenerative method of amplification was first conceived by E. H. Armstrong, and the fundamental principles of this method may be explained by reference to figure 108. The tuned antenna circuit is composed of the aerial, the inductance  $L_1$ , the variable condenser  $C_1$ , and the ground or counterpoise. A vacuum tube detector circuit is coupled to this antenna circuit by means of an inductance  $L_2$ . An inductance  $L_3$  is in series with the grid circuit of the detector

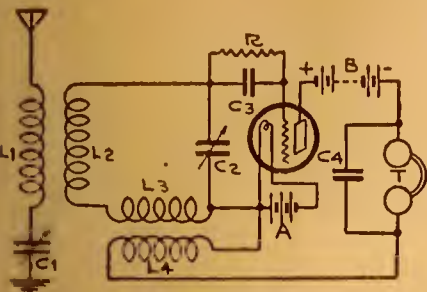


Figure 108

tube, and this inductance  $L_3$  is coupled to an inductance  $L_4$  which is in series with the plate circuit of the tube. Incoming damped oscillations in the antenna circuit set up an oscillatory current and, through the coupling between the two inductances  $L_1$  and  $L_2$ , energy is transferred to the secondary tuned circuit composed of the inductances  $L_2$  and  $L_3$  and the variable condenser  $C_2$ . Damped oscillations are set up in this

circuit, of the same frequency as those existing in the antenna circuit, the circuit being tuned by means of the condenser  $C_2$ . The alternating difference in electrical pressure is created between the terminals of the condenser  $C_2$  connected between the filament and the grid of the detector tube with a condenser  $C_3$  and grid leak  $R$  in circuit. The plate current will pulsate in value as a result of the alternating electrical pressure applied to the grid. This current, flowing through the inductance  $L_4$ , induces in the coil  $L_3$  an electrical pressure which, under proper conditions, is in phase with the oscillatory electrical pressure operating in the secondary circuit  $L_2, L_3, C_2$ .

Stated in a different way, energy is supplied by the plate circuit to the oscillatory grid circuit, which partly compensates for the resistance losses in that circuit, and thereby increases the amplitude and decreases the damping of the oscillations. As a result, the duration and amplitude of every incoming wave train, as impressed upon the grid of the tube, are thus increased, and the signals heard in the telephone receivers are correspondingly louder.

The above elementary explanation does not fully represent the actual operation, and the reader must understand fully the operation of the vacuum tube as an oscillator. The regenerative action is primarily a function of the degree of coupling between the two coils  $L_3$  and  $L_4$ . More and more energy is transferred from the plate to the grid circuit, as this coupling is increased, and the oscillations in

the grid circuit become less and less damped. A degree of coupling will be reached when the damping of the oscillations becomes zero and the plate circuit supplies to the grid circuit an amount of energy exactly equal to that dissipated, or lost as heat in the grid circuit. The oscillations are no longer damped and become undamped oscillations. For example, when this critical value of coupling is reached, an oscillation started in the grid oscillatory circuit will persist indefinitely, the necessary energy being supplied by the battery  $B$ .

Increasing the coupling beyond this point, the plate circuit supplies more energy to the grid circuit than is lost in the latter, and the decrement becomes negative, that is, the oscillations increase in amplitude until the correspondingly increased losses exactly compensate the amount of energy supplied by the plate circuit. It is thus seen that the vacuum tube may be made to sustain undamped oscillations in an oscillatory circuit. The fundamental theory of the regenerative amplifier is very closely related to that of the vacuum tube oscillator, and for this reason a better understanding of this method of amplification will be had after reading the next chapter which will be devoted to oscillators. The many methods and circuits for bringing about regenerative amplification are practically the same as those used in the various forms of oscillation generation by means of a vacuum tube, with the exception that the

degree of coupling between the grid and plate circuits must be reduced below the critical value at which the oscillations are sustained by the mutual relations of the two circuits with respect to each other.

In the cascade amplifier, the alternating electrical pressure to be amplified is impressed between the filament and the grid of a three electrode vacuum tube, and there is produced in the plate circuit an amplified reproduction of the grid potential. This amplified electrical pressure is then transferred from the plate circuit of the first tube to the grid circuit of the second tube through the medium of a coupling transformer. In the regenerative amplifier, the procedure differs in that the amplified electrical pressure produced in the plate circuit of the first tube is not transferred to the grid circuit of a second tube and so on, but is impressed upon the grid circuit of the first tube itself, through the medium of a coupling transformer. The regenerative amplifier may as a result, be considered as a special case of the cascade amplifier, the cascade or chain being closed upon itself. The design of the feed back transformer to be used in a regenerative amplifier circuit, that is, the transformer coupling the plate and grid circuits of the tube, is governed by the same fundamental principles already indicated for the cascade amplifier coils.

The output oscillation for the regenerative amplifier circuit, with the exception that the (Continued on page 26)

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Friday, September 25

(Continued from page 17)

Gordon male quartet; 10:15-10:30, Dorothy Chancellor Currey; 10:30-10:45, Gordon male quartet; 10:45-11, musical program; 11-12, Hotel Bossert Marine Roof orchestra.
WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Blenheim theater ensemble; 7:45-8, Marlon Reals, soprano; 8-8:15, Alfred Dulla, pianist; 8:15-9:15, orchestra.
WEEI, Boston, Mass. (475.9), 6:30 p. m., Big Brother club; 7:15, talk; 7:30, Four Merry Milkmen; 8, Neapolitan program.
WFI, Philadelphia, Pa. (394.5), 1 p. m., Bellevue Stratford trio; 3, Caroline Hoffman, pianist; 3:45, fashion talk; 6:45, Bellevue Stratford Roof Garden orchestra.
WGBS, New York, N. Y. (315.6), 1:30-1:45 p. m., Ben Hyams, pianist; Blanche Russele, soprano; 3-4, women's program; 6-6:30, Uncle Geebee; 6:30-7:30, orchestra; 7:30-8:30, Boys' club hour; 8:30-8:45, "Footlight and Lamplight," Oliver Saylor; 9-10, Negro music; Andros Lindsay, pianist.
WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., program; 6:30-7:30, Cret trio, violinists and piano; 9-9:30, Winger's Crescent Park entertainers. "The Blacksmith Shop artists;" 9:30-10, musical program, Hamilton Bakers, piano; 10-10:30, Jack Little, popular songs; 11-11 a. m., supper dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Giesler, director.
WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:50, fashion review; 8, Seaside hotel trio; 11:15, Strand theater organ recital.
WHN, New York, N. Y. (361.2), 10:30-11 p. m., Rose-land dance orchestra; 11:30-12, Club Alabam orchestra; 12-12:30, Silver Slipper orchestra.
WIP, Philadelphia, Pa. (508.2), 1 p. m., Gimbel tea room orchestra; 3, concert; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.
WLIT, Philadelphia, Pa. (394.5), 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; playlet, students, National School of Elocution and Oratory; 4:30, dance music; 7:30, Dream Daddy's bedtime stories; book review, Allyn Saurer; 8, recital, 10, Morning Glory club concert; Arcadia cafe dance orchestra; songs, Rufus and Rastus.
WNYC, New York, N. Y. (526), 6-6:30 p. m., elementary French lessons; 6:30-7, advanced French lessons, V. Harrison Berlitz; 7-7:30, dance program; 7:30-7:35, police alarms; 7:35-8, dance program; 8-8:05, baseball results; 8:05-10:15, concert.
WOO, Philadelphia, Pa. (508.2), 12:02 p. m., Golden's crystal tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra; 8:30, recital; 9, WOO orchestra; 10, organ recital; 10:30, A. Candelori's dance orchestra.
WOR, Newark, N. J. (405.2), 6:15-6:30 p. m., "Words Often Mispronounced"; 6:30-6:45, man in moon; 7-7:15, Howard Oliver's Log Cabin orchestra; 7:15-7:30, sports talk.
WPG, Atlantic City, N. J. (299.8), 8:45 p. m., organ recital, Arthur Scott Brook; 7, Hotel Morton trio, J. Leonard Lewis, director; 9, Hotel Ambassador concert orchestra, Harry Loventhal, director; 10:30, Silver Slipper dance orchestra.
Eastern Standard or Central Daylight Saving Time Stations
CNRT, Toronto, Can. (356.9), 6:30 p. m., dinner concert, King Edward hotel orchestra; 9, operatic program; Sydney Walsh, tenor; Gladys Jones Young, soprano; W. H. Hodgins, tenor; Elsie White, Sydney Walsh, quartets; address; "The Lovely Galatea," comic opera; 11, King Edward hotel dance orchestra.
KYW, Chicago, Ill. (535.4), 6:35-7 p. m., Uncle Bob's bedtime story; 7-7:30, Congress hotel dinner concert; 7:30-8:30, Home Lover's hour; 10-12:30, revue; Charles Dornberger's orchestra; organologue.
WBBM, Chicago, Ill. (226), 5:30-6 p. m., Kiddies Joy-Digger club; 8-10, Stewart-Warner program; Alamo or-

chestra; Lew Russell, Murray Smith, Earl Bergman; Patsy O'Sullivan, barlist; xylophone trio.
WBZ, Springfield, Mass. (333.1), 6 p. m., Hotel Kimball trio dinner concert, Jan Geerts, director; 8, Robert Gombert, violinist; 8:30, Copley Plaza orchestra; 9, Helen D. Porter, soprano; 9:15, announced.
WCEE, Elgin, Ill. (275), 10:30-12 midnight, Purple Grackle orchestra.
WCX, Detroit, Mich. (517), 2 p. m., news and markets; 4:15, Detroit Symphony trio; 6, dinner concert, Book-Cadillac hotel; 8, musical program; 10, Blue room dance orchestra.
WEAR, Cleveland, Ohio (389.4), 7-8 p. m., children's hour; 8-11, May Day program.
WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m., Oriole orchestra; Uptown theater; Howard Neumiller, pianist; 9:30-10:30, Oriole orchestra; WEBB Light Opera company; 11:30-1, Oriole orchestra; Three Musketeers, Fowler and Tamara's South American Troubadours; Correll and Gosden, Rita McFawn.
WGES, Oak Park, Ill. (250), 5-6:45 p. m., John Rankel, baritone; Ruth Kalthoff, soprano; Emma Butler, contralto; Gladys Welge, violinist; John Stamford, tenor; 6:45-7, lecture, E. L. Richards; 10:30-1, Novelty Broadcasters' orchestra; Marie Wright, Evans Lloyd, Coyne Banjo trio; Kenneth Nelson.
WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 6:30-7:30, Drake concert ensemble; Blackstone string quintet; 8:30-9:30, WGN string trio; 10:30-11:30, jazz seamer, Drake dance orchestra.
WGY, Schenectady, N. Y. (379.5), 1 p. m., music; "Fabric Features for Fall," Robert L. Smith; 5:30, International Sunday school lesson; 6, Albany Strand theater orchestra, Julius Borbon, conductor; Floyd H. Walters, organist; 6:30, health talk; 6:45, comedy, "Alice," WGY players; Ten Eyck Clay, director; 9:30, Theresa Berberich, contralto; WGY orchestra.
WHT, Deerfield, Ill. (400), 1 p. m., Grayling's string trio; 7, Bob York, tenor; Klicher Klenzor Klases; Genevieve Barry Durham, soprano; Jelke musical moments; 8:45 (238), Riverview Park Melody Masters; 10:30, (400), Lotis Thirty Minutes of Melody; Walter Ford's Cheerlo orchestra; Samuel G. Rowe, tenor; Isabel Simpson; Fred Witmer, pianist; 12, Pat Barnes, Al Carney, Duke Rehl, Walter Ford.
WJR, Detroit, Mich. (517), 7 p. m., studio orchestra, Jean Goldkette, director; Summerfield and Hecht; 9, Jean Goldkette's serenaders.
WMAQ, Chicago, Ill. (447.5), 6 p. m., organ recital, Chicago theater; 6:25, Hotel LaSalle orchestra; 6:50, Family Altar league; 8, Mr. and Mrs. Oberdorfer; 8:30, Whitney trio; 9, Elizabeth Stokes, soprano; 9:30, LaSalle dance orchestra.
WMBB, Chicago, Ill. (250), 7-8 p. m., Trilanon ensemble; John Everett, Alice McMahon, Wayne King, Hazel O'Neil, Lindsey McPhail; 9-11, Trilanon orchestra; LeRoy Tyler, Morey Alswang, Stokes and King, Woodlawn theater orchestra.
WOK, Homewood, Ill. (217.3), 12-2 p. m., Lydia Lochner, contralto; Thomas B. Stephenson, tenor; Marianne Powell Babcock, soprano; George Irish, organist; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7, Herman Blng, tenor; Jean Carlson, soprano; Kenneth Dunn, pianist; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1, Haymakers trio; Berger Wedberg; tenor; Arnold B. Stephenson, musical saw soloist; Harry Davis, tenor; Art Stiller, baritone; LeRoy North, pianist.
WORD, Batavia, Ill. (275), 8:30 p. m., Uncle Dan and WORD Radio study club; 9, Jennie F. W. Johnson, contralto; Edna Hoydar, soprano; 9:30, "Printing," Henry P. Conkey; 9:45, Miss Johnson and Miss Hoydar.
WQJ, Chicago, Ill. (447.5), 7-8 p. m., Rainbo Garden orchestra; Marla Dneprova, soprano; Kenneth Sterling, baritone; Blanche E. Robinson, pianist; 10-11, Rainbo Skylarks; Helen Keller, pianist; Ballantine male quartet; Charlotte Boykin, soprano; Dr. H. Lucille Long, woman harmonica players; Blues Destroyers trio; Larry Shay; Jack Lavin, tenor; William Richardson, baritone; West Brothers; 1-2, Ginger hour.
WTAM, Cleveland, Ohio (389.4), 6-7 p. m., Golden Pheasant orchestra.
WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Grackle

orchestra; Herble Mintz, Tommy Dunlap, Brock sisters, Art Stiller, Walter Donovan, Berger Wedberg.
WTIC, Hartford, Conn. (476), 5:30 p. m., young people's half hour; 6, Emil Helmberger's Hotel Bond trio; 6:30, Watson Woodford, tenor; 7:30, mixed quartet; Laura C. Gaudet, pianist; 9:05, Emil Helmberger's Hotel Bond orchestra; 10:30, Nigold presenters.
WVJ, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra; 9, dance program.
Central Standard Time Stations
KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., Bulek Little symphony; Bolshaw's orchestra; 8:30-10:30, Wymore, Nebr., entertainers; Bolshaw's orchestra.
KFDM, Beaumont, Texas (315.6), 8-10 p. m., Magnolia Petroleum company's refinery band.
KFKX, Hastings, Nebr. (288.3), 9-11 p. m., musical program, vocal and instrumental. Kearney State Normal.
KFNF, Shenandoah, Iowa (266), 7 p. m., Sunday School lesson; 7:30, Blue Grove church, Director Paul M. Mitchell.
KFE, University City, Mo. (240), 6:30 p. m., "Amusement Review," Romalme Fielding; 10, dance night, Orchestra Romalme, Jimmie Blackton and his ukulele.
KOIL, Council Bluffs, Iowa (278), 7:30 p. m., program, Council Bluffs Woman's club; 9, Creighton university educational period; 11, Hotsy-Totsy hour, Broadway theater.
WAMD, Minneapolis, Minn. (243.8), 12 noon, musical program; Mildred Sandell, pianist; Russell Murphy, baritone; Julia Barr, soprano; 6 p. m., dinner concert, Hotel Radisson; Harold Janesky, tenor; 7, school night, Minneapolis public schools.
WBAP, Ft. Worth, Texas (475.9), 7:30 p. m., Margaret Miller Zincke, vocalist; 9:30, Esther B. Hurley, blues singer.
WCCO, Minneapolis-St. Paul, Minn. (416.4), 2:05 p. m., Woman's hour; 5:30, children's hour, Court of Gold Medal; 6:15, dinner concert, George Osborn's Nicolett hotel orchestra; 8, musical program; 9:05, organ recital; Hugo Phillip Goodwin.
WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's string trio; 6-7, School of the Air, address; Tell-me-a-Story lady; Trilanon ensemble; 8-9:30, varied musical program, Star's Radio orchestra; 11:45-1, frolic; Merry Old Chief, Plantation players, Coleman's orchestra; Eddie Kuhn's K. C. Athletic club orchestra.
WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Farmers' hour, agricultural address, music; 3:30-4, Sears-Roebuck Agricultural Foundation program; 4:30-5, Women's hour, Bessie M. Trible, conductor; 6:30-7:30, Hauulea School of Hawaiian Musicians, J. B. Stevenson, director; 8:30-9:30, recital, Southern Methodist university.
WHAD, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8:30-10, Wisconsin theater review.
WHAS, Louisville, Ky. (399.8), 4 p. m., Music Box; 7:30-9, Al Wiseman's Harmonaders.
WHO, Des Moines, Iowa (528), 7:30-9 p. m., Margaret Leech, soprano; artists; 11-12, Kirkwood hotel orchestra.
WOC, Davenport, Ia. (483.6), 3-3:30 p. m., "Home Management," Aunt Janc; 4-5, musical program, Crescent orchestra; 5:45-6, chime concert; 6:30-6:50, Sandman; 9-10, musical program; Jeanette Brebaker, soprano; Robert Lynch, baritone; Morgan Sexton, tenor; John Bishop, reader.

WOW, Omaha, Nebr. (526), 6 p. m., music review, Hester Bronson; 6:25, orchestra; 7:10, sport talk, Ivan L. Gaddis; 9, concert, Omaha Radio Trade exposition.
WOS, Jefferson City, Mo. (440.9), 8 p. m., address, Dr. C. F. Enloe; old time fiddlers, D. B. Jones.
Mountain Standard Time Stations
CNRE, Edmonton, Can. (516.9), 7:30-8 p. m., children's half hour; 8:30-10:30, concert, Alberta College North mandolin, guitar and banjo orchestra, Mrs. A. Hale, director.
KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musical; 3:30, matinee; 6:30, Herbert White and his Silver State orchestra; 8, scientific football, Tom McNamara; 8:10, Wilcox studios, excerpts from operas.
Pacific Standard Time Stations
KFAE, Pullman, Wash. (348.6), 7:30-9 a. m., Mary Cameron, pianist; "Introducing a New Variety of Wheat," Prof. E. S. Schafer; "The Electron," Prof. H. E. Briggs.
KFWB, Hollywood, Calif. (252), 8-9 p. m., program, Monte Mar Vista Subdividers, Monte Mar Vista orchestra; Ashley sisters, vocal duets; Charles Beauchamp, tenor; 9-10, Bill Theck's Southern Five dance orchestra; Alma Lou Barnes, popular songs; Lillian Lutz, soprano; 10-11, Warner brothers frolic, direction, Cbarlie Wellman.
KGO, Oakland, Calif. (361.2), 3-4 p. m., concert; Mary Pasmoro, violinist; Dora Erlmann, pianist; Edna Hilder, soprano; 4-5:30, Hotel St. Francis concert orchestra, Vinton LaFerra conducting; 5:30-6, Girls' half hour, Esther Wood Schneider; 6-7, dinner concert; Theodore Strong, organist.
KHL, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddie hour, Vyola Von and "Sir" Richard Headrick, screen juveniles; bedtime story, Uncle John; 7:30, "Romance of the Santa Fe Trail," Gladys DeWitt; 8-10, program, Western Auto Supply Company; J. Howard Johnson; 10-11, Art Hickman's Biltmore hotel dance orchestra, Earl Burnette, leader; 11, "International Influence of Radio," McClellan Reed.
KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wuriltzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Einstein, leader; 7-7:30, program, Beverlyridge Company; 7:30-8, musical gems program Eastern Outfitting Company; 8-9, West Coast Theaters; 9-10, program, Beverly Hills Nurseries; 10-11, hour of dance music; 11-12, Ray West's Cocoanut Grove dance orchestra, Ambassador hotel; 12-2 a. m., Wuriltzer Nightbirds frolic.
KPO, San Francisco, Calif. (428.3), 12:45 talk; 1:30, Rudy Seiser's Fairmont hotel orchestra, Wm. Schwartzman; conducting; 5:30, Aunt Dolly and her kiddies in Magic matinee; 7-7:30, Palace hotel orchestra, Cyrus Trobbe, director; 8-11, Palace hotel concert and dance orchestra, Cyrus Trobbe and Gene James, directors.
KTAB, Oakland, Calif. (215), 8-10 p. m., string exclusive studio artists; Grace Adams East, cornetist.
KTCL, Seattle, Wash. (305.9), 7-8 p. m., Simonds Saw and Steel company program; 9-10, Western Auto Supply company program; 10:15-12, Jackie Souder's dance orchestra.



Amazing new receiver

NOW anyone can build it in an amazingly short time this new easy way. Experts assemble it at factory. You simply wire. Note revolutionary new principle it contains.

NO excuse now for not having a fine radio. At a surprisingly low cost, too. For a remarkable plan is showing thousands a new way to build their own. It is so easy that anyone can do it in an hour's time. So fascinating that many continue to build them for others. No wire bending or soldering. Merely attach a few ready-cut, flexible eyeletted leads, and the job is done.

And in addition to the fun and pride of building your own, the finished receiver actually contains a phenomenal feature not yet found in the most expensive sets; that brings results otherwise impossible.

This feature follows the discovery of a new inductance principle that overcomes many vital weaknesses of present day sets. It is based on an entirely new type coil—the Erla \*Balloon \*Cireloid.

Cireloids are the backbone of the Erla kit and are largely responsible for the striking improvements this kit alone offers. Note these four advantages in particular:

- 1. Greater distance. Cireloids have no measurable external field to affect adjacent coils or wiring circuits. This makes possible higher amplification in each stage, with increased sensitivity and greater range.
2. More volume. Higher r.f. amplification enables Cireloids to bring in distant stations scarcely audible in

ordinary sets with volume enough on the loud speaker to fill an auditorium.

3. Increased selectivity. Cireloids have absolutely no pick-up qualities of their own. Only signals flowing in the antenna circuit are built up.

4. Finer tone quality. The self-enclosed field positively prevents stray feed-backs between coils. Hence no blurring or distortion. Tones are crystal clear.

Cireloids are sold singly and in sets of three; also in kits containing three Cireloids and three .00035 condensers.

Write for free information on kit—also book See how a few minutes of fun will give you the newest and most nearly perfected set known to radio science. Examine it at any Erla dealer's, or send the coupon for full information, illustrations and diagrams contained in the remarkable new book, "Better Radio Reception," describing the sensational new Cireloid principle. Enclose 10c for mailing and postage on book.

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[ ] Send me free information on kit. [ ] Enclose 10c for postage for book. All are equipped to give "Better Radio Reception." complete radio service.
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Another B-T Triumph

The B-T "Counterphase-Six,"—the factory built set that fans have been asking for ever since the first B-T circuit thru sheer merit forced its way into the radio limelight.

Six tubes, three stages of radio frequency amplification, but only two tuning dials. Only a short indoor antenna needed for distant reception. Selectivity to the point where further sharpness would distort.

Typically a B-T product. Craftmanship apparent in every line and detail. Beautiful in appearance, superior in results.

If you want to know more about this master receiver write for complete information.

"Pleasing to the Ear"

In addition to being a transformer of merit for audio amplification, offers the first mechanical improvement in years.

It mounts either side up by means of easily adjustable brackets. This allows the terminals to be brought to any desired position, shortens the leads and prevents crossed wires, a very frequent cause of howling and distortion.

The result is "Euphonic"—"pleasing to the ear."

Two ratios, 2.2 to 1 and 5.9 to 1. Send for descriptive circular

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Bremer-Tully Mfg. Co. 532 S. CANAL ST. CHICAGO, ILL.



Dealers—Exclusive franchises are available to high class dealers in localities still open. Write or wire immediately.

# Choosing the Receiver You'll Buy or Build

## Proximity to Stations Is Important

By Jacques Fournier

THE man who has not heretofore been the least bit interested in Radio and who suddenly, for one reason or another, decides to buy one, is faced with a problem of undreamed of complexity. When he bought a phonograph he went down to the dealer's and picked one out that suited his bank account, his ideas as to appearance and whatever impressions advertisements had left on him. He did the same with regard to his piano—also his icebox, furniture suites, etc. When purchasing these things the choice was entirely up to him and factors he could control. But not so with a Radio receiver.

His friend Brown tells him that he had a Percodyne but it wouldn't even separate the local broadcasters, much less go through them and get out of town. He

times out of ten such a purchaser gets everything but satisfaction. The home builder is in much the same predicament when deciding on a set to build. Many a man reads several Radio publications, and notes he can build crystal, regenerative, tuned R.F., reflex, neutrodyne, tuned impedance, various flexes, various dynes and the super-heterodyne. The chances are he builds two or three and then, looking over the list again, says "I've built every type but the reflex and super. Guess I'll build a reflex." Now that is no way to choose sets, and in this article the writer will try to make clear the factor of location in respect to stations, which is the chief factor to be considered.

In figure 1, we will consider a single broadcasting station and the strength of its radiated signals at various distances.

sistent reception and an average evening as regards atmospherics.

Now receiving sets are going to have a tough time within the 100% area, get-

strength at maybe 40 on the dials, it will be heard with gradually diminishing intensity clear to 10 and 70. The listener in the 100 to 80 zone will have a little

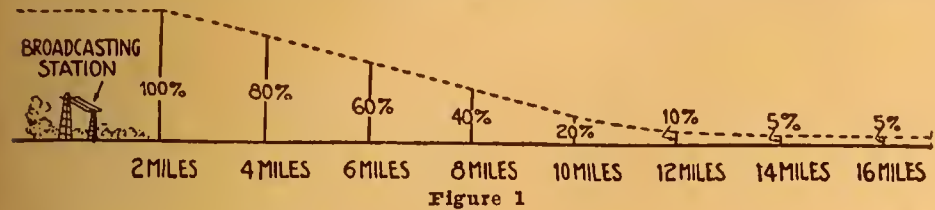


Figure 1

got a Simflex and it does the trick in great style. On the other hand Perkins insists he has his choice of forty stations nightly on his Percodyne and that a friend of his in Memphis wrote that the Simflex is terrible. And so it goes ad infinitum. The dealers aren't so sure as to which set will work best in his location but one thinks the Filtdyne is the best choice while another believes the Claroflex will bring in all the wonders on the evening breezes. In other words the answer is "Yes."

### Look Them Over Carefully

The purchaser has mighty little to say when getting a set, except as to style and size, if he wants satisfaction. He can get arbitrary, if he chooses, and insist that a certain set will "do him," all advice and facts notwithstanding. Nine

It is, let us presume, a 500-watt class B broadcaster of which there are rapidly getting to be less and less as everyone climbs to 1,000-watts and the superpowers of 1,500, 2,000 and even 5,000-watts. Tests have shown that within 2 miles around such a station, the energy is of about the same tremendous strength which we will call 100%. Then the strength or intensity goes down rapidly, rapidly that is, when one considers the maximum range over which such plants have been heard.

At 4 miles the intensity is about 80%, at 6 miles about 60%, and so on until at 14 to 16 miles, the intensity is but about 5% of the original. From here out, in all directions, the strength goes down very slowly through the remaining 5% and there is still a little left at 1,000 miles. This is all on the presumption of con-

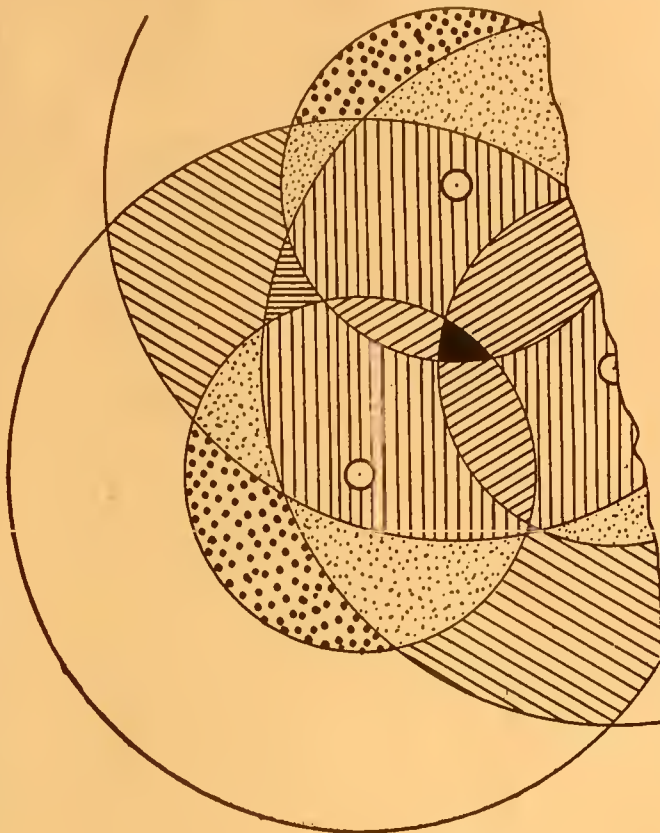


Figure 2

- 1 ■ 3 AT 100%
- 2 ▨ 2 AT 100% - 1 AT 80%
- 3 ▩ 1 AT 100% - 2 AT 80%
- 4 ▤ 3 AT 80%
- 5 ▧ 1 AT 100% - 1 AT 80%
- 6 ▦ 1 AT 100%
- 7 ▨ 2 AT 80%
- 8 □ 1 AT 80%

ting rid of that station. The coils and wiring within the sets are going to pick up the waves it radiates, whether the antenna is connected or not. While this station will be heard with maximum

less trouble and will hear him at points between 20 and 60. At 14 miles the listener, on anything but a single circuit "blooper," should be able to lose that (Continued on page 26)



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**\$1<sup>10</sup>**  
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**Jewell  
Lightning  
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## APPROVED

By **UNDERWRITERS**

☞ The National Board of Fire Underwriters' latest code requires the use of an approved lightning arrester with all outdoor antennas.

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THE volume and range of your radio set depends largely upon the condition of your aerial. An ordinary bare copper aerial wire soon corrodes, due to the smoke and fumes in the atmosphere, and its resistance increases rapidly. When this happens, less energy is transmitted to your detector and you lose volume and range. *It cheats your set!*

A Beldenamel Aerial is coated with many layers of baked Beldenamel, which protects the copper surface from corrosion, and the aerial resistance does not increase. A Beldenamel Aerial insures maximum range and volume, year in and year out. *It lasts indefinitely!*

**Important Facts about Beldenamel Aerial Wire**

It is endorsed by leading radio engineers as the most efficient type of outdoor aerial.

It offers maximum surface to radio-frequency oscillations.

It is not a trick aerial, but a real, scientific development.

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Please send me your booklet entitled "Helpful Hints for Radio Fans."

Name .....

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# Belden

### PICKING THE RECEIVER

(Continued from page 25)

station except between 37 and 43 on his dials.

That example is for but one station. Add two or three to the picture, one within two miles, one at 10 miles and one at 14. The first will be heard between 0 and 60 with maximum at 30; the second will be heard from 25 to 65 with maximum at 45; the third will be heard from 49 to 57 with the peak at 53. Let us presume the receiver for the above results is a three circuit regenerative set and the dial readings quoted are the condenser across the secondary coil. The tickler dial readings will vary with tube, voltages and tuner used. Obviously, this set is inadequate in selectivity for the location. While trying to get the 14 mile station with our dial at 53, we will also get the other two faintly underneath the speech and music of the 14 mile program. It would be impossible to go through for any station whose wave length should bring it in between 0 and 60, because these three are all over the dial in that band.

If our location was such that the nearest station of this power was at 20 miles or more and the two others at, perhaps, 35 and 50 miles, this receiver would function satisfactorily. With good tubes and transformers such an outfit would probably bring them in over a 500 mile area on the loud speaker with pretty fair consistency.

#### A Typical Problem

Figure 2, shows part of the situation that exists on Chicago's north side. In reality there are two more high-power stations in the area shown, which is but nine miles across, and several more straight class B and superpower stations so close that they would rate 40, 30 and 10% across the area shown. Now in this small area measuring only nine miles each way, we have eight different situations as regards interference. That is with only three stations considered; there would be about 30 different shades of interference if all stations affecting this territory were considered. The three stations shown have wave lengths between 226 and 448.

Considering now the various bands, as indicated by the different markings, we find that in location 1, there are three stations covering it at 100%. Nothing less than a well-built and shielded super-heterodyne type of set is going to perform well in that place. We are speak-

ing now of straight eight supers and not second harmonics or autodynes or reflexed varieties. In the three spots known as type of location 2, practically the same situation is true; only a super will perform right. Type of location 3, indicated by vertical lines, could use a very carefully built neutrodyne or tuned R.F. job, if well shielded against the coils picking up the energy direct; it would separate all the Chicago locals, but it is doubtful if it would go through for out of town.

#### Requirements Less Exacting

Section 3, which is very small in this case, calls for about the same sets as does section 2, namely, well-built super or neutrodyne. Sections 5, include but one station at 100% and one at 80%, the only intensities shown. The third station in each case would be about 65%. In 5,

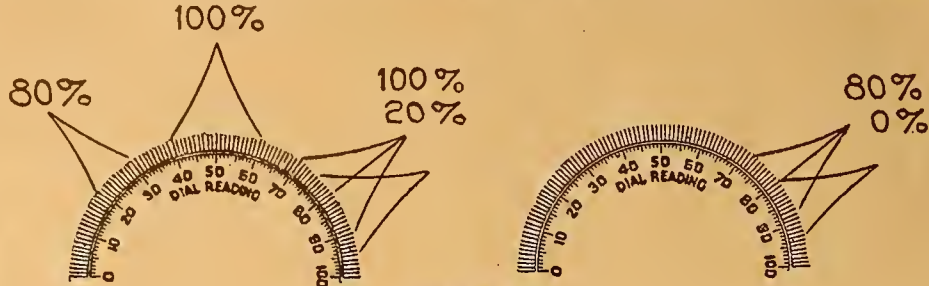


Figure 3

either of the two types of sets mentioned would be perfectly satisfactory, although still preferably shielded, and we can add a well-shielded reflex, with tuned R.F. as the radio frequency amplification part. This would use a loop, which gives it the benefit of directional effect to aid the selectivity of the tuned stages.

Section 6, consists of two parts marked with heavy dots. This type of location is covered at 100% by but one of the three stations and neither of the other 2 at 80%. In addition to the receivers already mentioned we could use an unshielded super and a four tube set with one stage of radio frequency amplification—shielded. We could probably even use a shielded three circuit tuner, provided we had one wave trap in the antenna circuit to get rid of the single 100% station, when necessary. In locations 7, we could drop the shielding on our neutrodyne, tuned R.F. or reflexed tuned R.F. set, but would probably still require it on the three circuit regenerative tuner. In locations identified as 8, any of the

sets could be used and probably the wave trap could be dropped from the last. Now these suppositions cases are all based on the stations sticking to 500-watts and sharp tuning of their transmitting apparatus. Unfortunately, two of those which the writer had in mind when making the sketch have increased their power, one to 1,000 and the other to 1,500, and one of them does not tune as sharply as it might. That changes the picture at once. The 100% areas for each, double their radius, and the "super only" territory takes on another few square miles.

#### Interference on the Dials

The reader may ask as to how this interference shows itself in operation of a set. Consider then that the left hand dial in figure 3, is either of the dials on a set using four tubes with one stage of

That is all very well for local reception, but supposing the owner wishes to tune in a distant station, whose intensity in his location is but 4% as compared to the two already coming in, and whose wave length puts him at 77, 84 or 93 on the dials. If one cuts down the sensitivity of the set to cut down the breadth of interference of the locals, one cannot bring in the distant program. If the sensitivity is brought up, the breadth of interference increases and the local has about the same strength as the far away broadcaster, at the dial setting where the distant station comes in at maximum.

So, before purchasing a receiver, learn the experience of your neighbors with different sets. If they all say that two or three locals are "tough" to eliminate, get a super-heterodyne or have it made for you. If the nearest stations consist of one or two at 12 or 15 miles and a superpower at 25 miles, get a neutrodyne or tuned radio frequency. If out in the great open spaces, a good tuned R.F. reflex or even a three circuit regenerative will do the trick. Remember, the problem now is not to get them but to get rid of and through them. If building a set, the problem is the same. Do not waste real money, and hours and hours of time, on a set that will not do what you want when it is finished. Look over your own location and problem as carefully as you do the circuits; maybe the designer of a set you like the looks of didn't have as poor a location for selectivity as you.

### A. B. C. RADIO COURSE

(Continued on page 23)

tive amplifier has a smaller decrement than the original or input oscillation and in this respect it differs from the cascade amplifier. This is due to the fact that the cascade or amplifier chain is closed upon itself and hence the output oscillation, which would otherwise be of the same character as the input oscillation, is made to react upon and reinforce and thereby modify the original oscillation. (Although scheduled to include the vacuum tube as an oscillator in the above chapter, Professor Moreton found it impossible to consider it this week and this phase of a three element tube's usefulness will therefore be the subject of his article in the next issue.—Editor's Note.)

Put your crystal detector on a rubber sponge so the catwhisker won't slip if the set is jarred.



# Charge it while you sleep!

Last thing at night—concert over—time to lock up. Radio battery low? Just clip on the Tungar, and plug it in. Or if you connect up the Tungar permanently, just throw a switch. Charge the battery while you sleep.

The Tungar is simple—makes no disturbing noise. And the low cost of Tungar recharging cuts battery upkeep to next to nothing. It means top notch performance—clear, full-volumed reception—all the time!



# Tungar

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## BATTERY CHARGER

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The new Tungar charges radio "A" and "B" batteries, and auto batteries.

Two ampere size (East of the Rockies) . . . \$18.00

60 cycles—110 volts

Tungar—a registered trademark—is found only on the genuine. Look for it on the name plate.

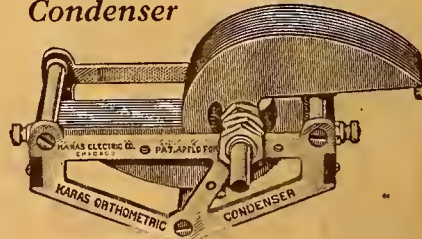
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General Electric Company, Bridgeport, Conn.

# GENERAL ELECTRIC

## All Hook-ups Marvelously Improved by KARAS Precision Instruments

Karas' two great contributions to radio development are available to home builders everywhere. And builders who demand the very maximum of perfection in their sets are insisting on Karas Harmonik Audio Frequency Transformers and Karas Orthometric Condensers. Dealers in most large cities and many smaller towns are supplied. But if YOU cannot secure Karas products locally, use the coupon below to order direct. Remember, the exclusive superiority of Karas instruments is backed up by our positive Money-Back Guarantee.

### KARAS Orthometric Condenser



#### Spreads Stations Evenly Over the Dial—No Crowding Whatever

The Karas Orthometric Condenser positively separates all adjoining wavelengths by EQUAL distances on the dial—giving you full benefit of the 10 Kilocycle frequency separation fixed by the government. Ordinary condensers jam 70 of the 100 Government allotted wavelengths into the first 30 points on the dial—even straight-line-wavelength condensers crowd 57 of them below 30. But with Karas Orthometrics, each point on the dial corresponds exactly to one of the 100 allotted wave-lengths. The result is marvelous simplicity in tuning—and better, clearer reception—all the side bands without interference.

#### Brings in KDKA at 53

Not at 17—or 28, but at 53 where it belongs, leaving lots of room for the 52 wavelengths that must come in below it. The Karas Orthometric is



### KARAS ORTHOMETRIC CONDENSER Arrangement of Wavelengths on Dial

a "precision job"—entirely of brass. Every joint soldered. Plates patent-levelled and securely bridged. Made in 3 sizes of accurate rating: 23 plate, .0005 Mfd., \$7.00; 17 plate, .00037 Mfd., \$6.75; 11 plate, .00025 Mfd., \$6.50.

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4049 N. Rockwell Street CHICAGO  
For More Than 30 Years Makers of  
PRECISION Electrical Apparatus



### Karas Harmonik Transformers Magically Improve

#### The musical quality of your reception

Tens of thousands of discriminating radio "fans" discovered that fact last season. Karas Harmoniks, in their first year, revolutionized old ideas of the musical qualities possible in radio reception.

Karas Harmonik amplification brings out low bass tones in their full beauty, because Karas scientific design amplifies all audio frequencies—low, high and medium, with equal volume.

Karas Harmonik amplification reproduces in your home, ALL the beauty of broadcast music, because it brings out the vital harmonics and rich overtones which are the distinguishing characteristics of musical tones.

It is easy to put Karas Harmoniks in your new set—and just as easy to install them in place of the old transformers if you keep your old set. Get them from your dealer. If he is out of them, order direct on the coupon below.

KARAS ELECTRIC CO.,  
4049 N. Rockwell St., Chicago

I enclose \$.....for which please ship me, postage paid, the instruments checked below. It is understood that I have the privilege of returning these goods, for full refund, within 30 days, if they do not prove entirely satisfactory.

.....Karas Harmonik Audio Transformers. (7.00 each)  
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(23 plate \$7 each; 17 plate \$6.75 each; 11 plate \$6.50)

Name .....  
Address .....  
If you send cash with order we'll send package postpaid.

# Construction of an Edison Storage B Battery

## Part II—Assembly and Filling

By John De Queville Briggs

**P**RESUMABLY the reader has completed the construction of this battery as far as we took it last week. Now cut the rubber tubing into rings 1/8-inch wide. Slip two of these tightly onto each positive element, so placing them that they hold the negative element off from the positive in each tube.

The correct position for the elements in the tube is shown in figure 4. The rubber rings are omitted in this drawing as they might otherwise be confused with the binder rings around the positives. It will be found that these rubber rings make admirable separators.

### Cell Assembly

In assembling cells you will find it better to put one row of tubes in the rack at a time and complete the placing of elements and separators in this row before proceeding to the next row. Finishing one row at a time will allow you to look at each tube from the side to see whether the separators really separate. If your jumper wires are too long so that the elements go down into the curved bottom of the tube, they have a mean trick of touching. I succeeded in getting test tubes with flat bottoms for one of my batteries, which were a great help.

The complete wiring diagram, which is really not half as complicated to carry out as first appears, is shown in figure 5. For connecting the cells to the switch-board use a good grade of single, rubber covered lamp cord or any other light and flexible rubber covered wire. Run all wires down through the upper deck of the rack and between cells, when necessary, to reach the board. This will keep

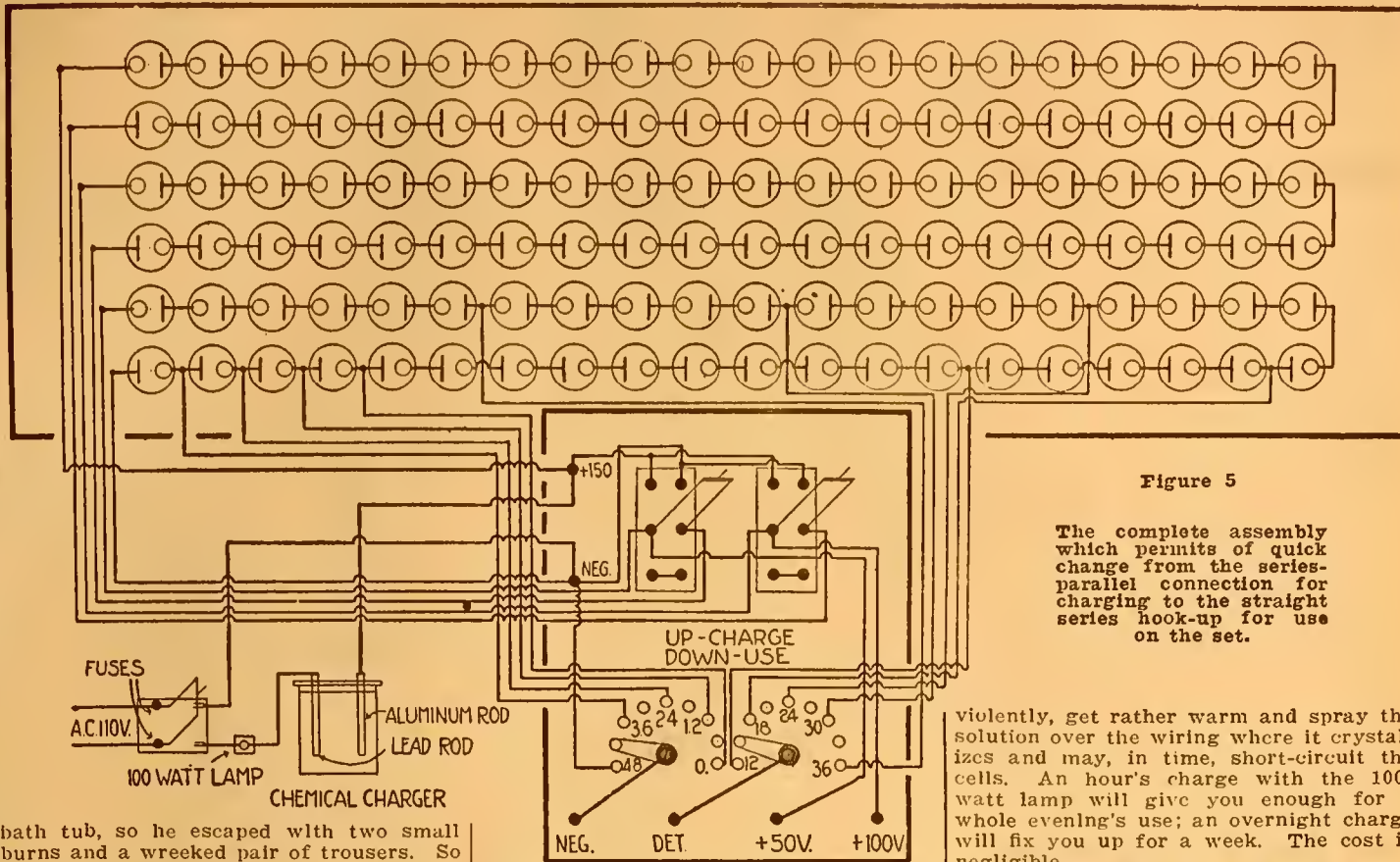


Figure 5

The complete assembly which permits of quick change from the series-parallel connection for charging to the straight series hook-up for use on the set.

violently, get rather warm and spray the solution over the wiring where it crystallizes and may, in time, short-circuit the cells. An hour's charge with the 100-watt lamp will give you enough for a whole evening's use; an overnight charge will fix you up for a week. The cost is negligible.

### Overcharge to Be Sure

There is no easy way of telling when an Edison battery is fully charged. The best (Continued on page 28)

### Chosen by MacMillan Expedition

A radiogram from Commander MacDonald with the MacMillan Arctic Expedition reads: "Now worth of 55. Thordarson Transformers in our radio giving us excellent service despite the fog and moisture." Thordarsons are standard on

bath tub, so he escaped with two small burns and a wrecked pair of trousers. So don't assume that Edison electrolyte is safe to handle just because it is not acid. It's just as dangerous to handle.

### Dissolve Two Pounds of Hydroxide

Keep putting in hydroxide until the solution tests about 1250 gravity, or until two pounds are dissolved. Two pounds of potassium hydroxide to three quarts of water is about right. Then, with a small rubber syringe, fill each cell to within an inch of the top with the mixture. You will have to add a little more after you have been the rounds once, because the solution soaks into the elements. After doing the latter, with the same syringe, or a medicine dropper, put a few drops of paraffin oil on top of each cell to prevent evaporation. Then you are ready to charge.

Wire up the rectifier as in figure 5 with

a fairly concentrated solution of bicarbonate of soda, or of borax, in the jar. The aluminum rod is the positive end of the rectifier. Turn both DPDT (double pole double throw) switches up, which puts the three 50-volt blocks of battery in parallel.

### Charging Battery

The cells should bubble gently while taking the charge. If you want to charge faster, put a flatiron or an electric toaster in place of the 100-watt lamp. In fact, you may simply put a fuse in place of the lamp if you want a really quick charge, since the internal resistance of the battery is such that no very heavy current will pass. I don't recommend this, however, because the cells bubble

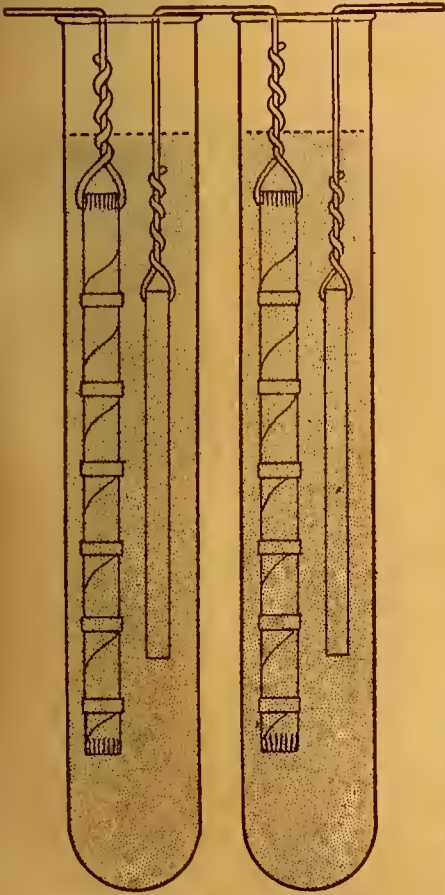


Figure 4

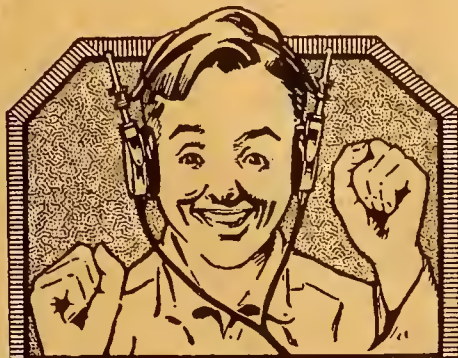
spray from the wires and make a neater appearance.

### Mixing Electrolyte

You are now ready to put in the electrolyte. Begin by putting three quarts of distilled water in an earthen jar or crock. Stir the potassium hydroxide, which comes in pencil-like sticks, into the water, using a long stick or paddle of unpainted wood. If you can get the genuine Edison electrolyte, so much time saved, but my battery which has hydroxide in it seems just as good as the one which has the regular purchased electrolyte. The mixture gets very hot while the hydroxide is dissolving, so be a little careful of it and do not try to put it in the test tubes until it has cooled of its own accord. Above all, do not get it on your hands, or your clothes or the rug.

We mixed up the first batch of the stuff in a three quart laboratory bottle and my science master from the academy was lazily shaking the bottle when the bottom broke out as cleanly as if it had been cut. He made a wild leap for the bathroom, trying to hold the piece in, but the caustic was too much for him and he had to let go.

The casualties included the paint on the woodwork, the varnish on the floor, two tooth brushes, a hair brush and a dressing case. We put him hastily in the



**Oh boy**

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Rosin Core  
**Radio SOLDER**

Sure! is Safe and Simple

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RADIO ENGINEERS  
A Genuine Solder

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4236 Wrightwood Ave., Chicago, U.S.A.

Originators and World's Largest Manufacturers of Self Fluxing Solder  
Your Dealer Can Supply You

**M-B-G**

**RADIO CABINETS**

No. 31 Radio or All Purpose Table ..... \$3.50

15 x 31 x 29". Substantial, rigid table that can be used for a thousand purposes.

Our Radio Cabinets are furnished in the natural wood only. Beautiful color card with instructions for finishing sent with each cabinet. Made of beautifully grained Fir Wood.

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**NEAT FIT K. D. CABINETS**

Made in a variety of sizes solid knocked down, easily set up. Holes bored for every screw. No other cabinets offer such unusual values.

No. 37 Cabinet 7 x 18" panel, 9" deep. Battery Compartment ..... \$10.50

10x11x18"..... \$3.00 extra.

Additional door in front of panel forms arm rest when open.....\$3.00 extra.

No. 37—panel sizes 7 x 24", 7 x 26" and 7 x 28", either size.....\$11.50

Panel 7x 9" 7" deep \$1.80  
Panel 7x12" 7" deep 2.00  
Panel 7x14" 7" deep 2.25  
Panel 7x16" 7" deep 2.30  
Panel 7x18" 7" deep 2.40  
Panel 7x21" 7" deep 2.50  
Panel 7x24" 7" deep 2.60  
Panel 7x26" 7" deep 2.70  
Panel 7x28" 7" deep 2.80

Other sizes carried in stock. Prices on request.

Set up Complete Ready for Finish, Packed One Each in Carton

At \$5.00 extra our Console Cabinets can be furnished with built-in loud speakers. The tone chambers of our speakers are made of Pyralin and give forth a full resonant tone. No better made; neat, compact, efficient.

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**SUPER-HET BUILDERS**

For the "Best" 45,000 Cycle Super-Heterodyne, "RADIO" and other leading authorities recommend in highest terms the Thordarson 2:1 ratio transformers. Take no others!

*Follow their lead*

use  
**THORDARSON**  
Super  
**AMPLIFYING TRANSFORMERS**

Standard on the majority of quality sets

Follow the lead of the leaders. Build or replace with Thordarsons. Dealers everywhere. Hook-up bulletins free. Write Thordarson Electric Mfg. Co., Chicago.

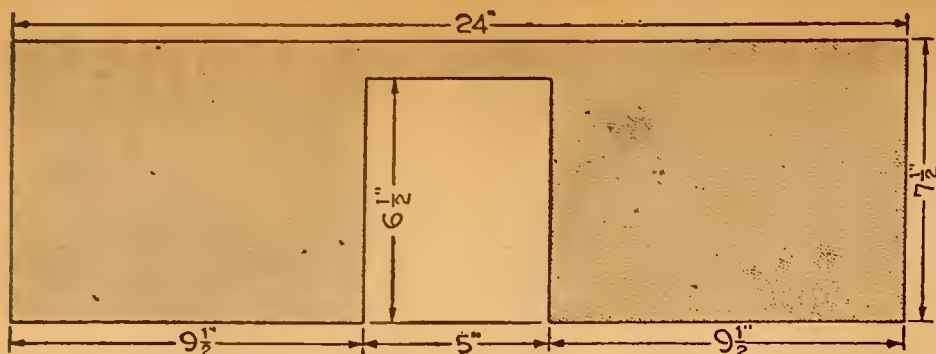


Figure 6

**EDISON PLATE BATTERY**

(Continued from page 27)

system is to let it charge long enough to be sure of an overcharge, and then see if each 50-volt unit is up to 50 volts, with a voltmeter. You cannot hurt the battery by overcharging.

If you short-circuit it, it will bubble violently and may burn out some of your wiring, but the cells will not be damaged. I wired mine lazily at first, using No. 22 dec. wire stiffened with collodion. A rapid charge sputtered some of the solution on the wiring, which crossed here and there, and one night, attracted by a queer odor, which didn't seem to be emanating from my pipe, I found the interior of the battery on fire. Luckily it only burned the insulation from a few wires and smoked the lid of the cabinet.

If you use the lamp cord I have suggested, and run it down through the holes in the rack, to the switchboard, as directed, there will not be the slightest chance of shorts or trouble. You know an ordinary 6-volt A battery will set an automobile on fire, so you must be decently careful with the wiring of 150 volts of B, whether it be storage or dry cell.

When you first turn the current into the rectifier, the lamp will burn brightly until the plates are formed, but in a few minutes it dulls down, showing that the "one way street" is working as it should. Occasional scraping of the aluminum rod is all the care needed. If you don't want to make a rectifier, you will find that several of the storage battery people make dandies which deliver a half ampere charge, just right for this battery.

I have not told in detail how to make the cabinet. If the parts are cut to the dimensions specified, you can't get it together wrong. Of course, you must cut a rectangular piece about 6 1/2 x 5 inches from the middle of the front piece as shown in figure 6, cutting from the bottom up, so that it will slip down around the switchboard. Then you can slip the cabinet right down over the battery. The drawer pulls or window lifts on the ends are a great convenience in moving the battery around.

When you consider the great amount of service this battery will give and the comparatively small initial cost, the amount of care it needs seems but slight. A few drops of distilled water added per-

(Continued on page 29)

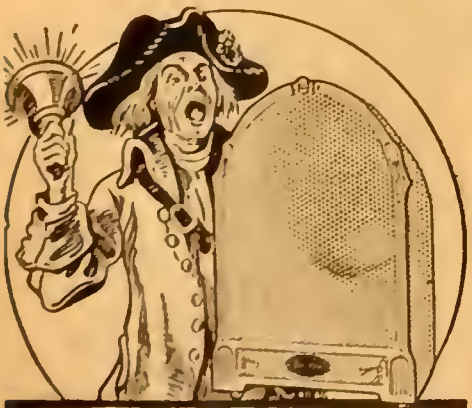
**All on Air at Once in Europe in Wave Trial**

**Hold Two-Hour Tryout Searching Interference**

Europe scheduled a grand Radio jazz for midnight on August 31. The ether was to have been shaken by practically every broadcasting station on the Continent and in Britain, so that new wave lengths could be tried out, and defects or jamming detected before they are finally allocated.

In Britain, Newcastle, Cardiff, and Hull will keep their present waves. The others will be:

	New	Old
Aberdeen	496	495
Swansea	488	482
Birmingham	480	479
Belfast	438	439
Glasgow	420	422
Newcastle	403	403
Bournemouth	387	386
Manchester	377	378
London	363.5	365
Cardiff	351	351
Leeds	342.5	346
Plymouth	339	338
Hull	335	335
Dundee	331.5	331
Edinburgh	328	327.5
Liverpool	314	315



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Radio's Most Beautiful Speaker

WRITE today for illustrated description in colors of this beautiful instrument—The Speaker with the Voice that Thrills! You will be delighted with the artistic stippled finish and the gorgeous colors of the Town Crier models in Green and Golden Polychrome. Ask your Dealer to show you a Town Crier—you will recognize its surpassing excellence instantly.

PRICE

\$17.50      \$18.50

West of the Rockies

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CHICAGO

Nottingham	292.5	326
Bradford	310	243
Stoke	360	239

**TWO WAVE LICENSE IS HELD BY WKRC PLANT**

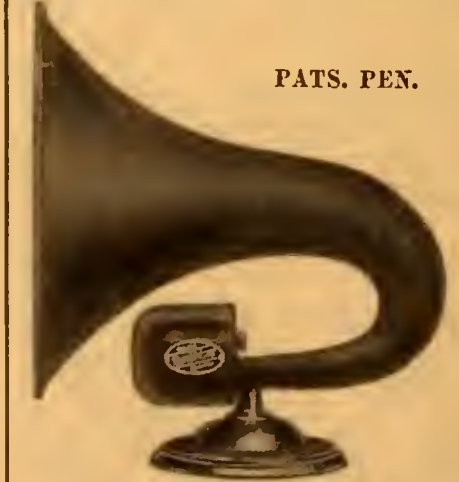
**Cincinnati Station Has Unique Broadcasting Permit**

CINCINNATI. — Station WKRC, the Kodel Radio corporation here, has the unique distinction of being the only broadcasting station in the world regularly licensed to operate on two wave lengths.

The wave length at WKRC is changed every month, alternating from 423 to 326 meters. This arrangement was made when WSAI and WLW, the other two Cincinnati stations, and WKRC arranged to share each other's time. In this manner three powerful stations provide entertainment, two of them being on the air at the same time, without incurring any complaints from local listeners, who can reach through all three for distance.

**Marvelphone**

A one word story of a new Radio Reproducer embodying new principles hitherto unknown to the Science of Sound Reproduction.



PATS. PEN.

**Absolutely No Metallic Sound**

Utmost Volume with astonishing clarity.

No Battery Required. Cord Supplied.

List \$30.00

Jobbers and Dealers—Write for Our Proposition.

**WIRELESS LABORATORY**  
BURLINGTON, IOWA

**NO TAX ON RADIO WENR GUARANTY**

**Major Frost Promises Free Broadcast Entertainment at New Plant Opening**

CHICAGO.—WENR, the new 1,000-watt class B broadcasting station owned and operated by the All-American Radio corporation here, made its bow to the Radio public recently with an inaugural program lasting from 8:30 p. m. to 3 a. m.

E. N. Rauland, president of the company, made a short introductory talk outlining the policies and plans of the new station in its relations with the vast audience of listeners. "It will be our purpose to present the highest form of entertainment without introducing cheapening advertising in any form," said Mr. Rauland.

Maj. Herbert H. Frost, president of the Radio Manufacturers' association, spoke briefly on the future of broadcasting. He said, "American listeners will never be

called upon to pay a tax to support broadcasting. This will never happen in the United States because enough broadcasting stations are owned and operated by Radio manufacturers to reach every part of the country."

The wave length of the station is 266 meters. The transmitter is a 1,000-watt Western Electric 106-A set using the master oscillator system with a 5-kilowatt power amplifier, employing a water cooled tube. This is a duplicate of the transmitter installed at the Atlanta Journal station, WSB.

The Paris Bourse de Commerce (Produce Exchange) is being fitted with Radio loud speakers with the object of facilitating telephonic communications during the business rush hours.

The Barcelona station, which has up until now been inside the city, will be removed shortly to a hill just outside, and opportunity will be taken to increase the kilowatt strength.

The German authorities announce the removal of all restrictions on the kind of set used by amateurs.



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

MAGNATRONS are for sale by the better dealers everywhere. The type DC-199, the DC-201A, and the DC-199 with large base each sell for only \$2.50.

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Magnatron Building      Hoboken, N. J.

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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.

Radio Digest Publishing Co.  
510 N. Dearborn Street  
Chicago, Ill.

# Metal Plate Eliminates Power Hum

## Copper Plate Plan Is Cure for A. C. Noise

I am using a three circuit receiver and have been bothered with an A. C. hum which stopped when I removed the aerial and ground from the set. I could not use over one stage on account of the hum.

### WORKSHOP KINKS EARN A DOLLAR—

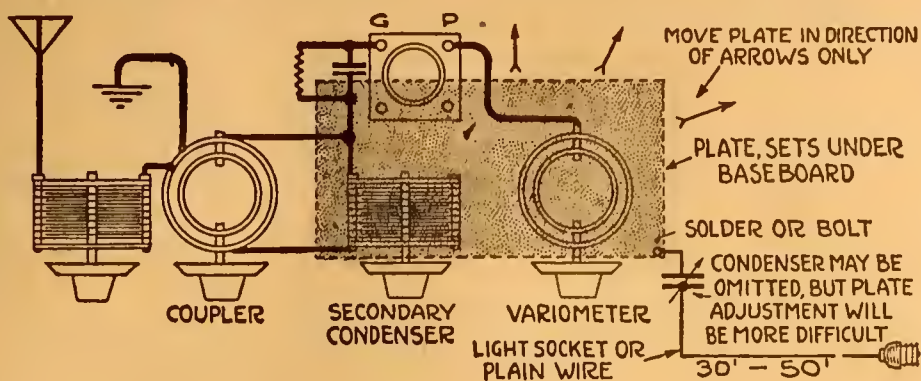
There are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much interested in obtaining such material.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

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

and grounding the batteries and transformers only made it worse. I have now worked out a scheme that entirely eliminates the hum.

First, remove the ground from the battery or any other part that may be

## DIAGRAM FOR INSTALLING SHEET



grounded except the primary coil. Get a small sheet of non-magnetic metal such as copper or aluminum about 5 by 6 inches or just big enough to cover the area of the secondary condenser and plate variometer. Next use a wire about 35 or 50 feet long, fasten the wire to the metal plate under the base of the set, directly under the variometer and secondary condenser. The wire may be run along the baseboard or any other convenient place.

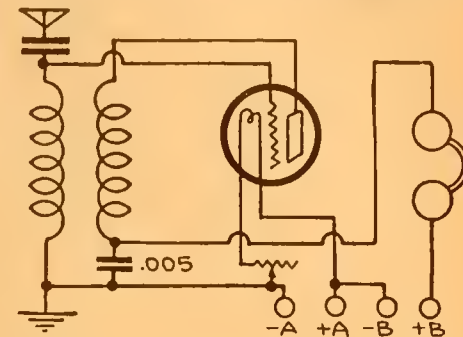
Now turn on the set until it hums the loudest. Slowly move the plate in under the set until the hum has stopped. You will have to remove your hand from the plate and set after each adjustment as the body capacity will affect it. It will be easier to adjust if a variable con-

denser is put in the new short aerial circuit. If this does not eliminate it, the plate is either too close to the parts or too far away for your particular hum. Then too, your short aerial that connects to the plate may be too long. A little experimenting will be necessary to fit each installation. The plate should not touch any instrument in the set.

If you cannot use a wire, an electric light socket aerial may be used with a variable condenser in circuit. The condenser should not be over two feet from the set. It will take a little patience to adjust the plate but once it is set you will never be bothered with any outside noise from the power lines.—John Bricker, Mantua, Ohio.

## High Wave Regeneration

A kink for high wave regeneration with single circuit sets is here outlined. On a great many of these sets, the regeneration or ability to oscillate ends about midway of the wave length range. One



very good remedy is to place a fixed condenser between .00025 and .005 from the ground to the tickler circuit at the point where plate coil connects to the P terminal of the audio transformer or to the phones.—Harvey Woods, Jasper, Mo.

## To Increase Selectivity

To increase selectivity, turn your aerial into a loop by hooking a 25-turn honeycomb coil between a grounded object and the end of the antenna furthest from the house. The circuit is tuned with a variable condenser.

There is no Radio station in Portugal. There are, however, several thousands of amateur receiving sets in operation.

## British Tell of Helps For Better Reception

The British air ministry has just published a brochure dealing with the problem of elimination of interference from Radio receiving apparatus. Methods that may be used to this end are summarized in the publication as follows:

Avoid direct connection of the receiving apparatus to the receiving aerial by using loose coupling; use a counterpoise instead of a direct ground connection for the receiving aerial, and avoid grounding on mains, etc.; place the receiving room as far as possible from the source or sources of disturbance; arrange that the receiving room and aerial are in the region of minimum intensity of the disturbing field, and that the horizontal portion of the aerial is perpendicular to disturbing mains; place tuners, amplifiers, etc., in metal boxes and ground the boxes; fit iron sheeting or 1/2-inch netting over the walls, floor, and ceiling of the receiving room, connect it throughout and ground it; use no ground returns but metallic circuits throughout; use metal-sheathed cable for light and power mains and for telegraph circuit, and bury the cable (this should be done up to a quarter-mile radius from the receiving station if possible); arrange that any disturbing leads which must cross reception leads shall do so at right angles; ground the core of transformers; fit closed-iron-core chokes in D.C./H.T. mains, with two large condensers across the mains, one before the chokes and one after them; place large condensers across heavy-current switch contacts to absorb e.m.f. when the circuit is broken; enclose generators, motors, transformers, chokes, etc., in complete metallic screens and ground the screens; use low-frequency current for light supply.

## EDISON PLATE BATTERY

(Continued from page 28)

haps once a month to each cell is all that is required. Once a year it is well to discharge the battery completely, take out all the elements, wash them and the tubes, and replace again with fresh solution. This annual housecleaning is desirable because the solution has a habit of creeping up and crystallizing around the edges of the tubes, and when this happens the battery will not hold its charge. It is best to use rubber gloves when overhauling.

### Remarks; Conclusion

Some people put a perforated soft rubber cork in each tube to hold the wires in place and prevent spraying from a rapid charge, but personally I do not care for this scheme. If the electrolyte does bubble up through the hole in the cork it is more annoying than the spray. Charge moderately slow and you will have no trouble.

The initial labor of building one of these batteries is rather tedious, particularly if you have to disassemble a large cell and salvage your own elements. The cost of recharging will never show on

your electric light bill, however, and you will have a "perpetual" supply of high voltage, which can be quickly replenished. My second one of these batteries has to be charged from a 32-volt Delco lighting plant in the country, and consequently has to be split into six 25-volt blocks instead of three 50-volt blocks. This necessitates five DPDT switches instead of two and is more trouble to wire, but it gives equally good service and, with the Delco delivering direct current, no rectifier is needed.

## Small Space Aerial

If cramped for space, erect your aerial on the side of the house. Make a four-strand antenna, the wires at each end of which are separated by a "spreader." Attach one end to the roof and the other to the window sill on the lower floor.

The Tri-State fair, an annual event, is being held in Amarillo during the week September 26 to October 3 inclusive, and it is expected that a great many visitors will pay visits to Station WDAG in addition to the entertainers coming from the various towns on this great plains country.



It's OUT—Complete everlasting ready to run non-acid, non-sulphating 22 1/2-volt rechargeable "B" storage battery, \$2.95. Includes chemical. Does not lose its charge standing idle. Special 2-22 1/2 volts (45 volts) \$5.25; 90 volts \$10.00; 112 1/2 volts \$12.50; 135 volts \$14.75; 157 1/2 volts \$16.80. Nearly 3 years sold on a non-red tape, 30-day trial offer, with complete refund if not thoroughly satisfied. Further guaranteed 2 years. Knock-down kits at still greater savings. Complete ready to run "B" battery charger \$2.75. Sample cell 35c. Order direct—send no money—simply pay expressman's cost on delivery, or write for my free literature, testimonials and guarantee. Same day shipments. My large 36-page radio goods catalogue 10c. B. D. Smith, 31 Washington Ave., Danbury, Conn.

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The Ozarka organization today consists of 3,100 men. In territory not now covered the right man is wanted. \$100 weekly in spare time is not unusual. Many Ozarka men are making far more—some have been with us for three years.

**FREE Book Tells How—**  
Write me personally—tell me about yourself, and I'll see that my 64 page book, Ozarka Plan No. 100, is sent you without cost. Please mention the name of your county. To be sure of my personal attention, attach coupon below to your letter.

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County..... State.....

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This is a real piece of furniture, being made in dark, rich mahogany with a Duco finish. The patented double reflex principle of sound is used, giving perfect reproduction of music and voice. Everyone who hears this speaker says it is a sensation.

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Static Eliminator Company  
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**Not a Bit of Static Now**

# Questions and Answers

## Straight Line Frequency Condensers

(14348) J.C. London, Ontario.  
Would straight line frequency condensers improve the selectivity of a neutrodyne set if properly installed? I'm using standard Fada Neutroformers and Freed-Hisemann hook-up. If they can, what capacity?

A.—The value of straight line frequency condensers is generally misunderstood. They will not improve the selectivity of any set over any other type of condenser of equally good construction and materials. They will however, spread out the points at which low wave stations are heard with maximum volume, giving a greater apparent selectivity. On the other hand, if a low wave station is heard over two degrees where six stations are heard in ten degrees with a straight line wave or capacity condenser, that station will be heard over six degrees if the six stations are heard in thirty degrees with the SLF condenser.

For that reason, if listening to a distant station at eight on the dial, and there is a slight undertone or carryover from a local whose peak volume is had at eleven on the dial, there will be exactly the same undertone after the SLF units are installed and the DX station comes in at eighteen on the dial and the peak of the local is at twenty-seven. Selectivity, or the lack of it, is not so much dependent on condenser construction now as formerly; now, they all have their losses reduced to about the lowest possible minimum. Coil construction, socket construction, coupling and methods of controlling oscillations are the points in which to improve selectivity.

## Radiation Preventer

(14334) RIE, Belleville, N. J.  
Will you kindly print in your Radio Digest a diagram of a honeycomb set with which I may be able to receive long distance? I now have a one tube set

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REPLACES THE AERIAL  
IMPROVES RECEPTION  
Increases Selectivity. Gives wonderful results with any radio set. Not attached to, but merely placed under the telephone. Price One Dollar. Complete with insulated wire and simple instructions. At Your Dealer or Mailed C. O. D. on 3 days approval. ANTENNAPHONE CO. 90 West St. New York City



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SEND FOR complete description of this powerful B Unit, that you can build in an hour, at a reasonable cost. Use the current in the U.S. — Excellent for Super and all TRF sets. A more greater clarity, DX and Volume. No more No-Tune for Acids. Utilize full wave rectification.  
Guaranteed to Give Complete Satisfaction or Your Money Refunded.  
**PRICE**  
Complete Kit—60 Cycle Unit.....\$22.50  
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Kits include Rectifiers  
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DEALERS—Write for our proposition.  
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## RULES TO FOLLOW WHEN ASKING QUESTIONS

The Question and Answer department offers service to Radio Digest readers without charge but asks that the following suggestions be read carefully before writing.

- 1—Search carefully the back issues which you have, as the point in question has probably been covered several times before.
- 2—Letters for this department should be kept separate from all correspondence to other departments and on other subjects.
- 3—Questions should be written on one side of paper only and each sheet should bear the sender's name and address. All letters should be accompanied by a self-addressed stamped envelope of standard business size.
- 4—Unsigned (or anonymous) letters cannot be answered, either on this page or by letter, nor can those without address.
- 5—No circuits of any standard manufactured receiver will be published.

which howls and interferes with other sets in the neighborhood, so I have been compelled to discontinue the use of same.  
A.—There is no good reason why you should discontinue the use of your set if

6—No comparative statements on advertised apparatus will be given except as to efficiency in some particular circuit.

7—Drawing diagrams on a separate sheet of paper will save time and enable us to give all questions more attention.

8—Write each question as a separate paragraph.

9—Make a copy of your letter and diagrams, to which we can refer without re-drawing.

10—The names and addresses of the writers of letters published will not be released except with the writer's permission.

11—We want to be of assistance to you in your difficulties, but are sometimes limited because of the length and time required for the proper consideration of the questions asked. Therefore, please make your letters brief.

it has been giving satisfactory operation, and go to the expense of building a new one. If you will read over the article by J. A. Thatcher in the August 15 issue, you will undoubtedly be able to construct a

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Thank the broadcasters with attractive Radio Appreciation Cards. Printed in two colors on high grade white Post Card. \$1.00 brings 100 cards postpaid. Order today  
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Correct Grid Leak Resistance Is Sure to Improve Reception.  
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Locates Cuts Instantly  
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unit which will eliminate the radiation trouble experienced with your present set.

## Best Super-heterodyne

(14455) JAU, White Plains, N. Y.  
I have built a Best super-heterodyne using a split loop. On attaching a Peep Hole Meter, I find it causes a drop in the voltage of approximately .5 volt. I also notice that I get loud regenerative whistles which were absent before. I do not know whether this is a coincidence due to some other cause or the effect of the added resistance of the voltmeter.

A.—Concerning your Best super it is suggested that you write to "Radio," Pacific Building, San Francisco, Calif. Mr. Gerald M. Best is technical editor of this paper and will gladly answer any question pertinent to his circuit.

Glass towel racks may be used for aerial insulators. A three-cornered file can be used to cut a notch around the ends of the rack to allow wires to be fastened to it.

A rubber ring cut from an old auto inner tube makes an ideal gasket for fitting a loudspeaker unit to a horn or phonograph arm.

When covered flexible wire is used in a set or on loop terminals, make a cuff of spaghetti tubing and slip it over the ends to prevent fraying of the wire covering.

Men to build radio sets in spare time. Leon Lambert, Wichita, Kansas.



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# Radiophone Broadcasting Stations

## Corrected Every Week Part IV

### FIND MISTAKES AND YOU'LL GET DOLLAR

ONE DOLLAR will be paid to the Radio fan reader of Radio Digest submitting the most errors in any one station's listing in the Directory of Radiophone Stations, which appears in five parts, serially continuously on the next to last page. Letters must reach Radio Digest's office not later than one week from date of issue corrected. Readers are not limited to correcting one station, but such corrections must be verified by the stations themselves, and NOT by comparison to other so-called accurate Radio directories or lists. Verifications must accompany corrections. Turn in corrections for as many stations as you can find—if you can find errors! Use separate sheet of paper for each station submitted and place name and address on each sheet. In case of tie, duplicate awards will be made. Asterisks have been placed in front of corrected listings and new stations in order to distinguish them.

NOTE.—The fourth part of the schedule list appears below. Part five appears next week.

**WBBB**, Chicago, Ill. 250 meters. 500 watts. American Bond & Mortgage Co.—Trilanon. Announcer, Clyde Hager. Slogan, "World's Most Beautiful Ballroom." Daily ex Mon, 7:30-10:30 pm. Sun, 3-5 pm. Central Daylight.

**WMBF**, Miami Beach, Fla. 384.4 meters. 500 watts. Fleetwood Hotel. Daily ex Sun, 7-7:30 pm, dinner concert; 7:30-8, dance; 8, baseball, weather. Sun, Mon, Tues, Wed, Fri, 10-2 am. Thurs, Sat, 10-1 am. Eastern.

**WMC**, Memphis, Tenn. 499.7 meters. 500 watts. The Commercial Appeal. Announcer, G. L. Dearing. Slogan, "Station WMC, Memphis." "Down in Dixie." Club, "Midnight Frolic." Daily ex Sun, 9:45 am, 12:30 pm, weather, markets, music. Daily ex Sun, Wed, 8:30 pm, program; Tues, Fri, 11 pm, Midnight Frolic. Sun, 11 am, church service. Central.

**WMOA**, New York, N. Y. 340.7 meters. 500 watts. "Greely Square Hotel Co. Announcer, A. V. Luffolo. Slogan, "Where the White Way Begins." Daily ex Sun, 11-12 pm; 6:30-12 am. Sun, 11-12:15 pm; 7-10. Eastern Daylight.

**WNAE**, Boston, Mass. 250 meters. 100 watts. The Shepard Stores. Announcer, John J. Fanning. Slogan, "Shepard Stores." Announcer, John J. Fanning. Daily ex Sun, 10:30-11:30 am, 12:53-2 pm, 4-5, 6-7:30, 8-10. Sun, 11 am, 1:30-3 pm, 3-4, 6:45-8:30. Eastern Daylight.

**WNAO**, Norman, Okla. 254 meters. 250 watts. Univ. of Okla. Announcer, C. E. Bath. Slogans, "Oklahoma," "Voice of Sooner Land." Daily 8:15 pm, weather, news. Wed, 8:30-9:30 pm, music. Central.

**WNAW**, Omaha, Neb. 252 meters. 50 watts. Central H. S. Announcer, Ronald J. Rockwell. Slogan, "Flower Broadcast of Omaha." Fri, Sat, 7:30-9 pm. Central.

**WNAZ**, Butler, Mo. 231 meters. 30 watts. First Christian church. Announcer, Perry V. Riley. Sun, 11 am, 8 pm. Central.

**WNAZ**, Philadelphia, Pa. 250 meters. 100 watts. Lenning Bros. Co. Announcer, Jess Brinton Young. Slogan, "We Never are Tired." Wed, 6:50 pm. Eastern Daylight.

**WNAZ**, Yankton, S. D. 244 meters. 100 watts. Dakota Radio Apparatus Co. Daily ex Sun, 11:30-11:45 am, markets, weather; 5-6 pm, music. 500 watts. Radio WNAZ, Newark, N. J. Announcer, W. A. Blinghelmer. Slogan, "The Voice of Newark." Tues, Wed, Fri, Sat, Sun, 6-8:30 pm, 8:30-12, dance music. Eastern Daylight.

**WNOX**, Knoxville, Tenn. 268 meters. 500 watts. Peoples Telephone & Telegraph Co. Central.

**WNYC**, New York, N. Y. 526 meters. 1000 watts. New York Municipal Radio Station. Announcer, Christie R. Bohneck. Slogan, "Municipal Broadcasting Station of the City of New York." Daily 7 pm, markets; 7:30 pm, 10:30, police; 7:35, entertainment; 10:30, weather. Sun, 9-11 pm, Mark Strand theater. Eastern Daylight.

**WOAC**, Lima, O. 261 meters. 50 watts. Page Organ Co. (H. P. Maus). Tues, Thurs, Sat, 7:30-8:30 pm. Central.

**WOAI**, San Antonio, Tex. 394.5 meters. 1,500 watts. Southern Equip. Co. (Evening News-Express). Announcer, J. G. Cummings. Slogan, "The Winter Playground of America, Where the Sunshine Spends the Winter." Daily ex Sun, 9:30 am; 12:15 pm; 3, 7, news, baseball, markets, music. Daily ex Sun, Fri, 8:30-9:30, entertainment. Tues, Thurs, 9:30-10:30 pm. Sun, 11 am; 8 pm, services; 9:30-10:30, musical program. Central.

**WOAN**, Lawrenceburg, Tenn. 282.8 meters. 500 watts. James D. Vaughan. Announcer, James D. Vaughan. Daily ex Sun, 12:15-12:45 pm, concert. Daily ex Sat, 9-10 pm, concert. Central.

**WOAW**, Omaha, Neb. 526 meters. 1000 watts. Woodmen of the World. Announcer, "G.R." Gene Rouse. Slogan, "The City Surrounded by the United States." Daily ex Sun, Wed, 12:30-1 pm; 5:45-7:30, 9-11. Sat, 11-12 midnight, dance. Sun, 9-10:45 am; 9-11 pm. Central.

**WOAZ**, Trenton, N. J. 240 meters. 500 watts. F. J. Wolf. Slogan, "The Voice from Trenton." Daily, 12:15 pm, 1:15, weather; Wed, 1:15 pm, midweek crop report. Sun, 9:30-11:30 pm. Eastern Daylight.

**WOC**, Davenport, Iowa. 453.6 meters. 5,000 watts. The Palmer School of Chiropractic. Slogan, "Where the West Begins and in the State Where the Tall Corn Grows." Daily ex Sat, Sun, 12:30 pm, Radio Farm school; 12:57 pm, time; 1, weather; 1:05, closing markets; 3, home hour; 6, bulletin, baseball. Daily ex Sun, Mon, 5:45-6 pm, Tues, 6:30-7 pm, New York program; 8-9, Wed, 4-4:45 pm; 9-10, Thurs, 7-8, 8-9, 11:12. Fri, 4-5 pm, Crescent orchestra; 8-9, Sat, 9-10 pm; 11-12, Sun, 1-2 pm; 6:45, baseball; 8-8:30, church; 9:30-11:30. Central.

**WOCG**, Sycamore, Ill. 205.4 meters. 10 watts. Triple Alliance Radio Station.

**WOCL**, Jamestown, N. Y. 275.2 meters. 15 watts. Hotel Jamestown, Inc. Announcer, William A. McCutcheon. Slogan, "We're on Chautauqua Lake." Wed, Sat, 9:30 pm. Sun, 10:30 am, 7:30-9. Eastern.

**WODA**, Patterson, N. J. 224 meters. 100 watts. O'Dea Temple of Music. Slogan, "A Voice from the Silk City." Daily ex Sun, 12-1 pm. Daily ex Sun, Wed, 5-7 pm. Mon, Tues, Fri, 8:30-11 pm. Thurs, 9-2 am. Eastern.

**WOLA**, Ames, Ia. 270 meters. 750 watts. Iowa State College. Announcer, H. B. Deal. Daily ex Sun, 9:30 am, weather reports; 12:30 pm, chimes, market, weather, educational talks; 9:30, weather. Central.

**WOK**, Homewood, Ill. 217.3 meters. 5,000 watts. Neutrovoud Radio Mfg. Co. Announcer, George W. Allen. Daily ex Mon, Sun, 12-2 pm, 6-7, 10-11. Mon, 12-2 pm, 6-1. Sun, 7-1 am. Central Daylight.

**WOKO**, New York, N. Y. 233 meters. 50 watts. The Dryckman Radio Shop. Announcer, uEgene Delman. Mon, Thurs, Sat, evening program.

**WOO**, Philadelphia, Pa. 508.2 meters. 500 watts. John Wanamaker. Announcer, Jos. N. Nassau. Daily ex Sun 11 am, organ recital; 11:55, time; 12-1 pm, concert; 4:30, weather; 4:45, organ recital; 7:30, police reports; 8:55, time; 10:02, weather. Mon, Wed, Fri, 7:30-11 pm, music, concert. Sun, 2:30 pm, Sunday school; 6, organ recital; alternate am and pm service. Eastern Daylight.

**WOOA**, Kansas City, Mo. 278 meters. 500 watts. Unity School of Christianity. Tues, Sat, 8-9 pm. Thurs, 7-7:45 pm. 7:15-8. Sat, 8-9 pm, 10-11 pm. Sun, 8-8:15 pm. Central.

**WOR**, Newark, N. J. 405.2 meters. 500 watts. L. Bamberger & Co. Announcer, J. M. Barnatt. Daily ex Sun, 7 am, 2:30-4 pm; 6:15-7:30. Mon, Wed, Sat, 8-12 midnight. Wed, 6:15-7 pm. Eastern Daylight.

**WORO**, Batavia, Ill. 275 meters. 5,000 watts. Peoples Pulpit association. Announcer, B. M. Rice. Slogan, "Watchtower Station WORD." Daily ex Sat, Sun, 8:30-10 pm. Sat, 8 pm. Sun, 10 am, 6:45 pm, 7:30, talk. Central Daylight.

**WOS**, Jefferson City, Mo. 440.0 meters. 500 watts. Missouri State Marketing Bureau. Slogan, "Watch Our State." Daily ex Sun, first 15 min. of every hour from 9 am-2 pm, markets; 2, N. Y. stocks and markets. Daily ex Sat, Sun, 5 pm, markets. Mon, Wed, Fri, 8-10 pm, concert. Sun, 8-9 pm, church service. Tues, Fri, 5 pm, children's story hour. Central.

**WOWL**, New Orleans, La. 270 meters. 100 watts. Owl Battery company.

**WOWO**, Fort Wayne, Ind. 227 meters. 500 watts. Mein Auto Supply Co.

**WPAK**, Fargo, N. D. 275 meters. 100 watts. N. D. WPAK. Announcer, Gordon Laing. Off the air until October 5.

**WPG**, Atlantic City, N. J. 299.8 meters. 500 watts. Municipality of Atlantic City. Slogan, "World's Playgrounds." Mon, Tues, Fri, 7 pm. Tues, Thurs, Fri, Sat, 9 pm; 10, classica. Mon, 8 pm. Thurs, 11 pm. Sat, 8:30 pm, concert; 10, Sun, 3:15 pm, organ; 4:15, service; 10, service. Eastern Daylight.

**WPSC**, State College, Pa. 261 meters. 500 watts. Pa. State College. Slogan, "The Voice of the Nittany Lion."

**WQAA**, Parkersburg, Pa. 220 meters. 500 watts. Horace A. Beale, Jr. Temporarily discontinued.

**WQAC**, Amarillo, Tex. 234 meters. 100 watts. Gish Radio Service. Irregular schedule.

**WQAE**, Springfield, Vt. 248 meters. 50 watts. Moore Radio News Station. Announcer, Ernest S. Newell. Slogan, "Boost Springfield." Sat, 11-1 am. Sun, 10:30 am, church service; 7 pm, service. Eastern.

**WQAM**, Miami, Fla. 268 meters. 100 watts. Electrical Equip. Co. Announcer, Frederick W. Milzer. Slogan, "It is Always Juna in Miami." The Most Southern Broadcasting Station in U. S. Daily ex Sun, 8:15-9:30 pm. Sun, 8-9 pm. Eastern.

**WQAN**, Scranton, Pa. 250 meters. 100 watts. Scranton Times. Announcer, T. V. Naalon. Slogan, "The Voice of the Anthracite." Daily ex Sun, 12:30-1 pm, 4:45-5:15, news, reports, baseball, music. Tues, Fri, 8 pm, entertainment. Sat, 10-12 midnight, dance music. Eastern.

**WQAO**, New York City, N. Y. 360 meters. 100 watts. Calvary Baptist Church. Announcer, R. E. Borardus. Slogan, "The First Church Owned and Operated Broadcasting Station in the World." Sun, 11:30 am, 7:30 pm, church service. Eastern Daylight.

**WQJ**, Chicago, Ill. 447.5 meters. 500 watts. Calumet Baking Powder company—Rainbo Gardens. Announcer, Jerry Sullivan. Daily ex Sun, 11-12 pm, women's hour. Daily ex Sun, Mon, 7-8 pm, 10-1, 1-2, Glinger hour. Sat, 1:45-2:45 pm; 10-3 am. Sun, 3-4 pm; 8-10. Central Daylight.

**WRAF**, La Porte, Ind. 224 meters. 100 watts. Radio Club, Inc. Announcer, Charles Middleton. Slogan, "The Voice of the Maple City." Mon, Thurs, Sun, 8:30 pm. Central.

**WRAC**, Escanaba, Mich. 256 meters. 100 watts. Economy Light Company. Announcer, Ken Voght. Slogan, "The Gateway to Cloverland." Mon, Fri, 8:30 pm. Eastern.

**WRAM**, Galesburg, Ill. 244 meters. 100 watts. Lombard College. Special program.

**WRAY**, Yellow Springs, O. 263 meters. 100 watts. Antioch College. Announcer, Charles Hoffman. Wed, 8 pm, music; 9, educational. Sun, 7 pm. Central.

**WRAW**, Reading, Pa. 238 meters. 10 watts. Avenue Radio & Elec. Shop. Slogan, "The Schuylkill Valley Echo." Announcer, C. M. Chafey. Daily ex Sun, 7 pm, baseball. Thurs, 7:10, sport talk. 10-11:30 pm. Eastern.

**WRAX**, Gloucester City, N. J. 268 meters. 500 watts. "Flexon's Garage." Announcer J. Montgomery Lee. Mon, Wed, Fri, 10-11:30 pm. Tues, Thurs, Sat, 10:30-12 midnight. Eastern.

**WRBC**, Valparaiso, Ind. 278 meters. 500 watts. Emmanuel Lutheran church. Announcer, Forrest Jones. Slogan, "World Redeemed by Christ." Mon, 7:30 pm. Sun, 10:30 am, church service. Central.

**WRC**, Washington, D. C. 468.5 meters. 1000 watts. Radio Corp. of America. Announcer, Norman Brokenshire. Slogan, "The Voice of the Capitol." Mon, Wed, Fri, 9-6:30 pm. Tues, Thurs, Sat, 9-12 midnight. Eastern.

**WRCO**, Raleigh, N. C. 252 meters. 100 watts. Wynne Radio Co. Daily ex Sun, 7:30 pm. Eastern.

**WREC**, Coldwater, Miss. 254 meters. 10 watts. Wooten's Radio & Elec. Co. Announcer, S. D. Wooten. Slogan, "The Most Powerful 10-Watt Station in the World." Closed temporarily.

**WREO**, Lansing, Mich. 285.5 meters. 500 watts. Reo Motor Car Co. Announcer, Roy E. Davis. Slogan, "Watch Reo." Daily ex Sun, 6-7 pm, dinner concert; 10, weather, baseball. Tues, Thurs, Sat, 10-12 midnight. Sun, 10 am, chimes; 10:30; 7:30 pm, church. Eastern.

**WRHF**, Washington, D. C. 256 meters. 50 watts. Washington Radio Hospital. Daily ex Sun, 11 am, police reports, news. Eastern.

**WRHM**, Minneapolis, Minn. 252 meters. 50 watts. "Rosedale Hospital, Inc."

**WRK**, Hamilton, O. 270 meters. 200 watts. Doron Brog. Elec. Co. Slogan, "The Oldest Station in Existence." Fri, 8:15 pm, music, lecture. Sun, 10:15 am, 7:30 pm, church service. Central.

**WRM**, Urbana, Ill. 273 meters. 500 watts. Univ. of Ill. Irregular schedule.

**WRMU**, New York, N. Y. 236 meters. 100 watts. A. H. Grebe & Co., Inc. Motor Yacht "MU-1."

**WRNY**, New York, N. Y. 258.5 meters. 500 watts. Experimental Pub. Co. Daily ex Sat, Sun, 12 m, 1, 1:02, 1:10, 7:20. Sat, 12 m, 12:02 pm, 12:10, 12:30, 1, 1:30, 7:20-1. Sun, 3-5 pm. Eastern Daylight.

**WRR**, Dallas, Tex. 272.6 meters. 350 watts. City of Dallas. Announcer, C. H. Garrett.

**WRW**, Tarrytown, N. Y. 272.6 meters. 500 watts. Tarrytown Radio Research Laboratory. Announcer, Frederick Koelg. Slogan, "Everything in Radio." Daily ex Sun, Wed, 9-11:30 pm. Mon, 7-8 pm. Wed, 10-11:30 pm. Sun, 8-9 pm, 10:30-11:30. Eastern Daylight.

**WSAC**, Clemson College, S. C. 336.9 meters. 500 watts. Clemson Agril. College. Announcer, H. E. Gaffney. Off the air until Sept. 1.

**WSAI**, Cincinnati, O. 325.9 meters. 5,000 watts. United States Playing Card Co. Announcer, P. A. Greene. Mon, 10-12 m. Tues, 7-10 pm. Wed, 10-12 midnight. Thurs, 8-10 pm. Sat, 8-10; 12-1:45 am. Sun, 3-4 pm, 8-10. Central Daylight.

**WSAJ**, Grove City, Pa. 229 meters. 250 watts. Grove City College. Announcer, Wm. L. Harmon. College activities. Wed, 7:30-9 pm, music, irregular programs. Eastern.

**WSAN**, Allentown, Pa. 229 meters. 100 watts. Allentown Call Pub. Co. Announcer, C. Fred Ritter. Tues, Thurs, 8:15 pm. Eastern.

**WSAR**, Fall River, Mass. 254 meters. 100 watts. Doughty & Welch Elec. Co., Inc. Announcer, Barton G. Albert. Daily ex Sun, 12-1 pm. Sun, 10:30-12 m. Eastern.

**WSAU**, Chesham, N. H. 229 meters. 10 watts. Camp Marlenfeld.

**WSAV**, Houston, Tex. 248 meters. 100 watts. C. W. Vick Radio Construction Co.

**WSAZ**, Pomeroy, Ohio. 244 meters. 50 watts. Chase Elec. Shop. Announcer, Glenn E. Chase. Wed, 9:30 pm. Music. Sun, 10:30 am, 2:30 pm. Eastern.

**WSS**, Atlanta, Ga. 428.3 meters. 1,000 watts. Atlanta

**Journal**, Announcer, Lemhdin Kay. Slogan, "The Voice of the South." Daily ex Sun, 12-1 pm, music, weather; 2:30, reports; 5, orchestra, time story; 8-9, concert (ex Wed) 10:45-12, concert. Sun, 5-6, 7:30-8:15, church services. Central.

**WSSC**, Chicago, Ill. 200.7 meters. 200 watts. World Battery Co.

**WSSF**, St. Louis, Mo. 273 meters. 250 watts. Stix "Raer & Fuller Dry Goods Co. Announcer, Helen G. Hatfield. Daily, 12-12:30 pm, 3-3:30. Mon, Wed, Fri, 7:30-8 pm. Tues, Thurs, 8 pm. Mon, 12-1 am. Tues, Thurs, Fri, 11-1 am. Sun, 7:30-8:30 pm; 11-1. Central.

**WSOA**, New York, N. Y. 263 meters. 250 watts. City Temple. Thurs, 8-9:30 pm. Sat, 10:15-12 m. Sun, 7:30-9:30 pm. Eastern Daylight.

**WSKC**, Bay City, Mich. 261 meters. 100 watts. World's Star Knitting Co. Announcer, L. M. Nina. Slogan, "Where the Summer Trails Begin." Mon, 8-11 pm, dance. Wed, 8-11 pm, concert. Central.

**WSMB**, New Orleans, La. 310 meters. 500 watts. Saenger Amusement Co. and The Maison Blanche Co., Daily ex Sun, 12:30-1:30 pm, 8:30-7:30. Mon, Wed, Thurs, Sat, 8:30-10:30 pm. Central.

**WSMH**, Owosso, Mich. 240 meters. 10 watts. Shattuck Music House. Announcer, Don Shattuck. Closed for the summer.

**WSMK**, Dayton, Ohio. 275.2 meters. 500 watts. S. M. Krohn, Jr. Slogan, "The Home of Aviation." Daily ex Sun, 12-1 pm; 4-4:30; 6-8. Mon, Wed, Thurs, Fri, Sat, 8-10:30 pm. Central.

**WSOE**, Milwaukee, Wis. 431 meters. 500 watts. School of Engineering of Milwaukee. Announcer, O. W. Melsner. Slogan, "In the Land of the Sky-blue Waters." Daily ex Sun, 9-10 am, lecture; 1-3 pm, talk; 5:30-6; 6-8:30, markets. Mon, Tues, Fri, Sat, 8-10 pm. Wed, 7:30-8 pm. Thurs, 7:30-8; 8-8. Central.

**WSRF**, Broadlands, Ill. 233 meters. 10 watts. Dick's and Harden Radio Station. Announcer, "Red" Harden.

**WSRO**, Hamilton, Ohio. 252 meters. 100 watts. Radio Co. Announcer, Harry W. Fahrlander. Slogan, "We Sell Radio Only." Wed, Fri, Sun, 10-12 midnight. Central.

**WSL**, Iowa City, Ia. 483.6 meters. 500 watts. Univ. of Iowa. Announcer, Carl Menzer. Mon, Tues, Wed, Thurs, Fri, 12:30-1 pm. Central.

**WSY**, Auburn, Ala. 250 meters. 600 watts. Alabama Polytechnic Institute. Off the air until October.

**WTAB**, Fall River, Mass. 266 meters. 100 watts. Fall River Daily Herald. Daily, 6 pm, organ. Tues, Thurs, 8-10 pm. Mon, Thurs, 10:45 am. Eastern Daylight.

**WTAC**, Johnstown, Pa. 267.8 meters. 100 watts. Penn. Traffic Co. Announcer, D. B. Cole. Mon, Fri, 7:30-10 pm. Eastern.

**WTAO**, Carthage, Ill. 236 meters. 50 watts. Robert E. Compton.

**WTAL**, Toledo, Ohio. 252 meters. 10 watts. Toledo Radio & Elec. Co. Announcer, E. R. Frank. Slogan, "The Gateway to the Sea." Daily ex Sun, 7:30 pm. Eastern.

**WTAM**, Cleveland, Ohio. 389.4 meters. 2,500 watts. Willard Storage Battery Co. Announcer, A. R. Herske. Slogan, "The Voice from the Storage Battery." Daily ex Sun, 12:15-1:30 pm, 6-7 pm, dinner program. Mon, 8-12 pm, concert. Wed, 8-1 am. Sat, 8-12 midnight, dance. Eastern.

**WTAP**, Cambridge, Ill. 242 meters. 100 watts. Cambridge Radio & Elec. Co. Announcer, B. Talbot.

**WTAQ**, Osseo, Wis. 254 meters. 100 watts. S. H. Ven "Gorden & son. Announcer, Mrs. C. S. Van Gorden. Slogan, "The Voice of the Wilderness." Daily ex Sun, 10:30 am, 12:15 pm, 6:15, weather, markets; 8:30, code. Tues, 8 pm. Fri, Sun, 7:30 pm. Central.

**WTAR**, Norfolk, Va. 261 meters. 100 watts. Reliance Electric Co. Announcer, J. K. Bohannon. Slogan, "Down in Old Virginia." Closed down temporarily.

**WTAS**, Elyria, Ill. 392.8 meters. 1,500 watts. Charles E. Erbstein. Slogan, "Willie, Tommie, Annie and Sammie." Daily ex Sun, Thurs, 8-10:30 pm. Thurs, Sun, 8-12, music. Central Daylight.

**WTAT**, Boston, Mass. 244 meters. 100 watts. Edison Elec. Illuminating Co. (portable). Announcer, Leon B. Hentz.

**WTAW**, College Station, Tex. 270 meters. 250 watts. Agricultural and Mechanical College of Texas. Silent during the summer.

**WTAX**, Streator, Ill. 231 meters. 50 watts. Williams Hardware Co. Radio Division. Announcer, N. B. Williams. Slogan, "Tappa Keggs Nails." Mon, 6-8:30 pm. Thurs, 8-11 pm. Central.

**WTAZ**, Lambertville, N. J. 261 meters. 15 watts. Thomas J. McGuire. Mon, 8-10 pm, music. Eastern.

**WTG**, Manhattan, Kan. 273 meters. 50 watts. Kan. State Agril. College. Daily, 9:55 am, 4 pm, weather. Central.

**WTHS**, Flint, Mich. 218.8 meters. 250 watts. Flint Senior H. S.

**WTIC**, Hartford, Conn. 475.9 meters. 500 watts. The Travelers Insurance Company. Slogan, "The Insurance City." Mon, 5:30-7:30 pm. Tues, 7:30-9 pm. Wed, 5:30-9:30 pm. Thurs, 5:30-7 pm. Fri, 5:30-11 pm. Eastern.

**WVIA**, Philadelphia, Pa. 250 meters. 250 watts. "Wright & Wright, Inc. Announcer, H. W. Feyhl. Slogan, "Penn City Station." Mon, 7:45 pm. Thurs, 7 pm. Eastern Daylight.

**WVAE**, Plainfield, Ill. 242 meters. 5,000 watts. "Electric Park. Announcer, Harry B. Ohlharver. Daily ex Sun, 12:30-1:30 pm; 9-12, midnight, orchestra. Central.

**WVGL**, Richmond Hill, N. Y. 212.6 meters. 500 watts. Radio Engineering Corp.

**WVI**, Dearborn, Mich. 266 meters. 500 watts. Ford Motor Co. Wed, 8-10 pm, music, lectures. Eastern.

**WVJ**, Detroit, Mich. 352.7 meters. 1,000 watts. The "Detroit News. Announcer, E. L. Tyson. Mon, Wed, Fri, 7:30-8 am, 8-8:30 am, setting-up exercises; 9:30-9:45, household hints; 10:25-10:30, weather; 11:55-12, time; 12:05-12:45 pm, music. Daily ex Sat, Sun, 3:55-4:6, baseball scores, markets. Daily ex Sat, Sun, 4-6, baseball scores, markets. Daily ex Sat, Sun, 4-7, dime concert; 8, music. Mon, Wed, Fri, 9 pm, orchestra. Wed, 10 pm, orchestra. Sun, 11 am, church service; 2-3 pm, concert; 6:20, Capitol theater. Eastern.

**WVWL**, New Orleans, La. 275 meters. 100 watts. Loyola Univ. Announcer, O. L. Abell. Sat, 7:30-8:30 pm. Central.

**Bahia, Brazil**, Radio Sociedade do Bahia. Bolle Horizonte, Brazil. 50 watts. National Telegraph Service.

**Rio de Janeiro, Brazil**, 6,000 watts. Marconi (Radio Sociedade do Rio de Janeiro).

**Sao Paulo, Brazil**, 320 meters. 20 watts. Radio Bon-dicrantes.

**Belgium**

**BAV**, Haaren, Belgium. 1,800 meters. 1,000 watts. Daily, 3 pm, 2, 4:50, 6:50, weather.

**RADIO-BELGIQUE**, Brussels, Belgium. 265 meters. \*1,500 watts.

(The power ratings of the following Canadian stations are given in "oscillating" watts, rather than watts output—the method in which American stations are rated in this directory.)

**Canada**

**CFAC**, Calgary, Alta., Can. 434.5 meters. 500 watts. Calgary Herald. Announcer, Fred Carleton. Daily ex Sun, 1 pm, news, markets, music. Mon, 9-10 pm. Wed, 7:45-8:45 pm. Thurs, 0-11 pm. (CNRC) Mountain.

**CFCA**, Toronto, Ont., Can. 350.9 meters. 1,000 watts. Toronto Star. Announcer, E. J. Bowora. Daily ex Sun, 12 m, weather, news, stocks; 5:30-6 pm, news, bedtime story. Daily ex Sun, Fri, 8-9 pm. Thurs, 8-11:30 pm, popular program. Fri, 8-9 pm, (CNRT) Sun, 11 am, 7 pm, church services. Eastern.

**CFCF**, Montreal, P. Q., Can. 410.7 meters. 1,500 watts. Marconi Wireless Tel. Co., Ltd. Announcer, C. Walter Darling. Daily ex Sun, 12:45-1:40 pm, stocks, music. Mon, Fri, 7-7:30 pm, bedtime stories; 7:30-8:30, orchestra. Eastern.

**CFCH**, Inverloch Falls, Ont., Can. 490.7 meters. 250 watts. Ahlthl Power & Paper Co., Ltd. Slogan, "The Call of the North." Experimental station for forest protection.

**CFCK**, Edmonton, Alta., Can. 516.9 meters. 100 watts. Radio Supply Co., Ltd. Daily ex Sun, 4-5 pm. Wed, 9-10:30 pm. Sun, 4-5:30 pm. Mountain.

**CFCN**, Calgary, Alta., Can. 434.5 meters. 750 watts. W. W. Grant, Ltd. Slogan, "Voice of the Prairies." Tues, 11:30 pm, Bronco Busters; Wed, 9 pm, Fri, Sat, 10 pm, Sun, (alternate) 11 am, 7:30 pm, service. Mountain.

**CFCT**, Victoria, B. C., Can. 329.5 meters. 500 watts. "The Devillo Station." Slogan, "The Voice of Tourists." Mon, 10-11 pm. Thurs, 10:30-12 midnight. Wed, Fri, 8-9:30 pm. Every second Thurs, 10:30 pm, Night Birds. Sun, 11 am, 7:30 pm. Pacific.

**CFCU**, Hamilton, Ont., Can. 340.7 meters. 500 watts. Jack V. Elliot, Ltd.

**CFHC**, Calgary, Alta., Can. 434.5 meters. 750 watts. Henry Birks & Sons, Ltd.

**CFKC**, Thorold, Ont., Can. 248 meters. 75 watts. Thorold Radio Supply. Daily ex Sun, 12-12:30 pm; 5-6. Tues, Thurs, Sat, 8:30-10:30 pm. Sun, 11 am, church service; 2-4 pm, 6 pm, sacred concert, music.

**CFQ**, Saskatoon, Sask., Can. 329.5 meters. 250 watts. The Electric Shop, Ltd. Announcer, D. F. Streb. Slogan, "The Hub City of the West Where No. 1 Northern Hard Wheat Grows." Daily ex Sun, 12:15-1 pm, markets, reports, music. Tues, 9-11 pm. Thurs, 9-11 pm, address, music. Fri, 9-11:30 pm, dance program. Sun, 11 am, church service. Mountain.

**CFRC**, Kingston, Ont., Can. 450 meters. 500 watts. Queen's University. Discontinued temporarily.

**CFXC**, New Westminster, B. C. 291.1 meters. 20 watts. Westminster Trust Co. and Hume & Rumble, Ltd. Announcer, F. Sterling. Slogan, "Voice of the Fraser River." Mon, Wed, Fri, 7:30-8:30 pm. Pacific.

**CFYC**, Vancouver, B. C. 410.7 meters. 100 watts. Commercial Radio, Ltd. Slogan, "Canada's Flourishing Young City."

**CHBC**, Calgary, Alta., Can. 434.5 meters. 750 watts. The Calgary Alberta. Daily ex Sun, Sat, 6-6:30 pm, news, stock quotations, music. Mountain.

**CHCM**, Calgary, Alta., Can. 434.5 meters. 750 watts. Riley & McCormick, Ltd. Slogan, "Western Canada's Leading Leather Goods Store." Thurs, 8-9 pm. Mountain.

**CHCS**, Hamilton, Ont., Can. 340.7 meters. 100 watts. Hamilton Spectator. Announcer, H. Earnshaw. Daily ex Sun, 6:45 pm, news, markets, baseball. Sat, 10-12 midnight, dance. Sun, 11 am, 7 pm. Eastern.

**CHIC**, Toronto, Can. 356.9 meters. 500 watts. Northern Electric Company. Announcer, R. W. Lovman. Mon, 8-10 pm. Sat, 8 pm. Eastern.

**CHMG**, Toronto, Can. 356.9 meters. 500 watts. Toronto Radio Research society. Announcer, R. H. Combs. Mon, 3:30 pm, concert. Programs CHIC CHMC through this station. Eastern Daylight.

**CHUC**, Saskatoon, Sask., Can. 329.5 meters. 250 watts. "International Bible Students' association. Announcer, E. G. Eason. Tues, Thurs, 8-9:30 pm. Sun, 1-2 pm; 7:30-9:30.

**CHXC**, Ottawa, Ont., Can. 434.5 meters. 250 watts. J. R. Booth, Jr.

**CHYC**, Montreal, Que., Can. 410.96 meters. 500 watts. Northern Elec. Co. Announcer, N. S. Richards. Wed, 8:30 pm. Sun, 7 pm. CNRM programs occasionally. Eastern Daylight.

**CJCA**, Edmonton, Alta., Can. 516.9 meters. 500 watts. "Edmonton Journal, Ltd. Announcer, R. A. Rice. Slogan, "The Sunniest Spot in Sunny Alberta." Club, "Islo Hut." Daily ex Sun, 12:45-1:30 pm, weather, markets. Mon, Tues, Thurs, Sat, 7:30-8 pm. Mon, 8:30-9:30 pm. Wed, 6-8 pm. Sat, 9-11 pm. Fri, 8:30-10:30. CNRE. Sun, 7:30-9 pm. Mountain.

**CJCL**, Montreal, Can. 270 meters. 10 watts. A. Couture.

**CJGD**, London, Ont., Can. 329.5 meters. 250 watts. London Free Press. Daily ex Sun, 1-2 pm, news, stocks, music. Tues, Thurs, Fri, 7:15-8:40 pm. Fri, 11-12 midnight. Sun, 11 am, 7 pm, church services. Eastern.

**CKAC**, Montreal, Que., Can. 410.7 meters. 1,500 watts. "La Presse. Announcer, Jacques Carier. Mon, Wed, Fri, Mon, 1:45 pm, orchestra. Daily ex Sat, 4 pm, weather, markets, stocks, road reports. Tues, Thurs, Sat, 7 pm, children's hour; 7:30, concert; 8:30 pm, studio concert; 10:30, dance. Sun, 4:30 pm, sacred concert. CNRM programs 3 first Thursdays of each month. Eastern Daylight.

**CKCD**, Vancouver, B. C., Can. 397 meters. 500 watts. Vancouver Daily Province. Announcer, William Rose. Slogan, "Canada's Western Gateway." Daily ex Sun, 8:30-9:30 pm, music, news, entertainment. Pacific.

**CKCK**, Regina, Sask., Can. 476 meters. 1,000 watts. "Leader Pub. Co. Announcer, A. W. Hooper. "The Queen City of the West." Daily ex Sat, Sun, Tues, 9:45-10:30 am; 12:30-1:15 pm; 7:30-8:15, music, news, markets. Tues, 9:45-10:30 am; 12:30-1:15 pm; (CNRR) 7:30-9:30. Sat, 9:45-10:30 am; 12:30-1:15 pm. Mountain.

**CKCO**, Ottawa, Ont., Can. 434.5 meters. 100 watts. Dr. G. M. Geldert (Ottawa Radio Assn.) Announcer, Dr. O. K. Gibson. Slogans, "Ottawa's Radio Voice," "The Community Voice of Canada's Capital." Tues, 8-10 pm. Sun, 7 pm, services; 9, sacred concert. Eastern.

**CKCX**, Calgary, Alta., Can. 434.5 meters. 750 watts. P. Burns & Co., Ltd. Tues, 9-10 pm, music, lectures. Mountain.

**CKFC**, Vancouver, B. C., Can. 410.7 meters. 50 watts. First Congregational church.

**CKLC**, Calgary, Alta., Can. 434.5 meters. 50 watts. Wilkinson Electric Co., Ltd.

**CKNC**, Toronto, Ont., Can. 356.9 meters. 500 watts. Canadian National Carbon Co., Ltd.

**CKOC**, Hamilton Ont., Can. 340.7 meters. 50 watts. Wentworth Radio Supply Co., Ltd. Announcer, H. Slack. Slogan, "In the Garden of Canada." Mon, Fri, 8-9 pm, music entertainment. Sun, 7-8 pm, church services. Eastern.

(The above listings complete the stations in the United States and part of the foreign broadcasters. Part V consists of a complete location index of stations and the remainder of the foreign list. This appears next week.)

**Argentina**

**B-1**, Buenos Aires, Argentina. Francisco J. Brusca.

**LOR**, Buenos Aires, Argentina. 350-410 meters. 500 watts. Cia Radio Argentina.

**LOV**, Buenos Aires, Argentina. 350 meters. 1,000 watts. Francisco J. Brusca.

**LOW**, Buenos Aires, Argentina. 325 meters. 1,500 watts. "Grand Splendid Theater. Announcer, Frederico A. Dominguez.

**LOX**, Buenos Aires, Argentina. 375 meters. Radio Cultura.

**LOY**, Buenos Aires, Argentina. Radio Nacional. Announcer, Osvaldo P. Valla.

**TCR**, Buenos Aires, Argentina.



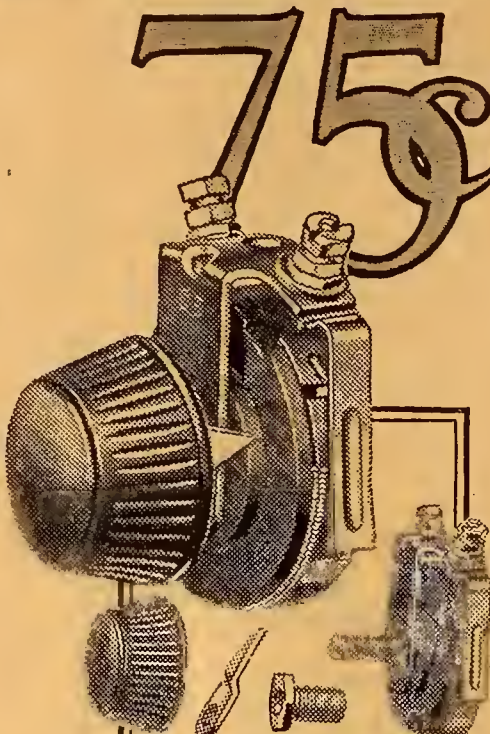
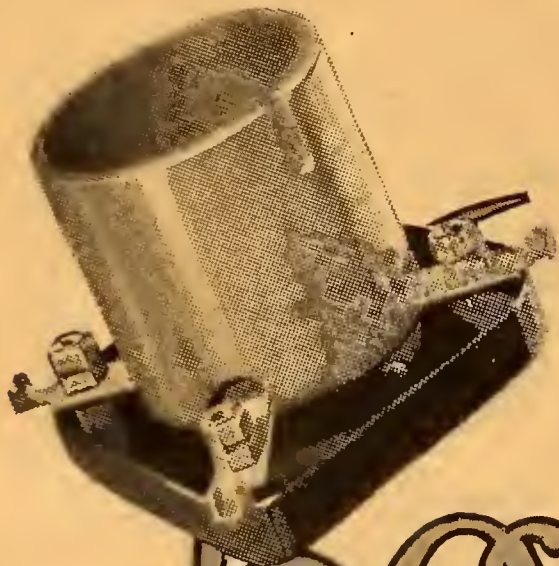
# Now! Quality at a New Low Price

### The Perfected C-H Rheostat

Designed to radio engineers' specifications. Revolving drum type with one hole mounting. All spring tensions adjusted at factory and undisturbed by mounting. Instrument cannot turn on panel. Very small size—less than 3/4 inch back of panel and narrower than standard socket. Operation smooth and quiet. 6 ohms, 15 ohms and 30 ohms—perfect control for all tubes and their combinations.

### C-H Radio Potentiometer

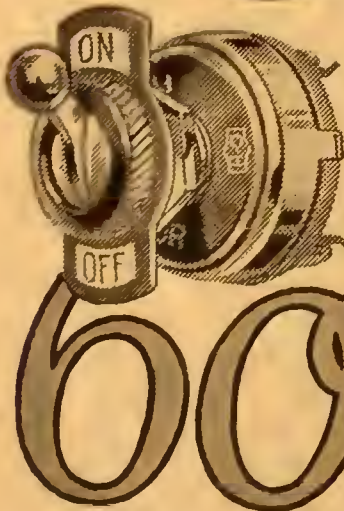
Similar in construction to the perfected rheostat. 400 ohms and only a little larger than a silver dollar. Perfect, smooth operation—no back lash or sticking. Price \$1.00.



Operating parts built as unit—the C-H Perfected Rheostat is not dismantled for mounting on panel. Rheostat is locked in place and knob positioned without a single set screw.

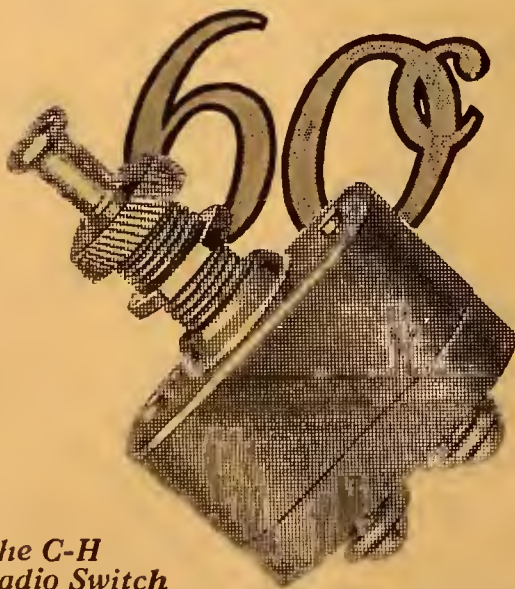
### The C-H Low Loss Socket

The revolutionary socket design that created a sensation everywhere. Thin ORANGE Bakelite shell. Base of heatproof Thermoplas—terminals cannot loosen under heat of soldering iron. Contacts grip both sides of each tube prong and are SILVER plated to prevent corrosion losses. Preferred by careful builders at 90c—now 60c because of huge production savings.



### C-H Radio Toggle Switch

The newest idea in panel switches. ON or OFF with a flip of the finger. Beautiful appearance and simple one hole mounting—neat etched plate for panel provides definite indication. Quiet, easy operating switch mechanism.



### The C-H Radio Switch

The original radio switch. Millions in use. One hole mounting—high capacity mechanism. The only radio switch approved for 110 volt circuits by the Underwriters Laboratories. Ideal for batteryless sets or higher voltage circuits. Many switches now have buttons to look like the C-H but the patented mechanism cannot be duplicated. Demand the orange and blue box for satisfaction.

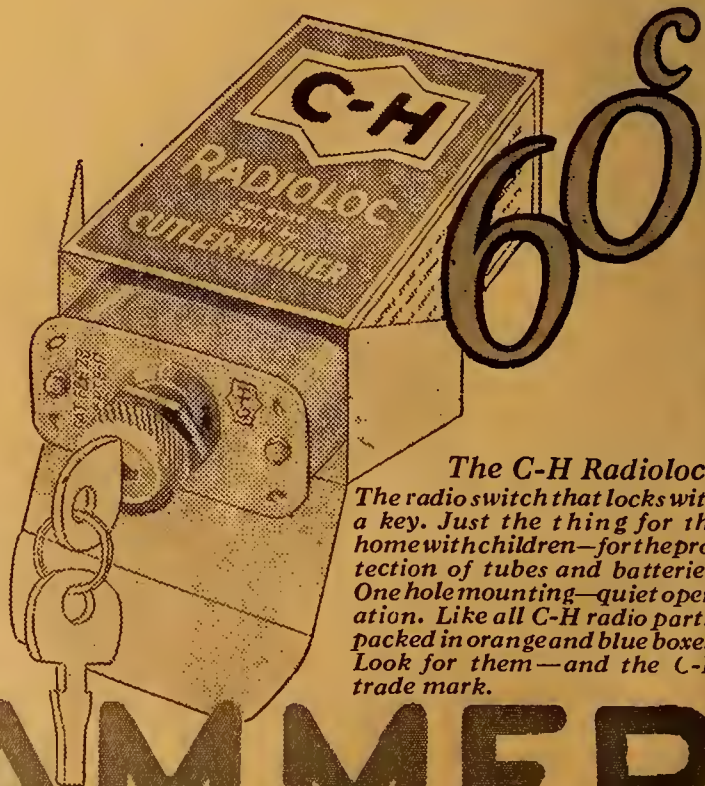
The name Cutler-Hammer has held an enviable position in radio. Consistently from the earliest days has the C-H trade mark been synonymous with proper design and unequalled precision. Radio builders everywhere justly had faith in these foremost engineers and millions of their radio parts in the orange and blue boxes have helped build receiving sets of quality.

### Better Sets at Lower Cost

These millions of sales have brought down manufacturing costs and today this quality carries no premium. Demanding the C-H trade mark now not only insures satisfaction, but provides a saving. Dealers everywhere are ready to serve you. If yours has not yet stocked any C-H part you desire, send us his name and we will see that you are supplied.

### THE CUTLER-HAMMER MFG. CO.

Member Radio Section, Associated Manufacturers of Electrical Supplies  
MILWAUKEE AND NEW YORK



### The C-H Radioloc

The radio switch that locks with a key. Just the thing for the home with children—for the protection of tubes and batteries. One hole mounting—quiet operation. Like all C-H radio parts packed in orange and blue boxes. Look for them—and the C-H trade mark.

# CUTLER-HAMMER

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