

How to Prevent Tube and Other Troubles; Pictures of WSMB, New Orleans; Next-to-Final Gold Cup Standing; Improving Selectivity; Amplifier A-B-C's

# Radio Digest

EVERY WEEK

PROGRAMS Illustrated

TEN CENTS

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

Vol. XIV

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By Radio Digest Publishing Co.

SATURDAY, SEPTEMBER 5, 1925

No. 9

## CHICAGO FANS ON STRIKE

### SEA-GOING PLANT IS NEW GREBE STATION

WMRU, POWER SHIP RADIO, SENDS MARINE EVENTS

Transmitter on Mu 1 Works with Mobile Station WGMU and Parent Plants WAHG-WBOQ

Another broadcasting unit has been added to the already large Grebe family. This time it is a portable marine transmitter that ventures forth in search of interesting events to put on the air. This station, WMRU, is located on the power yacht, Mu 1, and is the first marine broadcasting station licensed by the U. S. government. This plant uses either a 63-meter or a 236-meter wave length. On the former it works in conjunction with the Grebe low wave mobile transmitter, WGMU, and the regular Richmond Hill stations, WAHG, WBOQ.

During the yacht races in Long Island Sound this summer, WMRU relayed the events by short wave to the automobile station which went along the island shore and rebroadcast to Richmond Hill where the larger stations stepped the waves up to 236. The yacht plant used 100 watts and after it passed beyond Long Island and was too far away to use the auto set, the progress of the race was sent out directly from the boat on the 236 wave length.

Storage batteries furnish the necessary 100 watts of power for WMRU. These can be charged by a special motor-generator while the ship is cruising.



Beauty is beauty, whether it be bobbed or otherwise, but when it came to selecting the bathing beauty to represent Chicago at Atlantic City in the annual "Miss America" contest, the judges picked Margarita Gonzalez, the lady with the long tresses pictured above. "Miss Chicago" is broadcasting regularly from WMBB, the Trianon ballroom. The two bobbed beauties pictured here are also heard in the loud speaker regularly. Dorothy Curtis (left) plays piano solos from WBZ and Katherine Rasch (right) of the Ziegfeld "Follies" is heard from WGCF.

### WANT SILENT NIGHTS TO BE MADE SILENT

Boycott Offending Wave

Listeners' Association Calls "Walk-out"—Strikers Not to Listen to Nearby Stations

CHICAGO.—To listen or not to listen? That is the question which will soon decide one of the most unique strikes ever to go down in the annals of history.

For Chicago is in the throes of a broadcast listeners' walkout. They—that is, the members of the Broadcast Listeners Association of America and their friendly sympathizers—have gone on record against the practice certain stations within fifty miles of the city make of failing to observe Monday night as "silent" by keeping off the air.

The other congestion in the Chicago area is tremendous with more than a score of stations pouring programs forth

(Continued on page 2)



### BRITISH SUPERPOWER PLANT PLEASURES MANY

Daventry Station 5XX Heard All Over Continent

LONDON.—The British Broadcasting company has received 3,000 reports from listeners concerning the new superpower station at Daventry, 5XX. With but a single exception these are all favorable. 5XX has been well heard in Holland, Denmark, Germany and Switzerland.

### Ever Hear a Celeste? No? Then Turn Dials to WIBO

CHICAGO.—A unique and novel little instrument has been added to the studio of WIBO, Nelson Bros. Bond and Mortgage company and the Russo-Fiorito orchestra station here.

It looks very similar to the old portable camp meeting organ, but is a Celeste, a special French piano. The instrument was introduced at WIBO by Ted Fiorito, the second person in the United States to use a Celeste with an orchestra. Mr. Fiorito obtained and plays the Celeste for WIBO.



# G. McNAMEE IS SICK, BUT HE STILL LEADS

## IOWA ANNOUNCER IS AGAIN SECOND FOR GOLD CUP

World's Best Announcer Will Be Named Next Week; Many Votes Pouring in

Word comes to us from New York that Graham McNamee, chief announcer of WEF is flat on his back in a hospital recovering from a serious operation, so we can cheer him up a bit by concluding this paragraph with the news so often told here, i.e., McNamee still heads the list in the 1925 Best Announcers' Gold Cup Award.

While Mac's illness has kept him away from the microphone, his friends who listen in on the link stations have not forgotten him and the mail from the East continues to be large.

Agricultural journals report one of the largest corn crops of years growing on the Iowa prairies and we report similarly regarding the votes of Henry Field, Iowa seedman and Radio announcer. From out in the country covered by KFNF over 13,000 votes bearing Henry's name have come this week to place him in the second position. Folks around Shenandoah are expecting Henry to finish strong and they are working accordingly.

### Hay Is Third

Although George D. Hay is chief announcer for the Sears-Roebuck Agriculture Foundation station and has recently purchased a flivver and moved out to one of Chicago's most rural suburbs, he does not seem to corral the farmer vote as well as does the gentleman from the great open spaces who passed him this week. George managed to poll some 6,000 votes this time, but unless the WLS fans come in strong at the end, the "Solemn Old Judge" will be parking some distance from where he was when the contest ended last year. Of course you all remember that he won the first gold cup.

And then there is another man to watch closely now that the leaders are nearing the wire. That individual is one Gene Rouse, who tells you all about the programs wiven from the Woodmen of the World station, WOAW, out in Omaha, Nebraska. Gene has always been a strong contender for the cup and his fraternal friends are coming to his aid in true Woodman style right when he needs it. It is not impossible for him to hew a path through the forests separating him from the top.

### Much Activity Below

Although the fourth man in the list has over twice as many votes as have any of those below him, the backers of those in the depths have not ceased in their efforts to keep their favorites well up on the list. It will take many copies of Radio Digest and a lot of stamp licking to pull any of those below fourth up to first place, but in this day of airplane mail and automatic stamping devices such a feat is not to be classed with the impossible.

We can not keep up with the mail as it comes into the Gold Cup editor and there may be enough votes stacked up in the counting room right now to pull some dark horse up into a place or show position. The standings given here are only up to midnight of August 20, which leaves nine days mail yet to be counted. But the name of the WORLD'S BEST ANNOUNCER will be given in our next issue.

### Dean Cole Makes Jump

Down in what the baseball writers call the cellar division the boys are doing things that would cause big sensations were they to occur in the upper half of the sixteen leaders' list. The most sensational gain was made by N. Dean Cole, WHO, who amassed over 10,000 votes and thereby jumped from fourteenth place to the top of the second division at number nine. This displaced Lambdin Kay, who also let Jerry Sullivan pass him and he stopped at eleventh. Charles Erbsteln again left the unlucky position for one lower.

The fight for the last place among the fifteen that are to be awarded certificates of popularity for being runners-up in the contest is almost as hot as that for the first and second positions. This week we find O. E. Becker back among the leaders and Stanley Barnett in the big field below. Remember, that if you want your favorite to obtain due recognition for the fight he has made, he must finish among the fifteen top men and that it is your vote that will place him there.

| Position | Name and Station       | Votes  |
|----------|------------------------|--------|
| 1        | Graham McNamee, WEF    | 98,222 |
| 2        | Henry Field, KFNF      | 68,812 |
| 3        | George D. Hay, WLS     | 63,627 |
| 4        | Gene Rouse, WDAW       | 61,488 |
| 5        | Frank S. Lane, KFII    | 50,110 |
| 6        | Bred Bred, WBAF        | 28,836 |
| 7        | H. W. Allen, KDKA      | 25,713 |
| 8        | Leo Fitzpatrick, WDAF  | 17,881 |
| 9        | N. Dean Cole, WHO      | 15,836 |
| 10       | Jerry Sullivan, WQB    | 9,223  |
| 11       | Lambdin Kay, WSB       | 8,165  |
| 12       | Robert E. Kelly, WEL   | 7,103  |
| 13       | W. B. O'Brien, WPKX    | 6,999  |
| 14       | Charles Erbsteln, WTAS | 6,912  |

# SILENT NIGHT WALKOUT WEAPON

Broadcast Listeners' Assn. of America, Inc., 6240 Cottage Grove Ave., Chicago

## RADIO STRIKE FOR Chicago Area :: :: Silent Night

As a Radio Listener I absolutely refuse to tune in any UNFAIR station at any time.

Present UNFAIR stations are: WHT, WTAS, WJJD, WORD, WCB, WWAE, WOK.

The 19 Fair Stations give plenty of entertainment

Name .....

Address .....

This is a facsimile of the card being circulated by members of the Broadcast Listeners Association of America in their fight to compel certain stations to adhere to the original Monday silent night agreement for the Chicago territory.

15. John Daggett, KHJ..... 6,847  
16. O. E. Becker, WGR..... 6,591

The last ballot was printed in the August 22 edition of the Radio Digest and the contest closed at midnight on August 29. Ballots received after that date will not be counted. The judges are counting the large number of ballots that rolled in during the last days of the contest and announcement will be made in the next issue of the Radio Digest, that of September 12, of the names of the winners and the standings of those who did not win. The leading contestant will, of course, receive the gold cup and the next fifteen announcers will be awarded certificates of honorable mention.

### 'Quake and Radio Combine To Do Work for Dan Cupid

MONTREAL.—Leonard Spencer, technician of CKAC, La Presse bilingual broadcast station here, has brought to an end a romance which developed out of the earthquake last winter, when he was knocked into unconsciousness when shutting off the set.

While in the hospital, Spencer received special care from the hands of a Radio fan, Miss Margaret MacFarlane, who is a pretty Scotch girl. Spencer recently led Miss MacFarlane to the altar and both are honeymooning in the mountains and lakes of Canada's wilderness.

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## Looking Ahead

**At Last the World Will Know** who is entitled to the honor of being called the 1925 Gold Cup Announcer when the name of the winner of the Radio Digest second annual award is made known next week. Will it be McNamee, Field, Hay, Rouse, or some other favorite of the fans? Who knows?

**From New Orleans to New England** is the jump the station feature page takes next issue when WTIC, the Travelers Insurance company, in Hartford, Conn., "The Insurance City," will be pictured in word and photograph.

**Fred Smith in Switzerland**, next week, will tell you how the international broadcasting bureau works. Follow the genial WLW director about and learn how it is done "over there."

**Super-Heterodynes Were Reported Favorite Receivers** by a large majority of fans in a recent survey made by Radio Digest, so the technical department is negotiating for articles from different experts on how to build super-heterodynes of novel designs. All will be submitted to searching laboratory tests and the results, together with recommendations for alterations necessary to enable the fans to construct practical sets, will be featured in issues not far distant.

"Easy Methods of Making Receivers Selective," next week will tell how super-heterodynes may be improved. "Supers," says John G. Ryan, the author, "are inherently selective, but often, due to poor design or construction, are seriously handicapped."

## Newsstands Don't Always Have One Left

WHEN YOU WANT

# Radio Digest

YOU WANT IT!

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW.

SEND IN THE BLANK TODAY

Publisher Radio Digest, 510 N. Dearborn St., Chicago, Illinois.

Please find enclosed check M. O. for Five Dollars (Six, Foreign) for One Year's Subscription to Radio Digest, Illustrated.

Name .....

Address .....

City .....State .....

## CHICAGO FANS STRIKE

(Continued from page 1)

from morning until late at night. The majority of listeners cannot penetrate through the electrical barrage to hear their favorite distant stations.

Not that distance is desired as a regular diet has the strike been called, but because but five hours each Monday night are asked. Once upon a time, before remote control broadcasters became the popular kind, Chicago had a real silent Monday night, from 7 to 12 p. m., a gentleman's agreement.

Then someone built a station outside Chicago—forty miles away. One didn't interfere much on Monday night. Then more sprang up. More wave bands occupied on Monday night. Finally a number of remote control stations, with transmitters some distance from the city, but with studios in the city, jammed into the gradually becoming crowded Monday night of "silence." Distance reception, once possible, was impossible for most Chicago owners of sets other than the expensive types.

### Expect Speedy Conclusion

Conferences, meetings, protests and complaints have been of no avail. Perhaps the strike will accomplish what arbitration was unable to do.

In fact, since many of the alleged offending stations are operating for toll and the listeners' strike may cut their audiences severely, the toll station clients—the broadcast advertisers—may bring the strike to a speedy conclusion ere this publication is delivered to the reader's hands. For if the invisible audience won't listen, why advertise and spend one's good money on Monday nights?

### Strike Cards Go Out

The Broadcast Listeners' association has distributed strike cards all over the territory of Chicago and within fifty miles of the city. These cards, filled in, are pouring into the headquarters of the association in every mail, according to Frank H. McDonald, president, and many of the postals are coming from points outside of the Chicago area. These outsiders are going on a sympathetic strike on general principles and state that they will not tune in the so-called unfair stations.

The effectiveness of the strike was evidenced recently when word reach the broadcast listeners that one station on their taboo list had made an announcement over the air that they would change their policy and remain silent on Monday night. The association immediately started a chain telephone investigation to find out if any members or members' friends had heard this announcement. Although the wires were kept busy in the city from 8:00 until 11:00 p. m., they were unable to find a Radio set owner who had been listening to the station in question.

### Many Write Own

In addition to the strike cards issued by the association, many listeners are sending improvised cards declaring their boycott on the stations listed. Most of the cards are emphatic on the question and say, "Will not listen to unfair stations under any circumstances!" A few, three of them ministers, except Sunday church services from the freezeout.

Two Chicago stations, WLS and WIBO, have written letters stating that they are with the fans and will cooperate to bring about a real silent night in this city. The former station is building a new plant quite a distance south of Chicago, but state that they intend to observe the gentlemen's agreement even after their towers are moved from here. WIBO has promised to put the news of the strike on the air and urge their listeners to join. WBCN, another local station, has also offered complete cooperation.

U. J. "Sport" Hermann, a member of the board of directors of WHT, one of the stations in most disfavor with the strikers, has written Mr. McDonald that he will propose at the next board meeting that the station remain silent on Monday nights. This, Mr. Hermann said will cut the revenue of WHT by 16-2/3 per cent, the plant being a commercial one run for profit from advertising, but he believes in giving the fans an even break.

## KOA Dramatists Will Play "Green Goddess"

Radario of Stage Hit Has Splendid "Action"

DENVER.—A second superproduction—"The Green Goddess"—Radio drama in four acts will be featured Wednesday evening, September 9, by KOA, Rocky Mountain station of the General Electric company.

Scenes are laid in the palace of an Indian Rajah and dramatic effects include pistol shots, mobs, whirl of airplane propellers, and telegraph keys. Tense situations are developed from beginning to end.

Irish Ruth Pavey, director of the KOA players, will be leading woman.



## NEWS BRIEFS FROM THE BROADCASTERS

### PASADENA TO HAVE NEW THOUSAND-WATT PLANT

"Radio Philosopher" Becomes KNX Town Crier; "Uncle" Harry Doubles for "Uncle" Bob

Fans may soon expect a new 1,000-watt broadcaster to come on the air from Pasadena, California. The Star-News, of that city, has just completed the erection of a new office building with two new towers on top. The set is understood to be practically completed. Call letters not yet announced.

KNX, Hollywood, now has for its Town Crier of the Night Watch, G. Allison Phelps, known as the "Radio Philosopher," who is very well known to western listeners for his many philosophic essays that have been given over the air, notably from KHJ.

While Uncle Bob is up in the north country, spending the month with his sister, Uncle Harry Davis and Aunt Ruth are entertaining the children from Westinghouse Station KYW, with bedtime stories and songs.

Broadcasting of Marion McKay's orchestra from the Swiss Gardens as a regular feature over WKRC, gives the Radio fan popular music of the highest type. In Cincinnati the Swiss Gardens, located in Bond Hill, is the most exclusive resort of its kind and the music is broadcast by remote control.

Jeanne LaDonne, a mezzo-soprano who is different from the usual run of Radio singers, is now appearing on the regular KYW Hearst studio programs. Miss LaDonne is new to Radio having just returned to Chicago after two years in the East as an Eastman scholarship music student.

The Gold Dust Twins, "Goldy" and "Dusty," popular WEAJ feature, have built up their reputation by the singing of colored songs rarely heard over the Radio and by excellent banjo playing. Their repertoire includes "Honey, I'm in Love with You," "Happy Little Moke" and their own version of the familiar "Soloman Levi."

Leo Carrillo, who, after years of newspaper work, reformed to become one of America's leading character actors, presented a series of sketches and humorous stories in Italian dialect as a high spot on the WOR program, recently.

Radio listeners tuned in on KGO, Tuesday evening, September 8, will hear a California Diamond Jubilee program arranged from the music of California composers.

Hastings Post, No. 11, American Legion, will occupy a unique position in the matter of convention publicity for annual national gathering of the American Legion at Omaha, on October 5 to 9. Arrangements are practically completed for the entire program to be broadcast from KFKX, from 8:30 to 11 p. m., Central time, on September 11, under the auspices of Hastings Post, No. 11 and the national convention committee of Omaha.

Billie Lowe, known out on the Pacific coast as the "California Radio Favorite," was a recent visitor at WOC, Davenport and broadcast several song numbers.

"Uncle" Jake Rutz, when not otherwise occupied with painting, tunes up his old violin and gets the members out for practice for their Pumpkin Vine orchestra, which is a Tuesday feature on the WLW program.

Marcus Loew and Station WHN co-operated with Flo Ziegfeld in giving Eddie Cantor a Radio welcoming when he returned from abroad on the S. S. Rotterdam.

### Ham Operators Satisfied with Regulation Workings

WASHINGTON, D. C.—Amateur Radio operators are satisfied with the way the regulations of the department of commerce are now being worked out, according to K. B. Warner, secretary of the American Radio Relay league, who was here recently conferring with W. D. Terrell, chief Radio supervisor of the department.

The Japanese government has started putting up a Radio station on the island of Yap, which will work on a 50 kilowatt basis. Preliminary credits of 1,500,000 yens have already been voted, and it is hoped to have the station in working order before the end of the year.

### ENTIRE TOWN HEARS RADIO BROADCASTS

NEW YORK.—An interesting letter tells of the wholesale reception of the WEAJ programs by practically the entire population of a small up-state village. The writer states that out of the 107 homes there, thirty-two have sets of their own and that fifty-three are supplied with Radio programs from his set by means of more than 23,000 feet of wire. His clientele of listeners, report that many enjoyable programs come to them by means of this "wired wireless" arrangement.

### RADIO GIVES NEWS ABOUT RELIEF SHIP

QUEBEC.—When Station KDKA broadcast the announcement that a relief ship was on the way to the Hudson's Bay company post to deliver the food supplies that were lost when the steamer Bayeskimo sank in the ice, many an anxious trader on the Arctic's rim breathed a sigh of relief. They must depend on the steamer for their year's food and the Radio was their only means of knowing that they would not have to face a long winter without sufficient food.

## RADIO ARTIST WINS BEAUTY TITLE



The invisible audience of WOAW, Omaha, has long favored Myrtis Roach, violinist, and now the visible audience praises her. She has recently been selected to be "Miss Omaha" in the national contest for the "Miss America" title at Atlantic City.

### New Stations

WMAK, Lockport, N. Y., opens a new studio this month at Buffalo, N. Y. Most of the broadcasting will be done from this city which is thirty miles from Lockport.

Call letters change steadily. KJS changes to KTBI, WDBX to WOKO, KFMT to WHAT, WEAA to WEDF, and WJBI to WCLS.

Two new 1,000-watt stations invade the coasts. KPSN is the call of the Pasadena Star-News broadcaster operating on 315.6 meters at Pasadena, Calif. The Missionary Society of St. Paul the Apostle is the owner of WLWL, New York, N. Y. This station uses 288.3 meters.

Other stations licensed this week are: WIBZ, Montgomery, Ala., 10 watts, 231 meters; WRHM, Minneapolis, Minn., 50 watts, 252 meters; WOCG, Sycamore, Ill., 10 watts, 205.4 meters; KUPR, Omaha, Nebr., 50 watts, 270 meters; WKAF, Milwaukee, Wis., 250 watts, 261 meters; KFWC, Upland, Calif., 50 watts, 211.1 meters.

WOK, Homewood, Ill., broadcasting by remote control from the Terrace Gardens, Chicago, is now a class B station operating on 1,500 watts. WWJ, Detroit, has gone up to 1,000.

### WOULD-BE 'DIANA' SUBMITS 200 LOG

Says She Often Sits Up Until Wee Small Hours on Radio Hunts Just as Men Do

NEW YORK.—"Sweetest melodies are those that are by distance made more sweet."

That is how a feminine Radio fan describing the thrill of DX, confesses: "During the winter, I usually sit up all hours of the night listening to the programs of such stations as KFI and KGW."

In other words, the jokes about irate wives abusing husbands for sitting at the Radio receivers in the wee morning hours, of mothers insisting that their Radio-loving sons "can't get up in the morning, stayin' up this late," and the like, will have to be revised. Recent evidence shows that America's great army of feminine Radio fans is trying to do exactly what the boys and the men are doing.

The quotations above are given in a letter received by the Second Radio World's Fair from Blanche Driver of Delaware, Ohio, in submitting a roster of 200 stations as her entry in the test to determine the "Radio Diana"—America's most successful huntress of broadcasting stations—a competition designed to give publicity to the part women are playing today in the upbuilding of Radio enthusiasm.

## MISS CHICAGO IS SHY BEFORE WMBB MIKE

### WMBB BEAUTY WINNER ON AIR REGULARLY NOW

Margarita Gonzalez Will Represent Chicago in Annual Atlantic City Bathing Beauty Contest

CHICAGO.—Margarita Gonzalez, recently chosen "Miss Chicago 1925" at the Trianon ballroom as Chicago's candidate for the Atlantic City "Miss America" bathing beauty contest, to be held September 12, stood before the microphone of WMBB a very nervous young lady after the great honor was conferred upon her.

"I hardly know what to say," she told the audience of WMBB, the "World's Most Beautiful Ballroom" station on the Trianon building. "But I will do everything I can to prove myself worthy of the honors you have given me, and hope to come back 'Miss America, 1925.'"

This was the first time Miss Gonzalez had ever spoken before a microphone, and so her uneasiness can be understood. However, the pretty girl has learned the art of composure after the continuous round of excitement which has been hers during the last few days since she gained prominence, and she has been broadcasting nightly.

Miss Gonzalez was chosen winner over 350 girls at the Trianon ballroom as the conclusion of one of the greatest bathing beauty contests ever held in Chicago. These 350 girls were the prettiest of over 5,000 who entered the contest. "Miss Chicago" is truly a representative type of girl for this city.

Her long, dark, silky hair which lay in curls about her shoulders, has led the public to believe that her triumph is a defeat of bobbed hair beauties, because there were countless "bobs" in the Trianon contest.

## OPEN SPACES TO GO ON WDAG SOON

### Texas Panhandle Plains Will Furnish Program to Boost Their Territory

AMARILLO, Texas.—In what is supposed to be the first series of programs of its kind ever broadcast by Radio the entire Texas Panhandle Plains country is to be represented over Station WDAG of this city.

Beginning September 26 the "Texas Panhandle Plains Publicity Series" will be put on the air over Station WDAG. Many talented artists are to be found in the Panhandle Plains region and the towns represented in the publicity series.

The slogan adopted by WDAG is seen to be appropriate. "Where Dollars Always Grow" illustrates a fact. During the series of Radio programs the speakers before the microphone will emphasize the meaning of the call letter, WDAG, and will, no doubt, tell of the world's largest gas field in the vicinity of Amarillo, the fast developing oil fields, cotton raising, the cow, sow, and hen activities of this vast fertile area. The towns to be represented are fast growing communities and a wholesome population of desirable citizens.

## Dallas Station Looks for Suitable Slogan

### Offers Five Tube Receiver for Best Catch Phrase

DALLAS, Texas.—The Harrison Smith company of this city has presented the board of control of municipal Radio Station WRR with a five tube manufactured receiving set to be awarded to the person submitting the best slogan for that station.

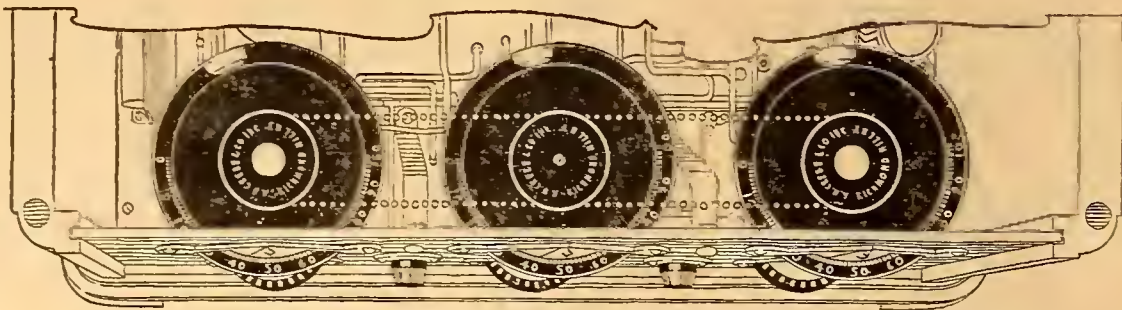
The slogan should not be more than six words long and no person may submit more than one slogan. The contest is open now and closes September 25.

The name of the winner will be announced on October 1 at the opening of the station. W. J. Reid, supervisor, will receive the slogans submitted and announces that in case of a tie duplicate prizes will be awarded. The board of control of the station will act as judges. There is no entry fee and the award will be made to the person submitting the slogan finally adopted by the station.

## Radio Again Finds Missing Person

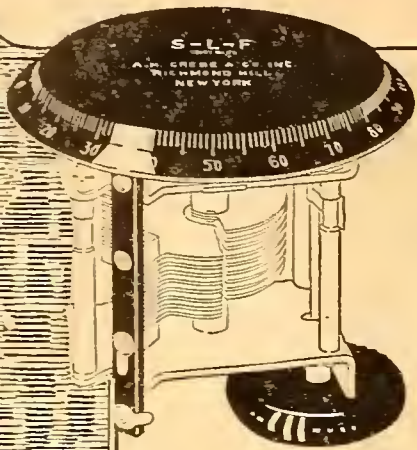
HARTFORD, Conn.—Once more Radio broadcasting delivered an urgent message to a person whose whereabouts were unknown. WTIC, the Travelers station here, acting as an aide to the state and local police, broadcast a message for Mrs. William Dumas, who was being sought because her daughter was taken seriously ill, and found her.





Another exclusive Grebe feature: one dial can operate two or all three—or they can be set separately at will.

Again Grebe steps ahead—



S-L-F Condenser

## The Synchronphase now has One, Two or Three-dial Control

THE three condensers operate from one dial—or separately at will. This first real, flexible form of “unit-control” marks another milestone on the road of Grebe leadership.

The new Synchronphase has the same *Binocular Coils* which give the unusual “selective sensitivity” so universally prized; the same Straight-Line-Frequency Condensers that make accurate tuning easy.

*Ask your dealer to demonstrate, then compare*

A. H. Grebe & Co., Inc., Steinway Hall, 109 West 57th Street, N. Y. C.  
 Factory: Van Wyck Blvd., Richmond Hill, New York  
 Western Branch: 443 S. San Pedro St., Los Angeles, Cal.

This Company owns and operates stations WAHG and WBOQ; also low-wave re-broadcasting stations, mobile WGMU and marine WRMU

# THE GREBE SYNCHROPHASE

TRADE MARK REG. U.S. PAT. OFF.



“Get rid of small wisdom and great wisdom will shine upon you.”

Chuang Tzu

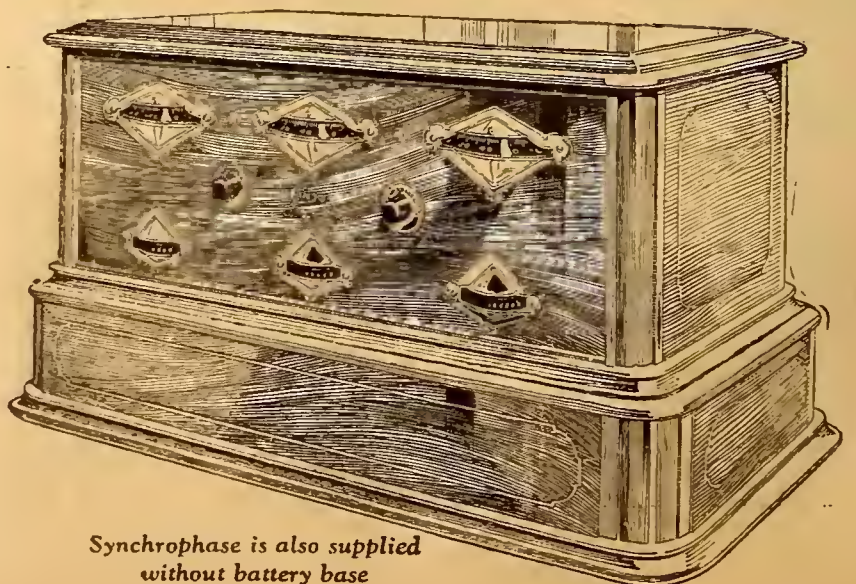
It is great wisdom to buy the Synchronphase.

*Doctor Wu*



TRADE MARK  
REG. U.S. PAT. OFF.

All Grebe apparatus is covered by patents granted and pending.



Synchronphase is also supplied without battery base



# WSMB—'Way Down South in New Orleans



Above, a corner of the WSMB studio showing the "Dixie Twins" (left), Minnie Mae Moore, soprano, and Mrs. Harry Close, pianist. Clyde Randall, (center and also in oval to right), the program director and chief announcer, is the pioneer broadcaster of the South. At the right of the group stand the "Sunshine Twins," Lillian Lawler Cusick, soprano, and Mercedes Le Corgne.

Above, Carmen Nuccio, prima donna, New Orleans Grand Opera company, often heard at WSMB. Below, the Gallo Instrumental quartet, August Sandbrink, first violin; Louis J. Gallo, second violin; Achille V. Gallo, cello, and P. R. Ellsworth, piano.



WSMB was inaugurated April 21 of this year by the Saenger Amusement company and the Maison-Blanche Company, Limited, to bring Radio entertainment at its best to New Orleans, the South and the United States. The secret of WSMB's success lies in the organizing skill of the two concerns back of it, in its first class technical equipment and in the excellence of its programs and program arrangement.

The wave length of WSMB is 318.9 meters, with 400 watts antenna output, and an antenna current of 6 amperes. It has installations for remote control with the St. Charles, Strand and Liberty theaters, New Orleans, and is preparing to install a portable Radio control on a truck for the "Radioing" of athletic events, conventions, etc., from the streets of New Orleans.

The total height of the aerial above Canal street, New Orleans, where it is installed atop the Maison-Blanche building, is 305 feet. The towers are 126 feet in height and the aerial spans the entire width of the Maison-Blanche building. The towers are constructed of fabricated steel and were especially designed to withstand wind pressure to a maximum intensity of 125 miles per hour, sometimes reached in tropical storms.

The directorial and operating force consists of a director general, a program director and announcer, an engineer, two Radio operators, a stenographer and two telephone operators. William H. Gueringer, assistant general manager of the Saenger Amusement company, is director general. Clyde R. Randall, veteran Radio announcer, is program director and announcer.

The station comprises a series of rooms on the thirteenth floor of the Maison-Blanche building. An ele-

vator carries the visitor direct to the reception foyer, which is furnished in Spanish treatment, with draperies, lighting fixtures and specially treated plastic walls. Rubber-tiled floors, to deaden noise, lead into the studio.

The studio is a specially designed room, encased in a maze of draperies, padded ceilings and walls, and with curtains operating on draw strings to synchronize with various acoustical changes. The microphone is the only mechanical equipment in the studio. Restful lounges, wrought iron chairs, Castillion settees, and a deep-napped carpet concentrate the voice waves into the microphone and protect it from reverberation or acoustical noises. A concert grand piano, and soft-tinted candelabras, add a cozy and colorful touch.

The outer corridor leading to the operating room has the Western Union Telegraph and Postal Telegraph branches, as well as the ear-o-phone desks for the telephone operators who acknowledge "fan" applause. A specially constructed floor to nullify vibration or the slightest noise leads into the operating room, where is located modern Radio equipment.

The operating room has a series of plate glass panels, so that visitors to the studio can view the operation and equipment without disturbing the engineer in charge. Adjoining the operating room is the motor-generator chamber, with its 2,000-volt generator.

But, while technical equipment is all important, and artistic decorations prove the constructive pride of the management, the programs supplied the "Radio" fans are the final tests of the station's capacity to grow and live.

WSMB furnishes daily programs, excepting Sunday, from 12:30 (Continued on page 18)



Even though the wind blows 125 miles an hour in a tropical hurricane, the towers on top of the Maison-Blanche department store will not totter. Right, the six boys who form the New Orleans Harmony Kings, one of the South's most popular syncopation orchestras, heard from WSMB.







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 the name Radiotron  
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# TWO ADD MORE POWER—ONE IS NEW

Bill Munday sounding the three-note WSB chime to inform the world that the Atlanta Journal station is on the air with the latest sporting news. Bill gives the southern fans regular details of all the important baseball games gathered by the sporting editor and his staff.

The gentleman in the cool, white suit is Lambdin Kay, director-announcer, conferring with the operating room through the new signal system, prior to turning on the microphone. The WSB chime is again seen. Below, Bonnie Barnhardt, staff artist and program director.



## KYW, WEST PIONEER, IS USING NEW PLANT

### WORLD CRIER STILL USES FAMOUS OLD OUTFIT

Congress Hotel Transmitter Has 25-Kilowatt Capacity, But Use Only 1,500 Watts Now

CHICAGO.—The pioneer station of the West, KYW, one of the Westinghouse Electric stations, which was built during 1921 and which gave first voice on Armistice Day, November 11, 1921, has been moved from the roof of the Edison building to the roof of the Congress hotel.

After nearly four years of continuous daily and nightly performance, this veteran station has earned for itself a record and prestige second to none. The Westinghouse company has completed its new Chicago station, also known as KYW, which is located on the roof of the Congress hotel, which represents a type of equipment embracing the latest and best known Radio apparatus. This station which will replace the well-known KYW of the past four years, in all studio programs, has a capacity of twenty-five kilowatts and carries the same wave length as the old station, namely 535.4 meters. The new station is using its lowest possible power, which rates slightly above 1,500 watts, and judging by letters received at the station, it is being heard in regions where the old KYW had not been picked up.

The KYW that has become a by-word in so many homes during the past four years, was dismantled August 10, moved over to the Congress hotel roof and put back into commission, alongside of the new plant, to continue the service which it inaugurated several years ago. The World Crier of KYW will find its voice, as in the past, through the old pioneer of the West.

The Apollo male quartet of Chicago, which is recognized as one of the best organizations of its kind in the Central West, has been added to Westinghouse Station KYW's family.

HERE are a few pictures of the new WSB, the "Voice of the South," located away down in Dixie on the tenth floor of the new Biltmore hotel in Atlanta, Ga. For three years and more the Atlanta Journal station has been entertaining the Radio audience of the South in particular and that of the whole country in general and now that it has become the most powerful broadcaster in the whole of Dixie, save Texas, it is being heard in parts heretofore out of their range.

An entire section of the tenth floor of the palatial Biltmore was reconstructed to house WSB. Outside of the operating rooms and the main studio, the plant has an artists' reception room, a public reception room, an auxiliary studio, business offices and rest rooms. All are very tastily and appropriately decorated making up a home worthy of the pride of Atlanta.

When the new station opened up last month the governor of Georgia, the mayor of Atlanta, many other public officials, representatives of several other Southern stations, and a score of entertainers assisted.

Lambdin Kay is director-announcer of the new station and Bonnie Barnhardt is the program director.

Pictured below at the right is the main studio of The Journal's plant in the Biltmore hotel. The door at the extreme left leads into the smaller auxiliary studio, used for baseball details, bedtime stories, etc. The other door immediately behind the piano leads into the office. The right hand side of the studio is glass enclosed

so the visitors in the reception room outside can view artists broadcasting. The draperies are of pongee, with curtains of a green fibre silk material with gold threads running through it.

Acoustic experts were employed to design and treat the studios in order that the sounds originating therein for transmission over the air might be as perfect as possible before entering the microphone. All overtones, echoes, and imperfect and unwanted vibrations are eliminated thusly. The auxiliary studio to be used for important individual broadcasting is so constructed that waste space which might house annoying sounds and interferences is not present.

Gold letters "WSB" greet the visitor as he walks down the hallway approaching the foyer to the station as pictured below. The archway to the left, opens into the reception room for visitors and the door to the right enters the offices.

WSB has a new 1000-watt Western Electric 6-A transmitter and a new speech input system. C. F. "Harry" Daugherty is the chief operator who keeps the station on the air in a manner to live up to the slogan of the Atlanta Journal—"Covers Dixie Like the Dew."

The towers of the station are located on top of the Biltmore. They are 125 feet high and constructed of stout steel.

When one once hears the famous three-note chime of WSB it is not forgotten. Its three-note mellow tone chime is known 'most everywhere. The station has used this instrument as their call and signaling off symbol ever since broadcasting was started more than three years ago.

## CNRV IS LATEST ADD TO CANADIAN GROUP

### VANCOUVER ENTERS RANK OF RAILWAY'S RADIOS

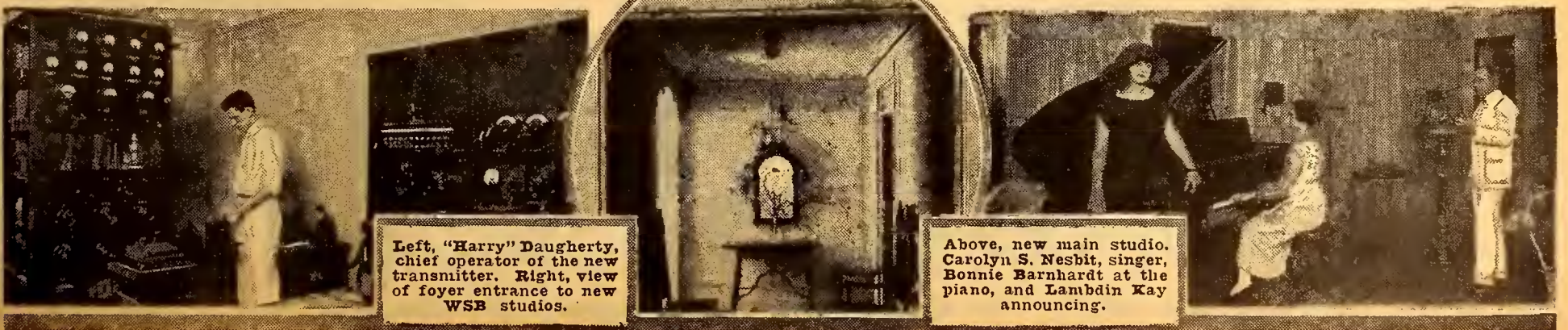
Coast Station Is Tenth in Chain of Plants and First Under New Radio Regulations

VANCOUVER, B. C.—Designed to be the most modern Radio station in Canada and to furnish the last word in broadcasting, CNRV went on the air here on the night of August 11, when Sir Henry Thornton, K. B. E., chairman and president of Canadian National railways, in person officially inaugurated this latest addition to the chain of broadcasting stations operated by the Radio department of the system.

CNRV is the tenth of the stations using the familiar call letters CNR with the initial letter of the city added, which stretch across the Dominion of Canada from Moncton, in New Brunswick, the most easterly of all stations on the North American Atlantic coast, the chain including Montreal, the Metropolis; Ottawa, the Capital; Toronto, Winnipeg, Edmonton, Regina, Saskatoon and Calgary, the whole forming the most important group of broadcasting stations under the direction of a transportation company.

CNRV is the first station erected in Canada under the new regulations of the Radio branch, Department of Marine and Fisheries, which department has control of wireless in the Dominion. The station is of the remote control type, the operating room and aeriels being situated ten miles from Vancouver where the studio and control room are most conveniently located in the Canadian National Railways station building. At the latter place all broadcasts from the studio, or from other points in the city, are controlled and amplified before being relayed to the transmitting point.

There will be a "Radio week" during the annual autumn fair in Prague this year, from September 6 to 13.



Left, "Harry" Daugherty, chief operator of the new transmitter. Right, view of foyer entrance to new WSB studios.

Above, new main studio. Carolyn S. Nesbit, singer, Bonnie Barnhardt at the piano, and Lambdin Kay announcing.







# WJR TO GIVE "RIGOLETTO" TUESDAY

## Sunday, September 6

(Continued from page 8)

Geo. George Anway, tenor; Mrs. I. A. Smith, soprano; Alice Burgess, contralto; Frank Russell, bass; sermonette, C. E. Wright; 6:30 p. m., vesper service, Lily Belle Allen, soprano; Edna Daniels, contralto; Fred Pfand, tenor; Frank Russell, bass; Lillian Green, violinist; sermonette, S. A. Burgess; 9:15, Robert Miller, organist; George Miller, pianist; Alice Burgess, contralto; Harry Kaufman, violinist; sermon, Pres. Elbert A. Smith.

**KTHS, Hot Springs National Park, Ark. (374.8), 11 a. m.,** Central Methodist church; 9:25-10, classical concert, New Arlington-Myer Davis orchestra; 10, Ray Mullins and his Whittington Park orchestra.

**WAMD, Minneapolis, Minn. (243.8), 6 p. m.,** Hotel Radisson ensemble; 7, university night; 9, Arthur H. Faust and Radio Stock company drama hour; 10, popular program.

**WCBD, Zion, Ill. (344.6), 8 p. m.,** mixed quartet, celestial bell quartet, Wiedman Sisters; Miss Sweeney and Mrs. Phil, soprano, contralto; Theodore Forby, reader; Florence Furrer, contralto; Chester Bugg, baritone; P. E. Nowcomer, cornetist; Edwin Saeh, pianist.

**WCCD, Minneapolis-St. Paul, Minn. (416.4), 11 a. m.,** Westminister-Presbyterian church; 4:10 p. m., House of Hope Presbyterian church; 7:20, Second Church of Christ Scientist; 9:15, classical concert.

**WDAF, Kansas City, Mo. (365.6) 4-5 p. m.,** program, Post band; 5-5:30, Sunday school lesson, Dr. Walter L. Wilson.

**WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m.,** Radio Bible class, Dr. William M. Anderson; 8-9, First Baptist church, Dr. George W. Truett; 9:30-11, Jack A. Davis, pianist.



Helen Remley, coloratura soprano, (left), is the feature of the Tuesday program at WLW. She is a successful concert singer. Rey Marchant, (above), will give a violin recital Saturday evening at KGO, Oakland. Roland D. Hinkle, (right), has become a member of the staff at WTAS. He is one of the most popular of Chicago's radio entertainers due to his fine tenor voice. Mr. Hinkle plays his own banjo accompaniments.



ists; Marie Wright, soprano; Jhuade Galra, tenor; Lew Butler, tenor; Buck Weaver, banjo; Gail Bantell, jazz singer; Langdon Brothel; Herman Shamba, violinist; Sammy Williams, pianist; Leltoy North, pianist; Gus C. Edwards orchestra.

**WORO, Batavia, Ill. (275), 8:30 p. m.,** musical program, E. H. Guenther, director; 9:30, Bible questions and answers, E. M. Rice.

**WTAM, Cleveland, Ohio (369.4), 8-7 p. m.,** Golden Pheasant dance orchestra; 8-9, instrumental hour; Willard Symphony, Walter Logan, director; 9-10, concert program; 11-12, dance music, Frank Wilson's Euclid Beach Park orchestra.

**WTAS, Egin, Ill. (302.8), 8-10:30 p. m.,** Purple Grackle orchestra; Heble Mintz, Tommy Innup, Tubby Garon, Maudie Marselles, Ari Stiller, Beiger Wedberg.

**WTIC, Hartford, Conn. (475.9), 6 p. m.,** Emil Heuberger's Hotel Bond trio; Domenick Massare, tenor.

**WWJ, Detroit, Mich. (352.7), 12:05 p. m.,** Jules Kleh; Hotel Studler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra.

### Central Standard Time Stations

**KFAB, Lincoln, Nebr. (340.7), 6-7 p. m.,** dinner program; 7:30-8, Helshaw's orchestra; 8-9:30, piano duets, Audrey Utterbach, Benice Schellenberg; Prof. E. C. Curtis, trio; Clyde Davis, violinist; Mort Graubert, banjoist.

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

**KFKX, Hastings, Nebr. (288.3), 9-11 p. m.,** musical program, Stein Brothers company.

**KFNH, Shenandoah, Ia. (266), 7:30 p. m.,** Smith-Belding orchestra.

**KFVE, University City, Mo. (240), 10 p. m.,** Bruo-wick-Balke-Collender company orchestra.

**KSD, St. Louis, Mo. (545.1), 9 p. m.,** program.

**KTHS, Hot Springs National Park, Ark. (374.8), 9:25-10 p. m.,** Ray Mullins Como Hotel roof garden orchestra.

**WCBD, Zion, Ill. (344.6), 8 p. m.,** string quartet; Mr. and Mrs. J. Thomas, baritone and soprano; E. B. Paxton, baritone; George Beem, marihuaba soloist; Richard F. Ilire, pianist; L. J. Ilro, violinist; Fred Faassen, organist; Blanche Kestler, reader; J. D. Thomas, soprano.

**WCCD, Minneapolis-St. Paul, Minn. (416.4), 6:45 p. m.,** P. & R. Family.

**WDAF, Kansas City, Mo. (365.6), 6-7 p. m.,** Cecile Britton, reader; Tell-Me-a-Story Lady; Pianillon players.

**WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m.,** Arlio Collins and his orchestra; 8:30-9:30, Sears-Robuck Articultural Foundation program.

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

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

**WHAS, Louisville, Ky. (399.8), 9:57 a. m.,** organ parade; 10, Fourth Avenue Presbyterian church 4-5 p. m., Nellie Joy Grey, soprano; Mrs. Cornelia Irwin, accompanist.

**WHO, Des Moines, Ia. (526), 11 a. m.,** University church service; 7:30-8:30, Bankers Life trio.

**WMC, Memphis, Tenn. (499.7), 11 a. m.,** First Baptist church.

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

**WDAW, Omaha, Neb. (526), 9 a. m.,** chapel service, Rev. R. R. Brown; 9 p. m., chapel service.

**WDC, Davenport, Iowa (484), 8-8:30 p. m.,** Methodist-Episcopal church; 9:30-11:30, Paluer Little symphony.

### Mountain Standard Time Stations

**KDA, Denver, Colo. (322.4), 11 a. m.,** First Baptist church; 4 p. m., Sunday afternoon music hour; 7:15, services, First Baptist church.

**Pacific Standard Time Stations**

**KFWB, Hollywood, Calif. (252), 9-10 p. m.,** Warner Brothers regular Sunday night movie frolic; 10-11, Los Angeles Radio exposition.

**KGD, Oakland, Calif. (361.2), 11 a. m.,** First Presbyterian church; 3:30 p. m., KGO Little symphony orchestra; 7:30, First Presbyterian church.

**KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m.,** Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7, Art Hickman's Billmore hotel concert orchestra, Edward Fitzpatrick, director; 7-7:30, organ recital, Arthur Blakely, organist; 8-10, program, Martin Music company, arranged by J. Howard Johnson, Ruth Pitts, soprano; John Martin, pianist; 10-11, Radio exposition.

**KJR, Seattle, Wash. (384.4), 11 a. m.,** First Methodist Episcopal church; 3:30 p. m., municipal band, Woodland Park; 7, First Methodist Episcopal church, Mrs. Montgomery Lynch, organist; J. Ralph Magee, pastor.

**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 Nurseries, Luborski stringed quartet in chamber music program.

## Monday, September 7

Monday, silent night for: CKAC, CNRC, CNRE, CNRM, CNRR, CNRW, CNRT, KFDN, KFMQ, KLDL, KYW, PWX, WEAM, WBBM, WCAU, WEBB, WEBJ, WFT, WGES, WGN, WHAS, MHN, WIP, WLS, WMAQ, WMBB, WOC, WDAI, WQJ, WRC, WRO, WVIC.

### Atlantic or Eastern Daylight Saving Time Stations

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

**WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m.,** sports talk, Thornton Fisher; 7:45-8, William Morgan, pianist; 8-8:15, Mrs. Paul V. Allen, soprano; 8:15-8:30, Horace J. Taylor, reader; 8:30-9, Synchronphase trio; 9-9:15, Mrs. Paul V. Allen; 9:15-9:30, William Morgan; 9:30-10, Synchronphase trio; 10-10:55, Bensonians dance orchestra; 10:55-11:05, time signals and weather report; 11:05-11:30, Bensonians orchestra; 12-2 a. m., musical program.

**WBRR, New York, N. Y. (272.6), 8 p. m.,** Syrian

Oriental music, Toufic Moubald, Elizabeth Awad; 8:10, vocal selections; 8:20, World News digest; 8:40, Bible instruction from "The Harp of God"; 8:50, Syrian Oriental music.

**WCAE, Pittsburgh, Pa. (461.3), 3 p. m.,** Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 9, concert; 11, Sanders Inn.

**WEAF, New York, N. Y. (491.5), 4-4:15 p. m.,** Guilla Grilli, soprano; 4:15-4:30, Victoria and Mary Regalbutto, pianists; 4:30-4:45, Josiah B. Eron, baritone; 4:45-5, Victoria and Mary Regalbutto; 6-7, dinner music, Waldorf-Astoria; 7-8, musical program; 8-8:15, Norman Curtis, pianist; 8:15-8:30, WEAF light opera quartet; 8:30-8:45, Norman Curtis; 8:45-9, WEAF light opera quartet; 9-9:30, Hotel Bossert Marine roof orchestra; 9:30-9:40, Giuseppe da Benedetto, tenor; 9:40-10, Sadrian string trio; 10-10:15, Giuseppe da Benedetto; 10:30-11:30, Hotel Bossert Marine roof orchestra.

**WFI, Philadelphia, Pa. (394.5), 1 p. m.,** Bellevue Stratford orchestra; 3, Loretta Kerk, pianist; 3:15, fashion talk, Eleanor Gunn; 6:45, Bellevue Stratford Roof Garden orchestra.

**WGS, New York, N. Y. (315.6), 1:30-1:45 p. m.,** Rosa Kraus, soprano; 3:30-3:45, Le Roy Montenegro, tenor; 6-6:30, Uncle Geebee; 6:30-7:30, Premiere club orchestra.

**WGCP, New York, N. Y. (315.6), 3-3:15 p. m.,** Lew Pollack and Joe Sherman, songs; 3:15-3:18, Mirror race results; 3:18-3:30, Cella Zeir, violinist; 3:30-3:45, Lady Brooks and her three Colegiates; 3:45-3:48, Mirror race results; 4-4:15, Ethel Pineus, pianist; 4:15-4:18, Mirror race results; 4:18-4:45, Lady Brooks; 4:45-4:18, Mirror race results; 4:48-5, Della Riordan, baritone; 5-5:15, Mabel Chamley, soprano; 5:15-5:30, Harry Harrison, clown of the air; 5:30-5:45, Edyth Pollak; 5:45-5:48, Mirror race results; 8-8:15, Charlotte Trystman, child pianist; 8:15-8:30, Dick Bernard, pianist; 8:30-8:45, Hoch and Jerome; 8:45-9, Francis May, violinist; 9-9:45, Kennedy Harmony quintet; 9:45-10, Raymond Maher, baritone; 10-10:30, Win Unger's entertainers.

**WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m.,** WGR's afternoon program; 6:30-7:30, Century orchestra; 9-10, Knell's Tokio dance orchestra; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

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

**WIP, Philadelphia, Pa. (508.2), 3 p. m.,** Song of the Surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

**WLIT, Philadelphia, Pa. (394.5), 12:02 p. m.,** daily almanac; 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; 9, Stanley bour of music; moving picture review, James A. Nassau; 10, Arcadia cafe dance orchestra.

**WMCA, New York, N. Y. (340.7), 11-12 m.,** musical program; 6:30-7:30 p. m., Ernie Golden and his Hotel McAlpin orchestra; 8-8:45, lecture, Seventh Church of Christ; 9-10, Mantia's Symphony orchestra; 11-12, Berkeley Carteret dance orchestra.

**WNYC, New York, N. Y. (526), 6:30-7 p. m.,** Original Charleston Five; 7-7:10, market high spots; 7:10-7:30, Original Charleston Five; 7:30-7:35, police alarms; 7:35-7:45, news of the day; 7:50-8, piano recital; 8-8:15, talk and baseball results, John B. Foster; 8:15-10:15, band concert from the Mall, Central Park; 10:15-10:30, talk Dr. Sydney N. Usher; 10:30-10:40, police alarms and weather forecast.

**WOD, Philadelphia, Pa. (508.2), 11 a. m.,** organ recital; 12:02 p. m., Golden's Crystal Tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert or-

chestra; 8, Norman Curtis, pianist; 8:15, WEAF light opera quartet; 8:30, Norman Curtis, pianist; 8:45, WEAF light opera quartet; 9, Hotel Bossert Marine roof orchestra; 9:30, Giuseppe da Benedetto, tenor; 9:40, Sadrian string trio; 10, Giuseppe da Benedetto, tenor; 10:15, Sadrian string trio; 10:30, Hotel Bossert Marine roof orchestra; 11, A. Candelori's dance orchestra.

**WOR, Newark, N. J. (405.2), 6:15-7:15 p. m.,** Chateau Baltusrol orchestra, Wallie Osborne director; 7:15-7:30, sports talk, Pat Robinson; 8:30-9:30, Al Reid's hour.

### Eastern Standard or Central Daylight Saving Time Stations

**KOKA, Pittsburgh, Pa. (309.1), 8:45 p. m.,** concert.

**WBBM, Chicago, Ill. (226), 6-7 p. m.,** Stewart-Warner program; Charlie and Dave; Nate Caldwell, Eddie Loftus, Alamo orchestra, Marie Margot, harpist.

**WBZ, Springfield, Mass. (333.1), 6 p. m.,** Capitol theater orchestra; Margaret Fitch, organist; 8, Helen Studzinska, violinist; 8:30, Copley Plaza orchestra; 9, Gordon Graham, tenor; Mrs. Marion Graham, accompanist; 9:15, Irene M. Shelley, pianist; 9:40, book review, Bennett E. Schneider.

**WCX, Detroit, Mich. (517), 4:15 p. m.,** concert; 6, dinner concert Book-Cadillac hotel; 8, musical program.

**WEAR, Cleveland, Ohio (389.4), 7-8 p. m.,** Marjorie Moore and her Melody Maids.

**WGBU, Fulford-by-the-Sea, Fla. (278), 6:30-7:30 p. m.,** Blue Steele and his Fulford-by-the-Sea orchestra; 10-1, dance music.

**WGES, Oak Park, Ill. (250), 5-7 p. m.,** Frank Greif, tenor; Freda Slauter, violinist; Frank Frederick, baritone; Ruth Fleischman, pianist; Gladys Peterson, mezzo-soprano.

**WGN, Chicago, Ill. (370.2), 6:30-7:30 p. m.,** Drake concert ensemble, Blackstone string quintet.

**WHAZ, Troy, N. Y. (379.5), 8:15 p. m.,** Mrs. Jean Lyman Cooper, soprano; Jean E. Harris, pianist; Katherine Dorcas Cummings, pianist.

**WHT, Deerfield, Ill. (400), 7 p. m.,** classical program; Julie Reveltas, contralto; Hugh Aspinwall, tenor; Emmy Ohl, soprano; Wilkens and Martens, melody maids; Phyllis Feingold, violinist; Loftis concert de-luxe; (233) 8:30, Elmer Kaiser's Riverview Melody masters; (400), Langdon Brothers, guitarists; Kitchen Klenzer Classics; Gelsie Brothers, harmony duo; Jelke musical moments; 10:30, Ford's Cheerio orchestra; Harland Merrill, musical saw; Fred Witmer, pianist; 12, Pat Barnes, Al Carney, Duke Rehl and Walter Ford.

**WIJD, Mooseheart, Ill. (302.8), 10:30 p. m.,** May Ward; Jean St. Anne, French baritone; Christian A. Grimm; Geneva organ.

**WJR, Detroit, Mich. (517), 7 p. m.,** Jean Goldkette's ensemble; 10, Blue room dance orchestra.

**WKRC, Cincinnati, Ohio (328), 6:15 p. m.,** dinner music, Alvin Roehr's Music Makers; 8, dance music; 9, program, auspices Robert E. Bentley Post; 12, Wesley Helvey's Troubadours.

**WLW, Cincinnati, Ohio (422.3), 7 p. m.,** dinner concert, Hotel Gibson orchestra; Robert Visconti, director; 8, program, the Liggett Coal Heavers; sparks by a red hot piano player; the Famous Lyric male quartet; violin solos with organ accompaniment.

**WMAQ, Chicago, Ill. (447.5), 6 p. m.,** Chicago theater organ; 6:30, Hotel LaSalle orchestra; 8, to be announced; 8:30, travel talk, Clara Laughlin; 9, musical program.

**WOK, Chicago, Ill. (217.3), 12-2 p. m.,** Sandy Meek, tenor; Harry Sosnik, pianist; Jimmie Watson, baritone; LeRoy North, pianist; Gus C. Edwards orchestra; 6-8, ballad hour, Ada Allen, soprano; Jimmie Watson, baritone; LeRoy North, pianist; Gus C. Edwards orchestra; 8-1; Paul Small, tenor; Werner and Spilke, accordion-

Richter, organist; 8-10, Marquette university studio program; Herman Leggodo, tenor.

**WHD, Des Moines, Ia. (526), 7:30-9 p. m.,** musical program; program, Dean Holmes Cowper, director; 11-12, dance program.

**WMC, Memphis, Tenn. (499.7), 7:30 p. m.,** farm talk, C. W. Watson; 8:30, Joe Bennett's Moonlight symphonators.

**WDAI, San Antonio, Tex. (394.5), 8:30 p. m.,** Menger hotel trio.

**WDAW, Omaha, Neb. (526), 6 p. m.,** Phyllis Griswold, organist; 6:30, McCrooy's popular period, Lillian Madsen; 6:45, Ray Muzzy's Carter Lake club orchestra; 9, program, Omaha Typographical union.

### Mountain Standard Time Stations

**KDA, Denver, Colo. (322.4), 6:30 p. m.,** Herbert White and his Silver State orchestra; 7:30, Sandinan's hour; 8, football, Tom McNamara; 8:10, program, Joint Labor Day committee; Joe Mann and his Rainbow-Lane orchestra; "The Meaning of Labor Day," Frank L. Palour.

### Pacific Standard Time Stations

**KFDA, Seattle, Wash. (454.3), 6-6:45 p. m.,** Hoffman orchestra; 6:45-8:15, Sherman, Clay and company; 8:15, special announcements; 8:30-10, Times studio program.

**KFWB, Hollywood, Calif. (252), 6-7 p. m.,** children's hour, Big Brother of KFWB; 7-7:45, Radio Doings question and answer period, E. G. Orniston, technical editor; Van Sisters trio; J. Stanley Fullbright, tenor; 8-9, program, Star Motor Car company; Million Dollar orchestra; Frank Pierce and Vic Reull, comedy songs; Dan Gridley, tenor; Alma Lou Barnes, soprano; 9-10, program, E. P. Jones, Jones orchestra; Barbara Bun-nell, blues singer; 10-11, Radio exposition.

**KGO, Oakland, Calif. (361.2), 3-4 p. m.,** program, Sherman, Clay and company; 6-7, dinner concert, Sheroran, Clay and company; 8, "Hay Fever and It's Prevention," Hugh Barrett Dobbs; "Achieving Leadership through Effective Public Speaking," Kenneth Lloyd Williams; "Symposium on the New Education," Williams Institute; "Inside Dope on Curing Automobile Ills," Louis P. Sigler; Arion trio.

**KHJ, Los Angeles, Calif. (405.2), 8:10 p. m.,** special feature program, Radio show week; 10-11, Radio exposition.

(Continued on page 10)



# G. HAROLD SMITH, PIANIST, AT WTIC

## Monday, September 7

(Continued from page 9)

**RNX, Hollywood, Calif. (336.9),** 5:30-6:15 p. m., Wur-Itzner pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra; Paul Finstein, leader; 7-7:30, Mutual Motors mlrh contest; 7:30-8, program, Columbia Outfitting company; 8-9, program, L. W. Stookwell Manufacturing company; 9-10, program, Listenwaller and Gough; 10-11, Goodrich Silvertones' Ford dance orchestra; Libbyan May Challenger, contra-contralto; 11-12, Ray West's Ambassador hotel dance orchestra.

## Tuesday, September 8

Tuesday, silent night for: CHNC, CNRC, CNRE, CNRM, CNRW, CNRT, KFAE, KFKX, KOA, PWX, WAHG, WBAV, WBBR, WCBD, WEAQ, WGGP, WHAD, WHAZ, WKAA, WLIT, WOR, WOS, WSMB, WTAM.

### Atlantic or Eastern Daylight Saving Time Stations

**WCAE, Pittsburgh, Pa. (461.3),** 3 p. m., program, Loew's Aldine theater; 6:30, dinner concert; William Penn hotel; 8, program, New York; 8:30, Gold Dust Twins, 9, Eveready hour; 10, Grand opera.

**WCAU, Philadelphia, Pa. (278),** 7:25 p. m., baseball scores; 7:30, N. Snellenburg and company, recital; J. Colgate, tenor; Virginia Klein, pianist; S. Kenneth Carney, Hawaiian guitar; 8:30, concert; 9, Philharmonic mixed quartet; James Irvine, pianist; 10, Harry Links, popular song writer; 10:30, Billy Hayes and his Cathay Tea Garden dance orchestra.

**WEAF, New York, N. Y. (491.5),** 1-1:15 p. m., Katherine Tuthill, contralto; 4:15-4:30, Theresa Ferrendo, pianist; 1:30-7, women's program; 6-7, dinner music; Waldorf-Astoria; 7-8, musical program; 8-8:10, talk, Bank of America; 8:10-8:30, Ross Gorman and his orchestra; 8:30-9, Gold Dust Twins; 9-10, "Eveready Hour"; 10-11, grand opera, "The Pearl Fishers"; WEAF Grand Opera company; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

**WFI, Philadelphia, Pa. (394.5),** 1 p. m., Bellevue Stratford orchestra; 3, Caroline Hoffman, pianist; 3-4:15, fashion talk, Eleanor Gunn; 4-4:45, Bellevue Stratford Roof Garden orchestra; 8:40, Ross Gorman and his Earl Carroll Varieties orchestra; 8:30, Gold Dust Twins; 9, Eveready hour; 10, grand opera, "The Pearl Fishers"; 11, Bellevue Stratford dance orchestra.

**WGSS, New York, N. Y. (315.6),** 1:30-2:30 p. m., Blossom Heath serenaders; 3-3:15, talk, Wheeler Dryden; 3:20-3:40, talk, League of Women Voters; 3:40-4, piano lessons, Dr. Alfred G. Robyn; 6-6:30, Uncle Geebee; 7-8, Meyer Davis' orchestra; 8:30-9:30, Japanese program; 9:30-10, Stamboul trio; 10-10:30, Melody Four; 10:30-11:30, Meyer Davis' orchestra.

**WGCP, New York, N. Y. (315.6),** 3-3:15 p. m., Ethel Pinous, pianist; 3:15-3:18, Mirror race results; 3:18-3:30, Billy Rhoades, tenor; 3:30-3:45, Lady Brooks and her three Collegiates; 3:45-3:48, Mirror race results; 4-4:15, William J. Rietz; 4:15-4:18, Mirror race results; 4:20-4:25, Mary Smith; 4:25-4:48, Mirror race results; 4:48-5, Billy Basquette, composer; 5-5:15, Eve Rothenberg, pianist; 5:15-5:18, Mirror race results; 5:18-5:30, Jimmy Flynn; 5:30-5:45, Della Riordan, haritone; 5:45-5:48, Mirror race results; 5:48-6, Marc-Doublier, saxophonist.

**WGR, Buffalo, N. Y. (319),** 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including Ross Gorman and his Earl Carroll orchestra from the Earl Carroll theater; Gold Dust Twins, Eveready hour, and the grand opera, "The Pearl Fishers."

**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),** 12:30-1 p. m., organ recital, Lexington theater; 2:15-3:15, overture and vaudeville, Loew's State theater; 3:15-4:30, Lexington theater orchestra; 1:30-3:15, Uncle Robert's chat to children and grown folk; 7:20-8, Will Oakland's chatran Shanley; 8:30-9, Colonial Aces; 9:30-10, Palsades Amusement Park orchestra.

**WIP, Philadelphia, Pa. (508.2),** 3 p. m., Song of the Surf; 3:30, Lombard's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories; 8, "Touffie's" philharmonic orchestra; 8:40, Song of the Surf; 8:45, Murphy's minstrels; 9:10, Yessell's band; 10-11, movie talk, El M. Oro-witz; 10:30, Treasure hotel dance orchestra; 11, California Night Hawks.

**WLIT, Philadelphia, Pa. (394.5),** 11 a. m., organ recital; 12:02 p. m., dally ablance; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 1:30, Nicholas Deolibus, violinist, Elvira Versaci, pianist; 7:30, Dream Daddy's bedtime stories.

**WMCA, New York, N. Y. (340.7),** 11-12 p. m., Ida Bailey Allen's hemanaking hour; 7-7:15 p. m., Jack Wilbur's Personalities; 8-8:30, May Simchil Breen and Peter de Rose; 8:30-9, Columbia Amusement Park orchestra; 9:45, A-bury Park dance orchestra; 10-11, Chiropractic hour of music; 11-12, Eric Golden and his Hotel McAlpin orchestra.

**WNYC, New York, N. Y. (526),** 6:30-6:10 p. m., "Home Economics," Mr. Loul Reed Wilmiller; 6:45-7, song recital; 7-10, market high spots; 7-10:30, The Canadians; 7-9:55, polka albums; 7:35-8, dance program; 8-8:45, baseball results; 8:15-10:15, concert.

**WOO, Philadelphia, Pa. (508.2),** 11 a. m., organ recital; 12:02 p. m., Golden crystal tea room orchestra; 1:45, organ recital; 7:30, A Landerl's concert orchestra.

**WOR, Newark, N. J. (405.2),** 6:30-7 p. m., Man in Moon; 7:15-7:30, sport talk, Pat Robinson.

### Eastern Standard or Central Daylight Saving Time Stations

**KDKA, Pittsburgh, Pa. (309.1),** 8:15 p. m., concert; 10-15, concert from the Willow.

**KYW, Chicago, Ill. (536),** 7-7:30 p. m., Congress hotel program; 8-8:20, music; 8:20-8:45, speeches, American Farm Bureau federation; 8:45-9:30, music; 10-11:30, evening at home.

**WBBM, Chicago, Ill. (226),** 8-10 p. m., Samora orchestra; Tito, Hase Nurelhan, Charlie Garland, Eddie Loftus, Nat Caldwell; 10-12, Stewart-Warner program; Alamo orchestra; Will Newlan, saxophonist; Eddie Loftus, Marie Margot, harpist; Harold Anderson, accordionist.

**WBZ, Springfield, Mass. (333.1),** 6 p. m., Leo Itelman Hotel Levee ensemble; 8, James F. Knox, violinist; 8:15, C. E. Roberts; 9:45, Ethel Curry, soprano; 9, Hotel Levee orchestra.

**WCX, Detroit, Mich. (517),** 11 p. m., concert; 8, dinner concert; Ben-Cadillac hotel; 8, musical program, 10, The Red Apple Club.

**WEAR, Cleveland, Ohio (389.4),** 7-8 p. m., Vincent H. Perry, organist; 8, R. T. L. program; 9-10, 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 Lechner, contralto, Uptown theater; 9:30-10:30, Oriole orchestra, Dorothy Herman Blum, soprano; Frank Brander, haritone, Loos Brothers, 11-20-1, Oriole orchestra; Sands Meek, tenor; Harry Monk, accompanist; Jack Penwell, twin guitarists; Banks Kennedy, Paul H. Hill.

**WGBU, Fullford-by-the-Sea, Fla. (278),** 6:30-7:30 p. m., Blue Beale and his Fullford-by-the-Sea orchestra; 10-1, dance music.

**WGES, Oak Park, Ill. (250),** 5-7 p. m., Frank Ernest, pianist; Norman Kline, haritone; Harold Weary, pianist; Christine Nixed, violinist; 10:30-1, Novelty Broadcasters' orchestra; Phil Wilcox, Clarence Par-



The Crescent male quartet will be the headliner Wednesday at WMCA, New York. They have a variety of songs with which to entertain and many little tricks which make them popular with their invisible audience.

rish, Pat Ward, Harber trio, Sandy McTavish, Coyne Electrical school serenaders, Marie Wright.

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

**WHT, Oerfield, Ill. (400),** 7 p. m., classical; Jane McInnell, contralto; August Bredemeier, tenor. Eleanor Gilmore, soprano; Borden's selected vodvil, (238), 8:45, Elmer Kaiser's Riverview Melody masters, (400), 10:30, Walter Ford's Cheerio orchestra; Oscar Heather, tenor; Rita McFawn, soprano; Hickey and Johnson, Hawaiian guitarists; 12, Pat Barnes, Al Carney, Duke Rehl and Walter Ford.

**WIBO, Chicago, Ill. (226),** 6-8 p. m., Mildred Perlin, reader; Sheppard Levine, tenor; Raymond Barker, baritone; Carl Linner, pianist; Nathan Zimmerman, cellist; 12-3 a. m., midnight jamboree; Harry Geise, pianist; Zeigler Sisters, Paul Small; Dan Russo and Ted Florio; Jack Penwell and his famous twin-six guitar; Helen and Rita Young; other artists.

**WJIO, Moosehart, Ill. (302.8),** 10:30 p. m., Elythe Whitman, R. V. Thomas, Clarence Harper, Naomi Hamilton.

**WJR, Detroit, Mich. (517),** 7 p. m., Jean Goldkette's ensemble.

**WKRC, Cincinnati, Ohio (326)** 10 p. m., Maxim Kastyluck, Russian haritone; George Weber, tenor; Pete Minowski, violinist; Al Kirschner, pianist; Caroline Schlosser, reader; Gene Perazzo, pianist; 10:30, John Arnold safety talk; 11, classical program.

**WLS, Chicago, Ill. (344.6),** 6:45 p. m., Ralph Emerson, organist; 7, musical chronology of life and works of Stephen Foster; string trio, vocal soloists; Ralph Emerson, organist; 7:45, lullaby time, Ford and Glenn; 8, Better Music hour; Carl Craven, tenor; artists; 9, farm program; songs with banjo, Chubby Parker; Kenneth Clark, guitarist; 10, string trio; 10:15, Grace Wilson, contralto; Ann Williams, soprano; 10:30, Kentucky Wonderbean; Nubs Allan, contralto; 10:45, Ford and Glenn time; 11, string trio; 11:15, "Solemn Old Judge" program; Joe Bren's minstrel company; Simmons and Clifford, harmony duo; Hal Gibbs, character songs; Original Margold trio; 12:1 a. m., revue; Ralph Emerson, organist.

**WLW, Cincinnati, Ohio (422.3),** 12:15 p. m., Petrinella Trimbur, organist; 4, student recital, classes of Leo Stoffregen and William Kyle; 6:30, Gene Johnson, organist; 7, WLW Story Lady, Mrs. Bertha W. Edmonds; 8, WLW feature orchestra, presenting as its novelty twenty minutes of old time rags; 8:20, soprano solos, Warren Foster; 8:30, Jake Hutz and his Pump-kin Vine orchestra; 8:45, musical saw selections,

Mrs. Harry H. Nagle; Gladys Hettrick Kruse, piano and organ accompanist; 9, the Formica concert orchestra, William Stoess, director.

**WMAQ, Chicago, Ill. (447.5),** 6 p. m., Chicago theater organ recital; 6:30, Georgene Faulkner, story lady; 8, musical program; 9, WMAQ players.

**WMBB, Chicago, Ill. (250),** 6-7 p. m., Trionan ensemble, Lindsey McPhail, Desmond Sullivan, Bernard Senescu, Hazel O'Neil, John Everett, Wayne King; 9-11, Trionan orchestra, Geraldine Doyle, Jack Murname, Woodlawn theater orchestra.

**WOK, Chicago, Ill. (217.3),** 12-2 p. m., Marianne Powell Babcock, soprano; Thomas B. Stephenson, tenor; Fred Witmer, pianist; Marie Dneprova, soprano; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7, Genevieve Barry Burnham, soprano; Clement Laskowski, tenor; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1, Gertrude Mufgood, soprano; Kraft Harmony boys; Evelyn Johnson, soprano; Jacobson and Ray; LeRoy North, pianist; Gus C. Edwards orchestra.

**WORD, Batavia, Ill. (275),** 8:30 p. m., World News Digest; 8:45, musical program, Elmer Jacobs, director; Evangeline Dickson, soprano; 9:45, address, Irving Foss.

**WQJ, Chicago, Ill. (370.2),** 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Everett G. Mitchell, baritone; Muriel Keneally, soprano; Henrietta Nolan, violinist; 10-1, Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch, soprano; Harold Riek, artist; Frank Blasco, boy tenor; Will Rossiter; Ila Shanabrook, soprano; Mack Sisters, Mary Jane; 2, Ginger hour.

**WREO, Lansing, Mich. (285.5),** 8:15 p. m., Reo Motor Car company band; Reo Motor Car company band glee club.

**WTAM, Cleveland, Ohio (389.4),** 6-7 p. m., dinner music.

**WTAS, Elgin, Ill. (302.8),** 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Flo Henrie, Lillian Bernard, Tony Corcoran, Violet Eaton, Phil Wilcox, Ruth Etting, Ned Miller, Brook Sisters.

**WTIC, Hartford, Conn. (475.9),** 6 p. m., Travelers Jougless; 7:10, Anna P. Tatro, contralto; 7:30, Austin organ company; 8:10, Mrs. E. C. Tompkins, soprano; 8:20, "Newgate Prison," Albert C. Bates; 8:45, Colt Park Municipal orchestra.

**WJL, Detroit, Mich. (352.7),** 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 7, concert from WFAF.

### Central Standard Time Stations

**KFAB, Lincoln, Nebr. (340.7),** 6-7 p. m., Buick Little symphony; 7:30-8:30, Schmoller and Mueller Piano company.

**KLDS, Independence, Mo. (441),** 8 p. m., Mrs. Lulu Lentell, contralto; Mrs. John Watkins, soprano; Lam Cooper, bells.

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

**KFNF, Shenandoah, Ia. (266),** 7:30 p. m., pipe organ.

**KFVE, University City, Mo. (240),** 10 p. m., Hausman brothers.

**KSO, St. Louis, Mo. (545.1),** 7 p. m., Arno Arnesen's concert orchestra.

**KTHS, Hot Springs National Park, Ark. (374.8),** 9:25 p. m., Lawson Reid, organist.

**WAMD, Minneapolis, Minn. (243.8),** 12 m. special noon program; 12:30 p. m., agricultural talk, Major LaFleur; 6, Hotel Radisson ensemble; 9, musical program.

**WCCO, Minneapolis-St. Paul, Minn. (416.4),** 6:30 p. m., program from WEAF, Gold Dust Twins, Eveready hour, grand opera, "The Pearl Fishers."

**WOAF, Kansas City, Mo. (365.6),** 6-7 p. m., piano tuning in number on the Duo-Art; address; Tell Me-a-Story Lady; Plantation players; 11:45-1, Merry Old Chief; Plantation players; Charles Domberger's orchestra; Ted Meyn, organist; Earl Coleman's orchestra.

**WFAA, Dallas, Tex. (475.9),** 6:30-7:30 p. m., Frenslay Moore and his Black and Gold serenaders; 8:30-9:30, John Thorwald, haritone; Mrs. J. E. Crawford, soprano; 11-12, Earle D. Behrends and Dallas singers.

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

**WHAS, Louisville, Ky. (399.8),** 4 p. m., musical selections, Harry S. Currie; 7:30-9, Sylvian trio; Louise Powell, pianist.

**WHO, OesMoines, Ia. (526),** 7:30-8:30 p. m., musical program; 11-12, midnight frolic.

**WMC, Memphis, Tenn. (499.7),** 7:30 p. m., health talk, Dr. E. E. Francis; 8:30, Britling's novelty orchestra; 11, Harry O. Nichols, organist.

**WOAW, Omaha, Nebr. (526),** 6 p. m., feature; 6:30, orchestra; 7:10, Radio review, Neal Jones; 9, Grace Denison Schafer, pianist; 9:45, orchestra; 10:15, Francis Potter's Banjo orchestra; 12, Rialto alarm.

**WQAI, San Antonio, Tex. (394.5),** 8:30-9:30 p. m., musical program, Miss Borden; 9:30-10:30, Jimmy's Jests.

**WOC, Oavenport, Iowa (484),** 6:30-7 p. m., Gold Dust Twins, WEAF; 7-8, Eveready hour, WEAF; 8-9, Crescent orchestra.

### Mountain Standard Time Stations

**CNRR, Regina, Can. (435),** 8 p. m., Lionel Allen and concert party.

**KOA, Denver, Colo. (322.4),** 6:30 p. m., Herbert White and his Silver State orchestra; 7:30, News-Thimes concert.

### Pacific Standard Time Stations

**KFOA, Seattle, Wash. (454.3),** 6-6:45 p. m., Hoffman orchestra; 6:45-8:15, program, Metropolitan Building company; 9:30-11:30, Eddie Harkness and his orchestra.

**KFWB, Hollywood, Calif. (252),** 6-7 p. m., children's hour, Big Brother of KFWB; 7-7:10, Howard Beall, golf instructor; 7:30-9, program, Western's superserico garage, Margaret Lancaster, contralto; Mrs. Howard, concert pianist; Ashley Sisters, popular song duets; Charlie Wellman, tenor; Great Western quartet; 9-10, program, H. W. Crockett, Elite trio, Louise Sullivan, soprano, Way Lattis and his ukulele, H. L. Crockett and his quartet; 10-11, Los Angeles Radio exposition.

**KGO, Oakland, Calif. (361.2),** 8 p. m., program, California composers, Arlon trio; Grace LePage, soprano; Florence Ruth Brown, contralto; Gwynn Jones, tenor; Albert Gillette, haritone; 9:50, "Radio Breezes," K. C. B.

**KHJ, Los Angeles, Calif. (405.2),** 5:30-6 p. m., Leigh-ton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, weekly visit of Queen Titania and Sandman of Fairyland, Louis E. Klein, auto-harp and harmonica; Chas. Leslie Hill, readings, Uncle John; 7:30-8, chamber music program; Zoellner Conservatory of Music; 8-10, program, Peerless Laundry company, arranged by J. Howard Johnson; 10-11, Radio exposition; 11-12, 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 Finstein, leader; 7-8, Don Clark and his La Monica ballroom symphonic dance orchestra; 8-10, KNX feature program; 10-12, movie night at the Ambassador, Ray West and his Occoanut Grove dance orchestra; 10-11, Radio exposition.

## Wednesday, September 9

Wednesday, silent night for: CHNC, CNRC, CNRE, CNRM, CNRW, CNRT, KFAE, KFKM, KFKX, KGO, KLD, WBAV, WBBR, WCAU, WCBQ, WFAA, WFG, WGBS, WGGP, WGY, WHAR, WHAZ, WIP, WMC, WOAW, WOR, WPG, WRC, WREO, WTIC.

**Atlantic or Eastern Daylight Saving Time Stations**

**WAHG, Richmond Hill, N. Y. (315.6),** 12:30-12:55 p. m., Almon and Bower, violinist and pianist; 12:55-1:05, time signals and weather report; 1:05-1:30, Almon and Bower; 7:30-7:45, sports talk, Thornton Fisher; 7:45-8, Von Der Helde and LaRuffa, piano and banjo; 8:15, James M. Savelle, baritone; 8:15-8:30, W. Norman Grayson, pianist; 8:30-8:45, Genevieve Williams, soprano; 8:45-9, Von Der Helde and LaRuffa; 9-9:15,

(Continued on page 11)



# "GREEN GODDESS" LATEST KOA PLAY

## Wednesday, September 9

(Continued from page 10)

James M. Saville; 9:15-9:30, W. Norman Grayson; 9:30-9:45, Giovanni Williams; 9:45-10, Herman E. Fisher, "Julius Caesar"; 10-10:55, Glenn C. Smith's Paramount orchestra; 11:05-11:30, Glenn C. Smith's Paramount orchestra.

**WCAE, Pittsburgh, Pa. (461.3),** 6:30 p. m., dinner concert, William Penn hotel; 9, concert; 11, program, Aldine theater.

**WEAF, New York, N. Y. (491.5),** 4-4:15 p. m., Dorothy Mueller, contralto; 4:15-4:45, musical program; 4:45-5, talk, Jan J. Carlos; 6-7, dinner music, Waldorf-Astoria; 7-7:30, services, United Synagogue of America; 7:30-8:30, concert, United States Army band; 9-10, "Old Times Hour"; 10-11, Ipana Troubadours; 11-12, Hotel Bussert Marine roof orchestra.

**WBJ, New York, N. Y. (272.6),** 8-8:30 p. m., Dan Barnett's orchestra; 8:45-9, Hotsy-Potsy boys; 9:15-9:30, Edith Law, soprano; 9:30-9:45, Norman Heinemann, pianist; 9:45-10, Isabel Henderson, soprano.

**WFI, Philadelphia, Pa. (394.5),** 1 p. m., Bellevue Stratford orchestra; 3, Loretta Kirk, pianist; talk, "Our Obligations," J. Chauncey Shortliffe; 3:15, fashion ink, Eleanor Gunn; 5:45, Bellevue Stratford Roof Garden orchestra.

**WGBS, New York, N. Y. (315.6),** 1:30-2:30 p. m., Strand roof orchestra; 6-6:30, Uncle Geebo; 6:30-7:30, Yerkes Flotilla orchestra.

**WGCP, New York, N. Y. (315.6),** 3-3:15 p. m., Marguerite Austin; 3:15-3:30, Jack Cohen, jazzology; 3:30-3:45, Lady Brooks and her three Collegiates; 3:45-3:58, Mirror race results; 3:58-4, Shirley Herman, singer; 4-4:15, Nat Osborne, composer; 4:15-4:28, Mirror race results; 4:28-4:45, Lady Brooks; 4:45-5, Wln Unger and Mirror race results; 5-5:15, Sylvia Miller, soprano; 5:15-5:28, Mirror race results; 5:30-6:30, Jerry Antonio's Circle orchestra.

**WGR, Buffalo, N. Y. (319),** 2:30-4:30 p. m., WGR's afternoon program; 9-10, W. M. Thomas, baritone; William Skeets, pianist; and associate artists; 10-11, two-plano recital, Gospel melodists; 11-1 a. m., supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director.

**WHN, New York, N. Y. (361.2),** 2:15-2:45 p. m., Jimmy Clark's White Way entertainers; 2:45-3:15, Carl White's entertainers; 10-10:30, Roseland dance orchestra; 10:30-11, Palisades Amusement Park orchestra; 11-11:30, Silver Slipper revue.

**WIP, Philadelphia, Pa. (508.2),** 3 p. m., Song of the Surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

**WLIT, Philadelphia, Pa. (394.5),** 12:02 p. m., dally program; Stanley theater organ recital; Arcadia cafe

Anderson, Eddie Loftus, Charlie and Dave, Harold Well

**WBZ, Springfield, Mass. (333.1),** 6 p. m., Hotel Kimball trio; 8:30, Amphion trio.

**WCX, Detroit, Mich. (517),** 4:15 p. m., concert; 6, dinner concert Book Cadillac hotel; 8, musical program.

**WEAR, Cleveland, Ohio (389.4),** 7-8 p. m., Hotel Cleveland orchestra.

**WEBH, Chicago, Ill. (370.2),** 7:30-8:30 p. m., Orlofo orchestra; Florence Heirep, soprano; Howard Neumann, pianist; 9:30-10:30, Orlofo orchestra; songs, Correll & Gosden; 11:30-1 a. m., Orlofo orchestra; songs, Correll & Gosden; Robert York, tenor; Orlofo orchestra.

**WGBH, Fulford-by-the-Sea, Fla. (278),** 6:30-7:30 p. m., Bine Steele and his Fulford-by-the-Sea orchestra; 10-1, dance music.

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

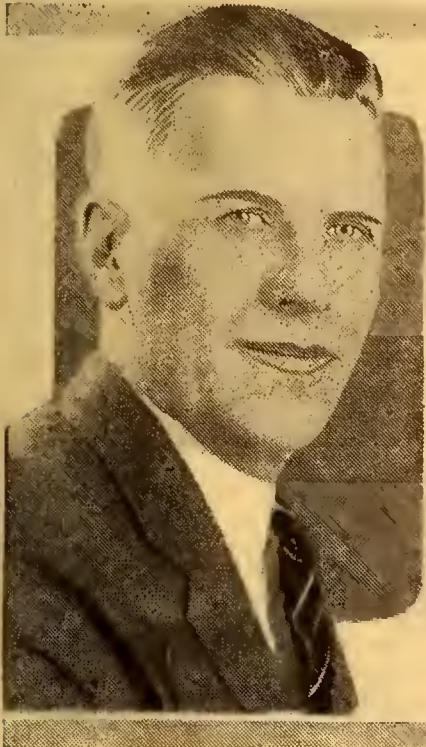
**WGES, Oak Park, Ill. (250),** 5-7 p. m., Richard Dale, baritone; Louise Wyse, soprano; John MacFarlane, bass; John Stamford, tenor; 10:30-1 a. m., Kampus Kollegians orchestra; Rose Sweeney, soprano; Frank Cahery, tenor; Lew Russell, Sue Olanstead, ukulele soloist; DOWitt & Owen; Evans Lloyd, baritone.

**WHT, Oerfeld, Ill. (400),** 7 p. m., classical program; Al Carney, organist; Pauline Sachs, soprano; Oscar Heather, tenor; Kitchen Klenzor Klasic; Dean



Grace Leighton Frauenthal (above), is the pianist who charms the invisible audience of WTAM. She is a regular feature of this station. Florence Richardson (left), and her violin may be heard this Saturday or Wednesday from WOR, Newark.

Freeman H. Talbot (below), studio director and program manager at KOA, will make his first appearance as a radio actor Wednesday evening in "The Green Goddess." He will take the part of the English officer, Major Orespin.



concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, pianist; 7:30, Dream Daddy's bedtime stories; 8, sports talk, Phila. Record; 10, Arcadia cafe dance orchestra; features from Atlantic City.

**WMCA, New York, N. Y. (340.7),** 11-12 m., musical program; 6:30-7:30 p. m., Ernie Golden and his Hotel McAlpin orchestra; 8:30-8:45, Crescent male quartet; 9-10, Mantia's Symphony orchestra; 10:45-11, Flvia Messner Bros., orchestra; 11-12, Berkeley Carteret dance orchestra.

**WNYC, New York, N. Y. (526),** 6-6:30 p. m., Spanish lesson's V. Harrison Berlitz; 7-7:10, market high spots; 7:10-7:30, dance program; 7:30-7:55, police alarms; 7:55-8:15, news of the day; 8-8:05, baseball results; 8:05-8:15, songs; 8:15-10:15, concert from Mall, Central Park; 10:15-10:30, songs.

**WOO, Philadelphia, Pa. (405.2),** 11 a. m., organ recital; 12:02 p. m., Golden's Crystal Tea room orchestra; 4:45, organ recital; 7:30, U. S. Army band; 9, Old Timers' hour; 10, Ipana Troubadours; 11, A. Candelori's dance orchestra.

**WOR, Newark, N. J. (405.2)** 6:15-7 p. m., Ben Goldfarb and his Bluebird orchestra; 7:15-7:30, sports talk, Pat Robinson; 7:30-8, Vincent Lopez orchestra; 8-8:10, "Topics of the Day," Spencer Armstrong; 9:15-9:30, talk, Dr. Vitzetelly; 11-12, Central Park Casino orchestra with Flo Richardson and girls.

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

**KOKA, Pittsburgh, Pa. (309.1),** 8:45 p. m., Dry Siltz hour of music.

**KYW, Chicago, Ill. (536),** 7-7:30 p. m., Congress hotel program; 7:45-7:55, safety first talk; 8-9, musical program; 10-12:30 a. m., midnight revue.

**WBEM, Chicago, Ill. (226),** 8-10 p. m., Samovar orchestra; Nate Caldwell, Maurice Silverman, Sunset male quartet, Dave and Charlie, Harold Anderson, Alamo orchestra, Eddie Loftus; 12-2, Stewart-Warner program; Alamo orchestra, Nate Caldwell, Harold

Remick, pianist; Jelke musical moments; (238), 8:45, Elmer Kaiser's Riverview Melody masters; (400), 10:30, Walter Ford's Cheerio orchestra; Carl Strodel, baritone; Hickey and Johnson, guitarists; Manfred Gottlieb, pianist; John Clark, baritone; 12, Pat Barnes, Al Carney, Duke Rehl and Walter Ford.

**WIBO, Chicago, Ill. (226),** 6-8 p. m., Elsie D. Hoffman, soprano; Dorothy Rae, soprano; James Luchansky, Austrian tenor; Chester Newman, baritone; Phyllis Feingold, violinist; Helen Glnsberg, operatic soprano; Carl Linner, pianist; 10-12, Kay Ronayne, Harry Geise, Anne Williams, Joe Allabough and artists.

**WJR, Detroit, Mich. (517),** 7 p. m., Jean Goldkette's ensemble; 10, Blue room dance orchestra.

**WKRC, Cincinnati, Ohio (326),** 8 p. m., book review, Alice B. Coy; 8:15, dance program, Marion McKay and his orchestra; 9:45, studio features.

**WLS, Chicago, Ill. (344.6),** 6:30 p. m., Ralph Emerson, organist; 7:15, concert, WLS string trio; 7:45, lullaby time, Ford and Glenn; 8, announced; 9, farm program, string trio, Ford and Glenn; 10, open; 10:40, Ford and Glenn time; 11-11:30, string trio.

**WLW, Cincinnati, Ohio (422.3),** 12:15 p. m., program, featuring duets for piano and organ, Irene Downing and Marjory Hebestreit; 4, "Shut-In" program; 7, dinner concert, Hotel Gibson orchestra; Robert Visconti, director; 10, Walnut Hills choral society, J. W. Grey, director; 10:20, piano solos, Margaret Niesel; 10:45, the Cino mala quartet; 11, Johanna Grosse, organist; the Orpheus instrumental trio.

**WMBE, Chicago, Ill. (250),** 6-7 p. m., Trionan ensemble, Marla Caruso, Bernard Sanescu, Rebecca Agulnick, Charles Agne; 9-11, Trionan orchestra; Woodlawn theater orchestra.

**WOK, Chicago, Ill. (217.3),** 12-2 p. m., Harold Morava, tenor; Jean Carlson, soprano; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7, Robert York, tenor; Jana McConnell, contralto; Eleanor Gilmour, soprano; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1, Ned Miller, tenor; Rita McFawn, soprano; Si Berg,

ukulele soloist; Johnny Burns, bass; Dave Kapp and company; Herman Sinaiko, violinist; Harold Morava, tenor; LeRoy North, pianist; Gus C. Edwards orchestra.

**WORO, Batavia, Ill. (275),** 8:30 p. m., I. B. S. A. choral singers; 8:45, address, C. H. Swingle.

**WQJ, Chicago, Ill. (370.2),** 7-8 p. m., Ralph Williams and his Rainbo Gardens orchestra; Fredrick Mueller, German tenor; Catherine Diepenbrock, pianist; Adelaide Niece, contralto; 10-1, Rainbo Skylarks; Melodians; Joe Terline and Williamson Brothers; Rick Snyder, Gardner; Alice Hesper, pianist; Fontella trio; Gail Baudell, contralto; Fred A. Jacobson; Clarence Theders, tenor; 1-2, Ginger hour.

**WTAM, Cleveland, Ohio (389.4),** 6-7 p. m., dinner dance music; 8-10, organ recital; 10-11, Hollenden hour; 11-12, dance music, Frank Wilson's Euclid Beach Park orchestra.

**WTAS, Elgin, Ill. (302.8),** 8-10:30 p. m., Purple Grackle boys; Herbie Mintz, Evelyn Johnson, Art Stillor, Herbert Schroeder.

**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),** 6-7 p. m., Buick Little symphony; 7:30-8, Belshaw's orchestra; 8-9:30, Waikiki trio; Ralph Hall, banjoist; Gladys Beyette, cellist.

**KFMQ, Fayetteville, Ark. (299.8),** 7:30 p. m., small grains program; "Farm Philosophy," Cy Adams; "Rye and Barley," Prof. Martin Nelson; "Oats," C. K. McClelland; "Treating Small Grain Seeds," Prof. H. R. Rosen; "Rice as a Food," Gertruda Conant.

**KNF, Shenandoah, Ia. (266),** 7:30 p. m., Henry Field Seed company.

**KFVE, University City, Mo. (240),** 10 p. m., Leona Bloomer, soloist; Mrs. Elsa Herzog, accompanist; Orchestra Romaine.

**KSO, St. Louis, Mo. (545.1),** 7 p. m., Silverman's jazz band.

**KTHS, Hot Springs National Park, Ark. (374.8),** 9:25 p. m., New Arlington Hotel Meyer Davis orchestra.

**WAMO, Minneapolis, Minn. (243.8),** 12 m., special noon program; 12:30 p. m., agricultural talk, Major LaFleur; 6, dinner concert; 7, novelty program.

**WCCO, Minneapolis-St. Paul, Minn. (416.4),** 7 p. m., midweek church service, Rev. R. H. Gerberding; 8, Fairmont City band; 10, Wallie Erickson's Coliseum orchestra; 11:30, Eddie Dunstedter, organist.

**WDAF, Kansas City, Mo. (365.6),** 6-7 p. m., address, Health Conservation association; address, speaker Meat Council; Tell-Me-a-Story Lady; Plantation players; 8-9:15, Star's Radio orchestra; Winifred Lee Goldsborough, soprano.

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

**WHAS, Louisville, Ky. (399.8),** 4 p. m., musical selections, Harry S. Currie; 7:30-9, Corydon, Indiana night.

**WHO, Des Moines, Ia. (526),** 6:30-7:30 p. m., Bankers Life trio; 7:30-9, musical program; 10:30-12, Corn Sugar orchestra.

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

**WOC, Oavenport, Iowa (484),** 9-10, p. m., Erwin Swindell, organist; Ralph Fuller, baritone.

**Mountain Standard Time Stations**

**KOA, Denver Colo. (322.4),** 6:30 p. m., Herbert White and his Silver State orchestra; 7:30, Book of Knowl-

edge; 8, Tom McNamara; 8:10, "The Green Goddess," KOA players; 10, dance music.

**Pacific Standard Time Stations**

**KFAE, Pullman, Wash. (348.6),** 7:30-9 p. m., Miriam Zimmerman, pianist; talk, Rev. Palmer; "Culling the Poultry Flock," W. A. Buchanan; "Football from the Side Lines," E. W. Thorpe; "Why Young Men Should Study Agriculture," E. C. Johnson; book chat, Alice Lindsey Webb.

**KFOA, Seattle, Wash. (454.3),** 6-6:45 p. m., Hoffman orchestra; 6:45-8:15, Hopper Kelly company program; 8:30-10, Times studio program.

**KFWB, Hollywood, Calif. (252),** 6-7 p. m., children's hour, Big Brother of KFWB; 7-7:30, Mutual Motors, ulrth contest, Ed Kelly, tenor; 7:30-8, program, Beveridge company; Louise Howatt, pianologues; Richard Coburn, popular songs; Beveridge Hawaiians; 8-9, program, John Wright, the right tailor; Fred Roger's Hawaiian trio; Barbara Bunnell, blues singer; John Wright's orchestra; 9-10, program, Independent Furniture Manufacturing company, Darktown orchestra; 10-11, Los Angeles Radio exposition.

**KGO, Oakland, Calif. (361.2),** 1-5:30 p. m., concert orchestra, Hotel St. Francis; 6-7, dinner concert.

**KHJ, Los Angeles, Calif. (405.2),** 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Conshaw, leader; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies' hour with Dick Winslow, juvenile reporter; Mickey McBan, screen starlet; Piggy Wiggy girls stringed trio; 8, Dr. Mars Baumgardt, scientific lecturer; 8:30-10, program, H. Jevne company, arranged by J. Howard Johnson; 10-11, Radio exposition; 11-12, Art Hickman's Biltmore hotel dance orchestra, Earl Burt-nett, leader.

**KNX, Hollywood, Calif. (336.9),** 5:30-6:15 p. m., Werg-litzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Einstein, leader; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-9, program, Security Trust and Savings bank; 9-10, program, Globe Joe Cream company; 10-11, Radio exposition; 11-12, Ray West's Coconut Grove dance orchestra from Ambassador hotel.

**Thursday, September 10**

Thursday, silent night for: CNRE, CNRR, CNRT, KFAB, KFAE, KFOM, KFKX, KFMQ, KFOA, KFVE, KOA, KSD, PWX, WHAG, WBAV, WCEE, WEBC, WHAD, WHAZ, WJJO, WLIT, WOR, WOS, WTAM, WTIC.

**Atlantic or Eastern Daylight Saving Time Stations**

**CHNC, Toronto, Can. (356.7),** 9 p. m., Charles E. Bodley and his orchestra; Sydney Walsh, tenor; Bert Petch, entertainer.

**CNRM, Montreal, Can. (411),** 9 p. m., orchestra, White Star-Dominion line; Viola Benoit, soprano.

**WBBR, New York, N. Y. (272.6),** 8 p. m., Hawaiian quartet, Eric Howlett, Albert Koons, Donald Haslett, Harry Pinnock; 8:10, vocal selections; 8:20, Sunday school lesson, S. M. Van Stigma; 8:40, vocal selections; 8:50, Hawaiian quartet.

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

**WCAU, Philadelphia, Pa. (278),** 6:25 p. m., baseball scores; 6:30, Billy Hayes and his Cathy Tea Garden dance orchestra; 7:30, N. Snellenburg and company symphony orchestra, John A. Carroll, director; 8, Giovanni Pasquale, baritone, Ellish Jurdumian, Armenian pianist; Emilie Sellers, pianist; 9, Mill Marcel, cyclo

(Continued on page 11)



# LOS ANGELES TO BROADCAST TIME

## TABLE FOR MAKING TIME TRANSITIONS

|                        |    |    |    |   |   |   |   |   |   |    |    |    |
|------------------------|----|----|----|---|---|---|---|---|---|----|----|----|
| Eastern Standard Time  | 1  | 2  | 3  | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Central Standard Time  | 12 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 |
| Mountain Standard Time | 11 | 12 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9  | 10 |
| Pacific Standard Time  | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7  | 8  | 9  |

**HOW TO USE.** If a station is giving a program at 8 o'clock Mountain time and you wish to find what this is equivalent to in Central time, find 8 o'clock in the third of Mountain time row. Then immediately above it in the same vertical column will be found the figure 9 in the Central time row. This indicates that the program would be heard at 9 o'clock Central time.

### Thursday, September 10

(Continued from page 11)

of song; 9:30, Frank Cook, old-time songs; 10, Eddie Malle and Danny Dougherty, melody boys.

**WEAF, New York, N. Y. (491.5), 1-1:15 p. m.**, musical program; 1:15-1:45, garden talk, Leonard Barron; 1:45-2:15, dinner music, Waldorf-Astoria; 2:15-2:30, services, Greater New York Federation of Churches; 7:30-8, Postman's Serenaders; 8-8:30, "Pop" concert; 8:30-9, talk, George Elliott Cowley; 9-10, Atwater Kent Radio artists; 10-11, Silvertown Cord orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

**WFI, Philadelphia, Pa. (394.5), 1 p. m.**, Bellevue Stratford orchestra; 3, Loretta Kerk, pianist; 3:15, fashion talk, Eleanor Gunn; 6:15, Bellevue Stratford Roof Garden orchestra; 8, Pop concert; 9, Atwater Kent Radio artists; 10, Silvertown Cord orchestra.

**WGBS, New York, N. Y. (315.6), 6-6:30 p. m.**, Uncle Greber; 6:30-7:30, Starlight Ramblers; 7:30-8:30, "Boy" club hour; 8:30-8:45, Oliver Saylor, Footlight and Lamplight; 9:30-10:30, Piccadilly theater program.

**WGCP, New York, N. Y. (315.6), 3-3:15 p. m.**, Dorothy Ross, pianist; 3:15-3:18, Mirror race results; 3:18-3:30, Frank Gallati, composer and pianist; 3:30-3:45, Lady Brooks and her three Collegiates; 3:45-3:58, Mirror race results; 4-4:15, Charlotte Trystman, child pianist; 4:15-4:18, Mirror race results; 4:18-4:30, Jimmy Tucker, singing composer; 4:30-4:45, Lady Brooks; 4:45-4:58, Mirror race results; 5-5:15, Harold Glenn, whistler; 5:15-5:18, Mirror race results; 5:18-5:30, Jack Palmer and Harry Woods, pianists; 5:30-5:45, W. F. Handy entertainers; 5:45-5:58, Mirror race results; 5:58-6:10, Marie Medtrist, soprano; 8-8:15, Bernard and Polach, composers; 8:15-8:30, Dick and Flo Bernard, songs; 8:30-8:45, Jack Smith, personality plus; 8:45-9, Lillian Gordone, contralto; 9-9:15, William J. Rietz, songs; 9:15-9:30, Bob Ward and his three little Wards; 9:30-9:45, Al Piantodosi entertainers; 9:45-10:15, Indianapolis.

**WGR, Buffalo, N. Y. (319), 2:30-1:30 p. m.**, WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including Atwater Kent Radio artists and the Goodrich Silvertown Cord orchestra.

**WHAR, Atlantic City, N. J. (275), 2 p. m.**, Seaside hotel trio; 7:30, Pageant News; 8, Seaside hotel trio.

**WHN, New York, N. Y. (361.2), 12:30-1 p. m.**, organ recital, Lexington theater; 3:15-3:30, Lexington theater orchestra; 8-8:30, Will Oakland's Chateau Shanley; 9-9:30, Jimmy Clark's White Way entertainers; 9:30-10, Palisades Amusement Park orchestra; 10:15-10:30, Loew's vaudeville headliners.

**WIP, Philadelphia, Pa. (508.2), 3 p. m.**, Song of the Surf; 3:30, Comfort's Philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, "Intimate Talks on Current Sports of the Day," Billy Itcup; 7:10, Uncle Wip's bedtime stories; 8, Comfort's Philharmonic orchestra; 8:10, Song of the Surf; 8:50, Vesell's band; 10, Gaylord and Young dance orchestra; 11, California Night Hawks.

**WLIT, Philadelphia, Pa. (394.5), 12:02 p. m.**, daily almanac; Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 1:30, Maxzine corner, Mrs. B. F. Maschal; 7:30, "Dream Daddy's bedtime stories.

**WMCA, New York, N. Y. (340.7), 11-12 m.**, musical program; 7:30-7:45 p. m., Bernard Mann, pianist; 7:45-8, Anne Ritz, soprano; 8-8:15, Bernard Mann; 9-10, Manilla's Symphony orchestra; 10-10:30, Snellden Weir, baritone; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

**WNYC, New York, N. Y. (526), 6:30-6:40 p. m.**, "Home Economics," Mrs. Louis Reed Weizmiller; 6:45-7 song; 7-7:10, market high spots; 7:10-7:30, Club Arcady orchestra; 7:30-7:35, police alarms; 7:35-8, Club Arcady orchestra; 8-8:15, talk and baseball report; Fred Z. Lieb; 8:15-10:15, concert from Prospect Park; 10:15-10:30, songs.

**WDD, Philadelphia, Pa. (508.2), 11 a. m.**, organ recital; 12:02 p. m., Golden's Crystal Tea room orchestra; 4:45, organ recital; 7:30, A. Candelori's concert orchestra.

**WOI, Newark, N. J. (405.2), 6:15-7:15 p. m.**, Halsey Miller's orchestra; 7:15-7:30, sports talk, Pat Robinson.

### Eastern Standard or Central Daylight Saving Time Stations

**KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m.**, concert; 10:15, concert from the Willows.

**KYW, Chicago, Ill. (536), 7-7:30 p. m.**, Congress hotel; 7:30-7:45, American Farm Bureau federation; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Bernin; 8:20-9:15, musicale; 9:15, talk, John C. Folling; 10-11:30, evening at home; "Hollywood Headline," Frank R. Clark; 11:17, KYW's Aerial Minstrels.

**WBBM, Chicago, Ill. (226), 8-9 p. m.**, Samovar orchestra, Charlie and Dave, Eddie Loftus, Nate Caldwell, 9-10, Stewart-Warner program; Alamo orchestra, Nels Probst, Stewart-Warner artists; Eddie Loftus, Marie Margot; 10-12, Samovar orchestra, Harold Anderson, Maurice Silverman, Eddie Loftus.

**WBZ, Springfield, Mass. (333.1), 6 p. m.**, Leo Reisman Hotel Lenox ensemble; 6:15, Patrick Rafferty; 6:35, Leo Reisman Hotel Lenox ensemble; 8, songs with ukule, Joan Harter; Robert Perry, tenor; 8:30, concert, Evelyn Marie; Annie Moulton, accompanist; 8:45, Patrick J. Gallus, Irish fiddler.

**WCX, Detroit, Mich. (517), 4:15 p. m.**, concert; 6, dinner concert Book-Cadillac hotel; 8, musical program.

**WEAR, Cleveland, Ohio (389.4), 7-8 n. m.**, Marjorie Moore and her Melody Maids; 8-9, Goodyear concert company; 9-10, Chummy Lee and his orchestra; 10-11, Vincent H. Perry.

**WEBH, Chicago, Ill. (370.2), 7:30-8:30 p. m.**, Orline orchestra; 10:30-11:30, Orline orchestra; 11:30-12:30, Orline orchestra; Katherine Piche, soprano; Boulah Lodon, violinist; 11:30-11:40, Orline orchestra; Wayne Myers, Paul Small, Louis Brothers, Blanche and Riddle Bale.

**WGRU, Fort Lauderdale by Sea, Fla. (278), 6:30-7:30 p. m.**, Blue Steele and his Fulford-by-the-Sea orchestra; 10:1, dance music.

**WGES, Dak Park, Ill. (250), 5:17 p. m.**, Katherine D'Brien, reader; Eleanor Kaplan, violinist; Margaret Sannell, pianist; Joy Small, whistler; Lucille Engel, violinist; 10:30-11 a. m., Stu Dodger's orchestra; 10:30-11, Stu Dodger's orchestra; Phil Wilcox, Walter

Kirsch, Ben Kanter, Low Butler, Parris and Ward, Phil Fleming.

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

**WHT, Deerfield, Ill. (400), 7 p. m.**, classical program; Ruth Lyon, soprano; John Clark, baritone; Wilkins and Martens, melody maids; Al Carney, organist; (228), 8:15, Elmer Kaiser's Riverview Park Melody masters; (100), 10:30, Walter Ford's Cheerio orchestra; Howard Serchon, tenor; Si Berg, ukulele soloist; 12, Pat Barnes, Al Carney, Duke Rehl and Walter Ford.

**WIBD, Chicago, Ill. (226), 6-8 p. m.**, Carl Linner, pianist; Joe Allabough, tenor; Robert Metzler, Parisian pianist; Mace Gordon, operatic baritone; 12-3 a. m., midnight jamboree; Harry Sosnik, Sandy Meek, Joe Allabough, Dan Ittson and Ted Florio; Harry Geise, pianist; Zeigler Sisters, Lucas Sisters; Jack Peimewell, guitarist; other artists announced.

**WJJD, Mooseheart, Ill. (302.8), 10:30 p. m.**, Alols Braganola, Courtland Banks, Romo Vincent.

**WJR, Detroit, Mich. (517), 7 p. m.**, Jean Goldkette's ensemble; 10, Blue room dance orchestra.

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

**WLS, Chicago, Ill. (344.6), 6:45 p. m.**, Ralph Emerson, organist; 7, musical chronology of the life and compositions of Edward MacDowell; string trio; Ralph Emerson, organist; 7:45, lullaby time, Ford and Glenn; 8, Better Music Hour; Sylvia Chaplean, pianist; E. Oliver Chaplean, tenor; Jean St. Anne, French baritone.

**WLW, Cincinnati, Ohio (422.3), 12:15 p. m.**, Mildred Frigge, organist; 1, piano recital, Adelaide Apfel and pupils; 7, dinner concert, Hotel Gibson orchestra; Robert Vinconelli director; 7:50, Seektary Hawkins; 10, three minute message, Civil Service Department of the United States Government; Doherty Melody boys; 10:45, two songs by Homer Scott, tenor; 11, the WLW concert orchestra; organ selections; 12, midnight "Bow Wows," "The Sky Terriers" featuring Chief Barker (announcer), Kay Nynce, organist; "Hot Dogs."

**WMBB, Chicago, Ill. (250), 6-7 p. m.**, Trioan ensemble, Desmond Sullivan; Charles Puerisch, Hazel O'Neil, John Everett, Clarence Jacobs; 9-11, Trioan orchestra; Harold Stokes.

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

**WDK, Chicago, Ill. (370.2), 12-2 p. m.**, August Bredemier, tenor; Edythe England, violinist; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7, Helen Smith, soprano; William Balhatchet, tenor; Letroy North, pianist; Gus L. Edwards orchestra; 10-11, Sandy Meek, tenor; Harry Sosnik, pianist; Bill Bourke and Sonny Brown; Ned Becker, comedian; Johnny Burns, bass; Langdon Brothers; Letroy North, pianist; Gus C. Edwards orchestra.

**WORD, Batavia, Ill. (275), 8:30 p. m.**, Sunday school lesson; 8:15, orchestra music; Martha Pfleger, pianist; 9:30, Bible lecture, E. G. Wylam.

**WQJ, Chicago, Ill. (370.2), 3-4 p. m.**, "Salad for Fall Appetites," Helen Harrington Downing; "The Influence of Corsets on Women's Health," Mrs. Bertha Bridge; 7-8, Ralph Williams and his Rainho Gardens orchestra; Adeline Keller, contralto; Gertrude Wolf Quentlin, soprano; Cora Rogers, Woolverton, pianist; 10-11, Ralph Williams and his Rainho Skylarks; Jerry Sullivan; Rose Vanderbosch, soprano; Tulla Miller, Margaret Walbank; Bob Birdson, Ben Burke; Ralph Snyder; Ralph Kelm, pianist; Anne Kelm, soprano; Mario Wright, soprano; Mary Jayne; 1-2, Ginger hour.

**WRED, Lansing, Mich. (285.5), 6-7 p. m.**, dinner concert; 8:15, Reo Broadcasting orchestra; Reo male quartet; Raajan trio.

**WTAM, Cleveland, Ohio (389.4), 6-7 p. m.**, dinner music.

**WTAS, Elgin, Ill. (302.8), 8-12 midnight**, Purple Crackle boys; Herbie Mintz, Violet Eaton, Roland Hinckle, Flo Henrie, Lillian Bernard, Phil White, Brock Sisters.

**WTC, Hartford, Conn. (475.9), 6 p. m.**, Emil Helmberger's Hotel Bond trio; Geraldine Havens, soprano.

**WWJ, Detroit, Mich. (352.7), 12:05 p. m.**, Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 7, concert from WEAF.

### Central Standard Time Stations

**CNRW, Winnipeg, Can. (384.4), 9 p. m.**, dance program; 10, Fort Garry hotel trio; Will Mulhearn, marimbaphone soloist; Lyndwern Thomas, soprano.

**KFN, Shenandoah, Ia. (266), 7:30 p. m.**, Max Davis, Hopkins, Mo.

**KLDS, Independence, Mo. (441), 8 p. m.**, KLDS Radio orchestra; M. Dawson Stephens, baritone; Joseph Anway, reader.

**KTHS, Hot Springs National Park, Ark. (374.8), 9:25-10 p. m.**, concert, Whittington Park.

**WAMD, Minneapolis, Minn. (243.8), 12 m.**, George Saake, pianist; Larry Dunne, popular singer; Dudy Reimer, Charles Corday entertainers; 12:50 p. m., agricultural talk, Major LeFleur; 6, Hotel Radisson ensemble; 7, Cur's the Limit army, Warren M. Tingdale, commander; Land O' Lakes quartet.

**WCBD, Zion, Ill. (344.6), 8 p. m.**, mixed quartet; Gerald and Daniel Mason, cornetist and trombone soloist; Mrs. Beom and Crowe, soprano and contralto; Daniel Mason, trombonist; Carl Newcomer, saxophonist; Katherine Crowe, contralto; Neatrice Beom, soprano; Erwin Itendall, pianist; Marlon Lee, reader; Arthur Rendall, clarinetist.

**WCCD, Minneapolis-St. Paul, Minn. (416.4), 7 p. m.**, program from WEAF, Atwater Kent Radio artists; Silvertown Cord orchestra.

**WDAF, Kansas City, Mo. (365.8), 6-7 p. m.**, address, Louis Meeker; Plantation players; 11:45-1, Merry Old Chime; Carl Nordberg's Plantation players; Charles Dornberger's Kansas City Athletic club orchestra; Earl Coleman's Ambassador hotel orchestra.

**WFAA, Dallas, Tex. (475.9), 8:30-7:30 p. m.**, Lone Star Five; 8:30-9:30, Farmers' hour, Hells Temple Novelty entertainers; 11-12, Adolphus hotel orchestra.

**WHAD, Milwaukee, Wis. (275), 6-7 p. m.**, Arthur Richter, organist; 8-10, popular dance hits, Dexter's Wisconsin and Elger's Creole roof orchestra.

**WHAS, Louisville, Ky. (399.8), 4 p. m.**, musical selections, Harry S. Currie; 7:30-9, New Albany, Indiana night, Mrs. J. E. Harmon, Jr. director.

**WHD, Des Moines, Ia. (528), 7:30-9 p. m.**, musical program; 11-12, musical program.

**WMC, Memphis, Tenn. (499.7), 8:30 p. m.**, music,



Alberta M. Baker, whose voice bro KDKA, Pittsburg (below), Vera, and out of studio are not appearing tonight. In fact artists. Ray M director of the which presents t night from KTEE Park. Mr. Mullb other nights a w lar

**WDAW, Omaha, Nebr. (526), 6 p. m.**, popular program; 6:25, program; 6:45, Randall's Royal Fontenelle orchestra; 9, Sunshine program, auspices Loose-Wiles Biscuit company.

**WOAI, San Antonio, Tex. (394.5), 8:30-9:30 p. m.**, Menger hotel trio; 9:30-10:30, Jimmy's Joys dance music.

**WDC, Davenport, Ia. (484), 7-8 p. m.**, Atwater Kent Radio artists; 8-9, Silvertown Cord orchestra; 11-12, LeClaire hotel orchestra.

### Friday, September 11

Friday, silent night for: CHNC, CKAC, CNRC, CNRM, CNRR, CNRW, KFAC, KFMC, KGD, KLDS, PAX, WBBR, WCBD, WFI, WGBS, WHAZ, WIP, WKRC, WLW, WDR, WRC, WREO, WSAI, WSMB, WTAM.

**Atlantic or Eastern Daylight Saving Time Stations**

**CNRT, Toronto, Can. (356.9), 6:30 p. m.**, Luigi Romanelli and his King Edward hotel concert orchestra; 9:30, Ye Olde Tyme Village quartet; 11:30, Luigi Romanelli and his King Edward hotel concert orchestra.

**WAHG, Richmond Hill, N. Y. (315.6), 7:30-7:45 p. m.**, sports talk, Thornton Fisher; 8-8:15, Davison Sisters, songs; 8:15-8:30, Emery Deutsch, violinist; 8:30-8:45, Charles Relyea, baritone; 9-9:15, Davison Sisters; 9:15-9:30, Emery Deutsch; 9:45-10, Charles Relyea; 10-10:15, Radio Question Box; 10:15-10:55, Frank Lauria and his orchestra; 10:55-11:05, time signals and weather report; 11:05-11:30, Frank Lauria and his orchestra.

**WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m.**, dinner concert, William Penn hotel; 8, current motor topics; 9, concert; 10, dance music, Sanders Inn.

**WCAU, Philadelphia, Pa. (278), 7:55 p. m.**, baseball scores; 8, Symphony string quartette; 9, Playmates; 9:30, Rennie Carnack, songs; 10:30, Jack Myers Musical Architects dance orchestra.

**WEAF, New York, N. Y. (491.5), 4-4:10 p. m.**, Marle C. Rioser, soprano; 4:10-4:20, McConnel Erwin, blind pianist; 4:20-4:30, Marle C. Rioser; 4:30-4:45, McConnel Erwin; 4:45-5, talk, Ida Meilen; 8-7, dinner music, Waldorf-Astoria; 7-7:30, Gene Ingraham's Great North Inn orchestra; 7:30-7:45, "Sir Hobnobbin's Lullaby Surprise," 7:45-8, Neo Lawhurst, pianist; 8-8:30, Happiness Candy boys; 8:30-9, Eagle Neurodyne trio; 9-10, Spear and Company's home entertainers; 10-11, musical program; 11-12, Hotel Bossert Marine roof orchestra.

**WEBJ, New York, N. Y. (272.6), 7-7:15 p. m.**, Walter Stehert and his Original Midnight Serenaders; 7:30-7:45, National Czech-Slovakian band; 8-8:15, recitations; DeKeller Stamey; 8:15-8:30, Sara J. Turits, soprano; 8:30-9, Arthur Pryor's concert band.

**WFI, Philadelphia, Pa. (394.5), 1 p. m.**, Bellevue Stratford orchestra; 3, Caroline Hoffman, pianist; 3:45, fashion talk, Eleanor Gunn; 6:45, Bellevue Stratford roof garden orchestra.

**WGBS, New York, N. Y. (315.6), 3:20-3:45 p. m.**, talk, Helen Hopkins; 6-6:30, Ince Gehee; 7-7:15, "What's Your Radio Problem," Herman Bernard.

**WGCP, New York, N. Y. (315.6), 3-3:15 p. m.**, Eve Rothenberg, pianist; 3:15-3:18, Mirror race results; 3:18-3:30, Dick and Flo Bernard, songs; 3:30-3:45, Lady Brooks and her three Collegiates; 3:45-3:48, Mirror race results; 4-4:15, Lady Brooks; 4:15-4:18, Mirror race results; 4:18-5, Edyth Pollack, reader; 5-5:15, Francis May, violinist; 5:15-5:18, Mirror race results; 5:30-5:45, O'Brien Brothers, Hawaiian guitars; 5:45-5:48, Mirror race results; 8-8:15, Marle McCristall, soprano; 8:15-8:30, Steele and Heagney, composers; 8:30-8:45, Rev. Charloff; 8:45-9, talk, W. Shaw-Thomson; 9-9:15, Bob Schaefer and Fred Fisher, composers; 9:15-9:30, Lillian Gordone, contralto; 9:30-9:45, Crescent Male quartette; 9:45-10, Mabel Blume, soprano; 10-10:15, Helen Blume, pianist; 10:15-10:30, Erna Field, cellist; 10:30-11, San Antonio Ramblers.

**WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m.**, WGR's afternoon program; 7-7:30, Winger's Crescent Park entertainers; 9-10, popular program, Max Freedman; 11-1 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, Pageant News; 8, Seaside hotel trio; 11:15, Strand theater organ.

**WHN, New York, N. Y. (361.2), 8-8:30 p. m.**, Colonial Aces; 10:30-11, Itoseland dance orchestra; 11:30-12, Club Alabam orchestra; 12-12:30 a. m., Silver Slipper revue.

**WIP, Philadelphia, Pa. (508.2), 3 p. m.**, Song of the Surf; 3:30, Comfort's philharmonic orchestra; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime stories.

**WLIT, Philadelphia, Pa. (394.5), 12:02 p. m.**, daily almanac; 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; 8, features from Atlantic City; 8:45, Emmett Welch's Minstrels; 10, Morning Glory club concert; Arcadia cafe dance orchestra; Chas. Frey's dance orchestra and Seattle Harmony Kings dance orchestra.

**WMCA, New York, N. Y. (340.7), 11-12 m.**, musical program; 8-8:10 p. m., "Helps for Better Reception," Hudson C. Burr; 8:30-9, Columbia park orchestra; 9-10, Hardman hour of music; 10-11, Asbury Park dance orchestra; 11:15-11:30, Donald Flamm, dramatic critic; 12-1 a. m., Berkley Carteret dance orchestra.

**WNYC, New York, N. Y. (526), 6-7 p. m.**, French lessons, V. Harrison Berlitz; 7-7:10, market high spots; 7:10-7:30, dance program; 7:30-7:35, police alarms; 7:35-8, dance program; 8-8:05, baseball results; 8:15-10:15, concert, Central Park; 10:15-10:30, songs.

**WOO, Philadelphia, Pa. (508.2), 11 a. m.**, organ recital; 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, Newell Robinson; 10:30, A. Candelori's Roof Garden dance orchestra.

**WOR, Newark, N. J. (405.2), 6:15-8:30 p. m.**, sports talk, Pat Robinson; 8:30-7, Man in Moon; 7-7:30, Howard Oliver and his Log Cabin orchestra.

### Eastern Standard or Central Daylight Saving Time Stations

**KDKA, Pittsburgh, Pa. (309.1), 8:45 p. m.**, concert.

**KYW, Chicago, Ill. (536), 7-7:30 p. m.**, Congress hotel program; 7:30-8:30, home lover's hour; 10-10:30, mid-night revue, Paul Whiteman's Collegians; Albert Hoy Malotte, organist.

**WBAY, Columbus, Ohio (293.9), 8 p. m.**, Bill Myron Norris, tenor; Paul Slusher, baritone; Lulu Norris, steel marimbaphone soloist.

**WBBM, Chicago, Ill. (226), 8-10 p. m.**, Stewart-Warner program, Alamo orchestra; William Molnair, Stewart-Warner artists, Edilio Loftus, Sunset male quartet, Charlie and Dave.

**WBZ, Springfield, Mass. (333.1), 6 p. m.**, Hotel Kimball trio; 8, Bordlan trio; 8:30, Copley Plaza orchestra;



# RD ANNUAL RADIO EXPOSITION

is the contralto so well from Aalbu Sisters men, left, sit in D. When they deville engage- with their Radio pioneer Radio (right), is the llins orchestra every Sunday springs National the air several request popu- is.



9. Eastern States Exposition orchestra; "Boys and Girls Club Work," George L. Farley.

WCX, Detroit, Mich. (517), 4:15 p. m., concert; 6, dinner concert, Book-Cadillac hotel; 8, musical program.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., children's hour; 8-8:30, talks, prominent Clevelanders; 8:30-11, dance music.

WEBB, 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 Musketiers; Fowler and Tamara's South American Troubadours; songs, Correll and Gosden; Rita McFawn, soprano.

WGBU, Fulford-by-the-Sea, Fla. (278), 6:30-7:30 p. m., Blue Steel and his Fulford-by-the-Sea orchestra; 10-1, dance music.

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), 6:30-7:30 p. m., Drake concert ensemble, Blackstone string trio; 10:30-11:30, jazz scamp, Drake hotel dance orchestra.

WHT, Deerfield, Ill. (400), 7 p. m., classical program; Bob York, tenor; Klitcher Klenszer Klässics; Genevieve Burnham, soprano; Jelke musical moments; (233), 8:45, Elmer Kaiser's Riverview Park Melody masters; (400), 10:30, Loftis Melody period; Walter Ford's Cheerio orchestra; Samuel G. Rowe, tenor; songs, Banks Kennedy; popular songs, Isabel Simpson; 12, Pat Barnes, Al Carney, Duke Rehl and Walter Ford.

WIBO, Chicago, Ill. (226), 6-8 p. m., Otis Pike Jester, soprano; Mary House, pianist; Raymond McKay, baritone; Carl Linner, pianist; Joe Alabough, tenor; 10:30, Dorothy Dillow, Bell trio; Harry Gelse, pianist; West Brothers; Dan Russo and Ted Florito; Paul Small, Zeigler Sisters and artists.

WIJO, Mooseheart, Ill. (302.8), 10:30 p. m., J. E. Stevens, Senator Harold C. Kessinger; Emma Butler; Geneva organ.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's ensemble; 10, Blue room dance orchestra.

WLS, Chicago, Ill. (344.6), 6:45 p. m., Ralph Emerson, organist; 7, musical chronology of the life of Peter Tchaikovsky; string trio, Ralph Emerson, organist; 7:45, lullaby time, Ford and Glenn; 8, announced; 9, farm program; Brooks Colby, violinist; Kenneth Clark, guitarist; 10:40, Ford and Glenn, time.

WLW, Cincinnati, Ohio (422.3), 12:15, Gene Johnson, organist.

WMAQ, Chicago, Ill. (447.5), 6 p. m., organ recital, Chicago theater; 8:25, Hotel LaSalle orchestra; 6:50, Family Altar league; 8, Mr. and Mrs. Oberdorfer; 8:30, Whitney trio; 9:30, Elizabeth Stokes, soprano.

WMBB, Chicago, Ill. (250), 6-7 p. m., Trilanon ensemble, Wayne King, Lindsey McPhail, Marie Caruso; 9-11, Trilanon orchestra; Woodlawn theater orchestra.

WOK, Chicago, Ill. (370.2), 12-2 p. m., Thomas B. Stephenson, tenor; Marianne Powell Babcock, soprano; Fred Witmer, pianist; LeRoy North, pianist; Gus C. Edwards orchestra; 6-7, Herman Blug, tenor; Edith Hart, soprano; Kenneth Dunn, pianist; LeRoy North, pianist; Gus C. Edwards orchestra; 10-1, Harry Davis, tenor; Berger Wedberg, tenor; Al George, banjoist; Art Stillier, baritone; LeRoy North, pianist; Gus C. Edwards orchestra.

WORD, Batavia, Ill. (275), 8:30 p. m., WORD Radio Study club; 9, LaGrange Baptist church quartet; Blanche Potts Stucker, violinist; 10, E. Gordon Stucker, trombonist; Lola M. Howell, pianist.

WQJ, Chicago, Ill. (370.2), 7-8 p. m., Rainbo Gardens orchestra; weekly road review, S. A. Larson; Ellen Cook, soprano; Kane McDuffee, whistler; Larina Price, pianist; 10-1, Rainbo Skyarks; Otto A. Moore, baritone; West Brothers; William Richardson, baritone; Jack Lavin, tenor; Oscar Gardner; Dr. H. Lucille Long, harmonica player; Eleanor Terry and Marie Pollette; Blues Destroyers trio; 1-2, Ginger hour.

WTAM, Cleveland, Ohio (389.4), 6-7 p. m., dinner dance music, Golden Pheasant orchestra.

WTAS, Elgin, Ill. (302.8), 8-10:30 p. m., Purple Gracklo orchestra; Herbie Mintz, Marlo Wright, Tommy Dunlap, Brock Sisters, Art Stillier.

WTIC, Hartford, Conn. (475.9), 6 p. m., Travelers Jongleurs; 7:10, Irene Ljonquist, contralto; 7:35, G. Harold Smith, pianist; 8:30, Emil Heimborger's Hotel Bond orchestra.

WWJ, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner music; 8, News orchestra; 9, dance orchestra.

**Central Standard Time Stations**

KFAB, Lincoln, Nebr. (340.7), 6-7 p. m., Bulek Little symphony; 7:30-8, Belshaw's orchestra; 8-9:30, Cosmopolitan club program.

KFOM, Beaumont, Texas (315.6), 8-10 p. m., Magnolia Petroleum company's refinery band.

KFKX, Hastings, Nebr. (288.3), 8:30-11 p. m., American Legion National convention.

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

KFVE, University City, Mo. (240), 10 p. m., studio entertainers.

KSO, St. Louis, Mo. (545.1), 7 p. m., Arne Arnesen's concert orchestra; 7:30, commerce hour; 8, Frank Kulla, tenor.

KTHS, Hot Springs National Park, Ark. (374.8), 9:25-10 p. m., Lon Chassy, violinist; George Ryall, pianist; Senor Alex De Sio, cellist.

WAMD, Minneapolis, Minn. (243.8), 12:50 p. m., agricultural talk, Major LeFleur; 6, Hotel Radisson ensemble; 7, club night, Y. M. C. A. program.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:15 p. m., George Osborn's Nicollet hotel orchestra; 8, Gordon Cooke ensemble; 9:05, Hugo Philler Goodwin, organist.

WOAF, Kansas City, Mo. (365.6), 6-7 p. m., address, Kansas City Children's bureau; Plantation players; 8-9:30, Star's Radio orchestra.

WFAA, Dallas, Tex. (475.9), 6:30-7:30 p. m., John McFall and his Honey Boys orchestra; 8:30-9:30, Mrs. Anna Majer Rapley, soloist.

WHAO, Milwaukee, Wis. (275), 6-7 p. m., Arthur Richter, organist; 8:30-10, Wisconsin theater review.

WHAS, Louisville, Ky. (399.8), 4 p. m., musical selections, Harry S. Currie; 7:30-9, Virginia Vetter's entertainers; civil service talk, O. A. Beckman.

WHO, Des Moines, Ia. (526), 7:30-9 p. m., Stewart Watson, baritone; Leonard Kirkwood, pianist; Myrtle Williams, soprano; 11-12, Kirkwood hotel orchestra.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., program, Gladys Sarber; 11, midnight frolic.

WOAW, Omaha, Nebr. (526), 6 p. m., music review, Hester Bronson Copper; 6:25, orchestra; 7:10, sports talk, Ivan L. Gaddis; 9, program, Union Pacific R. R. company.

WOC, Davenport, Ia. (484), 8-8:15 p. m., "Where Should the Farm Boy Go to College," Dr. H. J. Waters; 8:15-9:15, juvenile artists, Tri-cities.

**Mountain Standard Time Stations**

CNRE, Edmonton, Can. (516.9), 8:30-10:30 p. m., Graydon Tipp and his orchestra.

KOA, Denver, Colo. (322.4), 6:30 p. m., Herbert White and his Silver State orchestra; 8, football, Tom McNamara; 8:10, songs, Stephen C. Foster; music sung around the world.

**Pacific Standard Time Stations**

KFOA, Seattle, Wash. (454.3), 6-6:45 p. m., Pacific States Electric company; 6:45-8:15, Sherman, Clay and company; 8:30-10, Times studio program; 10-11, Eddie Harkness and his orchestra.

KFWB, Hollywood, Calif. (252), 8-9 p. m., program, Monte Mar Vista Subdividers, Ray Harrison's WHO orchestra, Violet Proston, blues singer, Dorothy Dodd, soprano; 9-10, Ray Harrison's WHO dance orchestra, Valry sisters, vocal duets, Kathryn Martin, soprano; 10-11, Radio exposition.

KGO, Oakland, Calif. (361.2), 4-5:30 p. m., concert orchestra, Hotel St. Francis; 6-7, dinner concert.

KHJ, Los Angeles, Calif. (405.2), 5:30-6 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6-6:30, Art Hekman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Radio kiddies hour with Viola Von and "Sir" Richard Headrick, screen starlets, Barbara Shofer, readings, Uncle John; 8-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Radio exposition; 11-12, Art Hekman's Biltmore hotel dance orchestra, Earl Burnett, leader.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Warlitzer pipe organ studio; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Einstein, leader; 7-7:30, program, Beveridge company; 7:30-8, musical gems half hour, Eastern Outfitting company; 8-9, West Coast Theaters by remote control; 9-10, Order of Optimist Donuts, Daris Perfection Bread company; 10-11, Radio exposition; 11-12, Ray West's Coconut Grove dance orchestra from Ambassador hotel; 12-2 a. m., Warlitzer Night Hawks.

## 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.

**Atlantic or Eastern Daylight Saving Time Stations**

**Saturday, September 5:** 6, WEAF; 6:05, WIP; 6:30, WCAE; 6:45, WPG; 7, WEAF; WNYC; 7:30, WEAF; WGBS; 7:35, WNYC; 7:45, WEAF; 8, WEBB; WEAF; WFI; WJAR; WHP; WMCA; 8:05, WPG; 8:15, WNYC; 8:30, WMCA; 8:40, WBBR; 8:45, WEAF; WGR; 8:50, WIP; 9, WCAE; WMCA; WPG; 10:15, WEAF; 10:30, WEAF; 10:45, WEAF.

**Sunday, September 6:** 6, WOO; 6:30, WCAE; 7:20, WCAE; WCTS; WEAF; WEEI; WJAR; 8, WGBS; WGP; 8:15, WGP; WLT; 8:15, WJY; 9, WBBR; WJAR; WMCA; 9:15, WCTS; WEEI; WJAR; 9:30, WGP; 10, WBBR; WIP; 11, WJAR.

**Monday, September 7:** 6, WEAF; 6:05, WIP; 6:30, WCAE; WGR; 7, WEAF; WJZ; 7:30, WAHG; WEEI; WOO; 7:45, WAHG; WEEI; 8, CHNC; WAHG; WBBR; WEEI; WGP; WJAR; WLT; WOO; 8:15, WEAF; WNYC; 8:30, WAHG; WBBR; 8:45, WEAF; WGP; WOO; 9, WCAE; WLT; WMCA; WNYC; WOO; 9:15, WAHG; 9:30, WEAF; 9:40, WEAF; WOO; 10, WEAF; WOO.

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

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

**Thursday, September 10:** 6, WEAF; WGP; 6:05, WIP; 6:30, WCAE; 7:30, WCAU; WGBS; WEEI; WHAR; WOO; 8, WBBR; WCAU; WEAF; WEEI; WFI; WGR; WIP; WJAR; 8:15, WNYC; 8:30, WHAR; 8:40, WBBR; 8:50, WIP; 9, CHNC; CNRM; WCAE; WEAF; WEEI; WFI; WGR; WMCA; 9:30, WCAU; WGBS; WMCA; 10, WCAE; WCTS; WGR; WEEI; WMCA.

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

**Central Standard Time Stations**

**Saturday, September 5:** 6, KFAB; WOAW; 6:15, WCCO; 6:30, WFAA; WSMR; 7:30, KFNF; WHAS; 8, WCCO; WSB; 8:30, WFAA; WHAS; WMC; 8:35, KYW; 9, WOAW; WOC.

**Sunday, September 6:** 6, WAMD; 7:30, WHO; 8, KFDM; WCB, WOS; 9, WAMD; 9:15, WVEE; 9:25, KTHS; 9:30, WOC; 10, KFVE; 10:30, WOC.

**Monday, September 7:** 6, KFAB; WOAW.

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

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

**Thursday, September 10:** 6, WHAD; 6:30, WFAA; WOAW; WSMB; 7, WCCO; WOC; 7:30, KFNF; WHAS; WHO; 8, WCB, WOC; 8:30, WFAA; WHAS; WMC; 9, KFMO; WOAW; 9:25, KTHS; 10, KFXX.

**Friday, September 11:** 6, KFAB; WHAD; 6:15, WCCO; 6:30, WFAA; WOAW; WSMB; 7, KSD; 7:30, KFNF; 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.

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

**Saturday, September 5:** 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, WJR; WORD; WSAI; WTAM; 8:15, WSAI; 8:30, PVX; WGN; 8:45, KDKA; 9, WMAQ; 9:15, WSAI.

**Sunday, September 6:** 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 7:** 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 8:** 6, WBZ; WCX; WGES; WIBO; WMAQ; WTAM; WWJ; 6:30, WGN; WLW; 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; WMAQ; 8:45, KDKA; KYW; 9, WEAR; WORD; WSAI; 10, KYW; WEAR; WKRC; 10:30, KDKA; 12:30, WHT.

**Mountain Standard Time Stations**

**Monday, September 7:** 6:30, KOA; 8, KOA.

**Tuesday, September 8:** 6:30, KOA; 7:30, KOA.

**Wednesday, September 9:** 6:30, KOA; 8, KOA.

**Thursday, September 10:** 6:30, KOA; 9, CNRC.

**Friday, September 11:** 6:30, KOA; 8, KOA; 8:30-10:30, CNRE.

**Pacific Standard Time Stations**

**Saturday, September 5:** 6, KFOA; KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 7:30, KNX; 8:10, KGO; 8:15, KHJ.

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

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

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

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

**Thursday, September 10:** 6, KHJ; 6:30, KNX; 7, KNX; 8, KGO, KPO; 9, KPO.

**Friday, September 11:** 6, KFOA; KGO, KHJ; 6:15, KPO; 6:45, KFOA; 7:30, KFAB, KNX; 8, KHJ, KNX, KPO; 8:30, KFAB, 9, KPO.







# SERIOUSNESS IS LAW AT VOXHAUS, BERLIN

FRED SMITH THINKS GERMAN'S BEHIND IN RADIO

Heavy Programs Rule—Zurich Proves Interesting—Listening to All Europe—Rome Good

Article IV, by Fred Smith, WLW Director

PERHAPS the most difficult accomplishment for one who travels rapidly from country to country is to keep an impartial attitude toward his changing environment. Personally, I abhor, in good American fashion, a lot of these cut and dried formalities one runs up against on the Continent. But I always try to remember that this journey has nothing to do with my personal likes or dislikes.

I hope the Radio Digest readers who are following me will feel the same way about it; for after all, the main thing is to observe simply what others are doing and profit to some degree by the experience.

**Voxhaus**  
 Walther Fitze, editor of Germany's biggest Radio weekly, "Der Deutsche Rundfunk," in which my first article on American broadcasting has just appeared, arranged for me to visit Voxhaus station. I went in the afternoon, and then again in the evening with my wife and a number of friends. The studios, consisting of a reception room, small studio for speeches, and a very large one for ensembles, are handsomely furnished. The impressions you receive are something on this order:

**Center of Berlin**, city of four million fretful, determined, Teutonic idealists; an elevator that takes half your party each trip; a hallway, an entrance, a mysterious silence, bewildering and noiseless doors; whispering managers and attendants; cordiality of a militaristic nature; high collars.

**Admission to Studio Restricted**  
 In the evening the program was scheduled to begin at 8:30. We arrived at 8:15. There were six of us. However, no admission to the studio proper had been arranged for anyone except my wife and self and Herr Fitze—and no one else got in! Our friends had to wait for us in the reception room where they were able to hear the concert by means of loud speakers.

When we entered the big studio the thirty-piece orchestra was tuning away like mad, most of the men with their coats off. There was about it an air of professionalism and earnestness which thrilled me.

We took our seats in the corner opposite the announcer. I was eager to know if the program would start punctually. It did. At exactly eight-thirty came a buzz from the operator in an adjoining room. The announcer stood up and yelled: "Achtung! Achtung!" ("Attention! Attention!") A "ss-ssh!" moved over the orchestra with rapid wave—and all was silent.

**How German Program Is Conducted**  
 The concert opened with "The Ruins of Athens" by Beethoven. It was prefaced by the announcer reading for some five minutes the life of the great composer and the meaning of the piece. When the music began there was no doubting the quality of the orchestra, nor the capability of the director. Beethoven was interpreted admirably.

Following this number the announcer told the Radio audience there would be a two-minute pause. Then came a Mozart concerto in which the concert-master of the orchestra was soloist. He played beautifully. The program was concluded by a complete Beethoven symphony.

It is impossible for me to say whether such a prolonged program of purely classical music would be popular in Germany. I can easily see that if an expensive orchestra were to come for the evening and play only one number the cost would be impracticable. It is also understandable that the German Radio companies and impresarios are determined upon sustaining a high ideal, or at least, their conception of a high ideal.

The Germans are very determined and defiant about their ideals. It is hard to say just how far or how little they will go in yielding to the natural demands of a mixed public.

My impression is that the Germans have not developed a complete sense of Radio showmanship. I have not, in Germany, encountered any desire to work out thematic programs such as we know in America and such as the English are developing so rapidly. Spectacular "stunts" have little place on German programs. So far, the stations perform mostly works that

## A NEW FAD? NO, BUT YOU CAN'T BE SURE



Practically every type of antenna insulator is shown in the necklace being worn by Miss Helen Dickinson. However, it doesn't happen to be "collegiate," so we suppose it won't become a fad. Some of the insulators are of bakelite, and some of hard rubber, porcelain, glass and other insulating materials. The larger ones are used for transmitting aerials, but, of course, can be used also for receiving.

were made expressly for the concert or operatic stage.

### In Zurich, Switzerland

Switzerland, the country of Arnold von Winkelreid, William Tell and Zwingli, the land of exalted patriotism! In such a country you will not expect to find a broadcasting system donated to the public by commercial interests, nor a private monopoly controlling the situation under the vigilance of the government. You will expect to find, and you will not be disappointed, an expression of pure patriotism.

The Zurich station, the principal one in Switzerland, sprang into life in the following manner:

A year ago the Swiss people decided to begin broadcasting in a way comparable with the other countries of Europe. A capital of 165,000 francs (and Swiss francs mean real money) was raised immediately by the government contributing half and private interests the remainder to form the Radio Corporation of Zurich, with the privilege of monopoly in central and eastern Switzerland. The corporation is obliged to pay five per cent on the original capital, and any money made above that amount must go for further developments—new stations, bigger stations, better programs—an ideal arrangement, if it works. And Switzerland has the extraordinary habit of making public projects work.

Of course the Swiss listeners are taxed. They pay ten francs, two dollars, yearly to the post office, eight francs out of every ten going to the broadcasting company. The receiving licenses at present number 22,000. When I asked the young director, Albert Spoerri, if there were many who tried to evade the tax, he smiled and said: "I don't have to worry about that. It's the job of the post office to collect the money, and you know our government is pretty strict!"

### Listening to All Europe

It had been a very definite ambition on my part to listen from Zurich to European broadcasting. Thanks to Charles Mussler, young engineer with Enderlin and company, my ambition was realized. In spite of static on a July night, he brought them in one by one—Rome, London, Paris, German stations galore, Brussels and others still to the east. How I longed for a winter night and a universal language!

The reception of the Rome station is astonishingly good all over northern Europe. The piano was about the best I ever heard. We sat with European programs upon the table, going back now and then to Rome; for I wanted to hear the conclusion of the program. And in due time it came: a glorious orchestral rendition of Massenet's "La Navarraise." Then we switched over to simultaneous broadcasting from various English stations in time to hear "God Save the King" and "Good-night."

Toward the end of my series of letters to the Radio Digest I want to say more about the international reactions of broadcasting; for it is becoming indeed a power.

(TO BE CONTINUED)

## STATIONS IN ORDER OF WAVE LENGTHS USED

| Meters | Call | Meters | Call | Meters | Call | Meters | Call | Meters | Call | Meters | Call |
|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
| 215    | KTAB | 275.3  | WJAS | 309.1  | KDKA | 361.2  | WHN  | 405.2  | WOR  | 463.5  | WCAP |
| 217.3  | WOK  | 278    | KOIL | 313    | CNRA | 365.6  | WDAF | 406    | WBAR | 468.5  | WRC  |
| 226    | WBBM | 278    | WCAU | 315.6  | KFDM | 365.6  | WHB  | 410.7  | CKAC | 475.9  | WBAP |
| 226    | WIBO | 278    | WLBL | 315.6  | WAHG | 370    | CYB  | 416.4  | WCCO | 475.9  | WEEI |
| 240    | KFVE | 278    | WRBC | 315.6  | WGBS | 370.2  | WEBB | 421    | KIAF | 475.9  | WFAA |
| 243.8  | WAMD | 280.2  | WNAC | 319    | WGR  | 370.2  | WGN  | 422.3  | WLW  | 480    | CYL  |
| 250    | WGES | 282.8  | WOAN | 319    | WSMB | 374.8  | KTHS | 428.3  | WSB  | 483.6  | WOC  |
| 250    | WMBB | 285.5  | WKAR | 322.4  | KOA  | 379.5  | WGY  | 428.3  | KPO  | 491.5  | KGW  |
| 252    | KFWB | 285.5  | WREO | 326    | WKRC | 384.4  | CKY  | 434.5  | CNRO | 491.5  | WEAF |
| 252    | WGCP | 288.3  | KFKX | 330    | CYX  | 384.4  | KJR  | 434.5  | NAA  | 499.7  | WMC  |
| 261    | KFWA | 293.9  | KJS  | 333.1  | WBZ  | 384.4  | WMBF | 435    | AT9  | 508.2  | KLX  |
| 265.5  | WMAK | 293.9  | WBAV | 336.9  | KNX  | 389.4  | WEAR | 434.5  | CFCN | 508.2  | WIP  |
| 266    | KFNF | 293.9  | WEAO | 340.7  | KFAB | 389.4  | WTAM | 440.9  | KLDS | 508.2  | WOO  |
| 266    | WBCN | 296.9  | KPRC | 340.7  | WKAQ | 394.5  | WFI  | 440.9  | WDWF | 516.9  | CJCA |
| 268    | WCTS | 299.8  | KFMQ | 340.7  | WMCA | 394.5  | WLIT | 440.9  | WOS  | 516.9  | WCX  |
| 272.6  | WBRR | 299.8  | KSL  | 344.6  | WCBD | 394.5  | WOAI | 447.5  | WQJ  | 526    | WHO  |
| 272.6  | WFBH | 299.8  | WPG  | 348.6  | WTIC | 399.8  | WHAS | 454.3  | KFOA | 526    | WNYC |
| 273    | KWKH | 302.8  | WJJD | 352.7  | WWJ  | 399.8  | WHT  | 454.3  | WJZ  | 526    | WOAW |
| 273    | WRW  | 302.8  | WTAS | 356.9  | CFCA | 400    | PWX  | 455    | KTW  | 535.4  | KYW  |
| 275    | WHAD | 305.9  | KTCL | 356.9  | CHNC | 405.2  | KHJ  | 461.3  | WCAE | 545.1  | KFUO |
| 275    | WHAR | 305.9  | WJAR | 361.2  | KGO  | 405.2  | WJY  | 467    | KFI  | 545.1  | KSD  |

## INSTRUCTIONS FOR USE OF TABLES

THE "Evening at Home with the Listener In" table is not difficult to understand and use. It is this fact that makes it so popular with the readers of Radio Digest. It is presented 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.

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

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

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

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

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

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

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

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## The Reader's View

### "Air Hogs" Okay in Summer

In reading in an old issue of the Radio Digest "The Reader's View" column, I noticed two parties commenting on the "Air Hogs" or "Steady Stations," which seem to be an annoyance. However, you may take my case for instance. I operate a neutrodyne of good make and live 110 miles from the nearest class B station, which is WOAW, Omaha, Nebr.

I depend almost entirely on them for my entertainment in the summer; of course, winter makes a great difference. Then I get all I want. Now the point I wish to impress is that the fans who live close to, or in, Chicago or other cities with similar conditions should be thankful that they can get all this free entertainment without being marred by static and other similar interferences.

Of course, in the winter it is pretty hard, I know, but let's hope that the wave bands will be extended far enough to accommodate the present stations which now interfere. However, if one were 550 miles from Chicago, as in my case, he would be glad to be where you are. Remember, "The grass is always greener in the other fellow's yard."

One would think that in the country static would be greatly reduced, but to convince yourself, take a portable out some night after dark and try to tune in a station 200 miles away. Daytime reception, however, is fine. So be glad you have good entertainment this summer, because it isn't costing you anything. Also, it is well to remember that your grandad when a boy would not have minded the "Air Hogs" if he could have had a Radio.

—L. C., Merrill, Iowa.

### More Call Announcing

I have been taking your paper for a long time and I know that you are in touch with the broadcasting stations. Now, of course, I am not finding fault with the announcers, but I would like to offer a suggestion—that the announcer announce the station at least two or three times. My reasons for that suggestion is that I often have to let my set run until they have given three of four numbers before identifying the broadcaster.

Hoping you will do what you can to overcome the trouble, I am, L. H., Peoria, Ill.

### Brickbat for Dielectric

Have read with much interest your recent editorial "Room for Good Critics," in a current issue. We quite agree with you. We have not read or heard of one yet. Why not get a person with the stated qualifications on your own staff?

We consider a person totally unfit to act as critic on a subject, if he holds prejudice against that subject. One but needs to read at the most two issues of Radio Digest to come to the conclusion

that "Dielectric," the critic, holds prejudice against certain kinds of music. All of his references to popular music, well rendered or poor, are made with a sneer.

We agree on some things. Old masters' melodies should not be played as dance numbers or transformed into such. Still we consider some of the melodies and harmony too of modern popular songs to be well worth listening to. A critic must understand how to distinguish between good and bad in music of all kinds.—F. W. B., St. Thomas, Canada.

### Likes WHAS Story

Just want to express my appreciation of the story you had in a recent issue concerning WHAS of Louisville. This station is certainly doing a great work—an uplift work that is commendable.

Hope to read more about stations doing a similar service for mankind. With best wishes for your continued success, I beg to remain, M. K. Z., Lisbon, O.

### In Defense of Toll Stations

Kindly allow me to say your weekly is fine. I read each issue from front to back and must say I get more for my ten cents out of the Radio Digest than anything else for which I spend my money.

A word in defence of the toll stations, namely, WOK, WBBM and WTAS. I notice a reader knocked these stations some time ago because they were strictly on a commercial basis. What difference does that make if they "deliver the goods?" A little advertising is not harmful and anyone knows that we do not pay anything toward the upkeep (directly) of the stations. Then too, we don't have to listen to them unless we want to. I say, let them operate as long as they do not "hang over" nearby stations.

There are stations still on the air that heterodyne fearfully because the department of commerce allows two or more on the same wave length at the same time. Take for instance WMAK, Lockport, New York, Thursday evening at 11:20 Eastern Standard time.

I try many of your "Radio Kinks" and find them highly beneficial. With my four tube set, I have, in less than nine months, received 165 stations, which includes European, Canadian, Cuban and west coast.

Allow me to thank you for your kind and courteous help in answering the questions asked you.—C. M. T. Roanoke, Va.

### Kodel WKRC Gets New Towers

CINCINNATI.—Antenna towers for the new station, WKRC, will be in position on the roof of the new \$5,000,000 Hotel Alms early in September, according to Clarence E. Ogden, president of the Kodel Radio corporation. The new towers will be 125 feet high, rising more than 200 feet from the street level. As soon as the new hotel is completed, the studios will be remodeled.



# An Evening at Home with the Listener In

(FOR CENTRAL TIME)

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(FOR PACIFIC TIME)

| Call | Saturday    | Sunday      | Monday      | Tuesday     | Wednesday   | Thursday    | Friday      | Call | Location              | Met.  | Saturday   | Sunday     | Monday     | Tuesday    | Wednesday   | Thursday   | Friday     | Call       |     |
|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|-----------------------|-------|------------|------------|------------|------------|-------------|------------|------------|------------|-----|
| AT9  | Silent      | 5:00-8:00   | Silent      | Silent      | Silent      | 7:00-8:55   | Silent      | AT9  | Fort Bragg, N. C.     | 435   | Silent     | 4:00-4:00  | Silent     | Silent     | Silent      | 5:00-7:55  | Silent     | AT9        |     |
| CFCA | Silent      | 6:00-7:00   | Silent      | 7:15-8:15   | 7:15-8:15   | 7:15-8:15   | Silent      | CFCA | Toronto, Ont.         | 356.9 | Silent     | 4:00-5:00  | Silent     | 5:15-6:15  | 5:15-6:15   | 5:15-6:15  | Silent     | CFCA       |     |
| CFNC | 11:00-1:00  | Silent      | Silent      | Silent      | Silent      | 0:00-10:00  | Silent      | CFNC | Calgary, Alta.        | 434.5 | 9:00-11:00 | Silent     | Silent     | Silent     | Silent      | 7:00-8:00  | Silent     | CFNC       |     |
| CHNC | Silent      | Silent      | 6:00-7:00   | Silent      | Silent      | 7:00-8:00   | Silent      | CHNC | Toronto, Ont.         | 356.0 | Silent     | Silent     | 1:00-5:00  | Silent     | Silent      | 5:00-6:00  | Silent     | CHNC       |     |
| CJAC | 10:00-12:00 | 8:30-9:30   | 8:00-10:30  | 8:30-9:00   | 7:00-9:00   | 10:00-12:00 | 9:00-12:00  | CJAC | Edmonton, Can.        | 510.9 | 8:30-7:30  | 0:30-7:30  | 6:30-8:30  | 0:30-7:00  | 5:00-7:00   | 8:00-10:00 | 7:00-11:00 | CJAC       |     |
| CKAC | 8:30-9:00   | Silent      | Silent      | 5:30-9:00   | Silent      | 6:30-9:00   | Silent      | CKAC | Montreal, Que.        | 410.7 | 8:30-7:00  | Silent     | Silent     | 3:30-7:00  | Silent      | 3:00-7:00  | Silent     | CKAC       |     |
| CKY  | 6:30-8:15   | 7:00-9:45   | Silent      | 8:30-10:45  | Silent      | 8:30-9:00   | Silent      | CKY  | Winnipeg, Man.        | 384.4 | 4:30-6:15  | 5:00-7:45  | Silent     | 0:30-8:45  | Silent      | 0:00-7:00  | 8:30-7:45  | CKY        |     |
| CNRA | Silent      | Silent      | Silent      | 6:30-7:30   | Silent      | Silent      | Silent      | CNRA | Moncton, Can.         | 313   | Silent     | Silent     | Silent     | 4:30-5:30  | Silent      | Silent     | 8:30-8:30  | CNRA       |     |
| CNRO | 6:30-11:30  | Silent      | Silent      | Silent      | 0:30-11:30  | Silent      | Silent      | CNRO | Ottawa, Ont.          | 434.5 | 1:30-9:30  | Silent     | Silent     | Silent     | Silent      | Silent     | Silent     | CNRO       |     |
| CYB  | 10:30-11:45 | Silent      | Silent      | 9:15-10:15  | Silent      | Silent      | Silent      | CYB  | Mexico City, Mex.     | 370   | 8:30-9:15  | Silent     | Silent     | 7:15-8:15  | Silent      | Silent     | Silent     | CYB        |     |
| CYL  | Silent      | 8:00-9:30   | Silent      | 8:00-9:30   | Silent      | Silent      | Silent      | CYL  | Mexico City, Mex.     | 480   | Silent     | 6:00-7:30  | Silent     | 6:00-7:30  | Silent      | Silent     | 6:00-7:30  | CYL        |     |
| CYX  | Silent      | Silent      | 9:15-10:30  | 7:15-10:30  | Silent      | Silent      | 0:15-10:35  | CYX  | Pittsburgh, Pa.       | 309.1 | 5:15-6:55  | 4:00-5:00  | 4:00-5:00  | 5:45-6:55  | 5:45-6:55   | 5:00-8:30  | 5:45-6:55  | CYX        |     |
| KOKA | 7:45-8:55   | 0:00-7:00   | 7:15-8:55   | 7:45-10:30  | 7:45-8:55   | 7:00-10:30  | 7:00-10:30  | KOKA | Lincoln, Neb.         | 340.7 | 1:00-5:00  | 2:00-5:00  | 4:00-7:30  | 4:00-6:30  | 4:00-6:30   | 4:00-7:30  | 6:00-8:30  | KOKA       |     |
| KFAB | 8:00-7:00   | 4:00-5:00   | 6:00-9:30   | 6:00-8:30   | 6:00-9:30   | Silent      | Silent      | KFAB | Bloomington, Tex.     | 315.6 | Silent     | 8:00-7:00  | 8:00-7:00  | 8:00-8:30  | Silent      | 8:00-8:30  | 6:00-8:30  | KFAB       |     |
| KFDM | Silent      | 8:00-9:00   | Silent      | 8:00-10:30  | Silent      | Silent      | Silent      | KFDM | Los Angeles, Calif.   | 467   | 6:15-12:00 | 4:00-11:00 | 6:15-11:00 | 6:15-11:00 | 6:45-11:00  | 6:45-11:00 | 6:45-11:00 | KFDM       |     |
| KFI  | 8:45-2:00   | Silent      | 9:00-11:00  | Silent      | Silent      | Silent      | Silent      | KFI  | Hastings, Nohr.       | 208.3 | Silent     | Silent     | 7:00-9:00  | Silent     | Silent      | Silent     | 7:00-9:00  | KFI        |     |
| KFKX | Silent      | Silent      | Silent      | 9:00-10:00  | 7:30-8:30   | Silent      | Silent      | KFKX | Fayetteville, Ark.    | 299.8 | Silent     | Silent     | Silent     | 7:00-8:00  | 5:30-6:30   | Silent     | Silent     | KFKX       |     |
| KFMQ | Silent      | Silent      | Silent      | 9:00-10:00  | 7:30-8:30   | Silent      | Silent      | KFMQ | Shenandoah, Ia.       | 266   | 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  | KFMQ       |     |
| KFNF | 7:30-9:30   | 0:30-9:15   | 7:30-9:30   | 7:30-9:30   | 7:30-9:30   | 7:30-9:30   | 7:30-9:30   | KFNF | Seattle, Wash.        | 454.3 | 8:00-11:30 | Silent     | 8:00-10:00 | 6:00-11:00 | 6:00-10:00  | 6:00-10:00 | 0:00-11:30 | KFNF       |     |
| KFOA | 8:00-1:30   | Silent      | 8:00-12:00  | 8:00-1:00   | 8:00-12:00  | Silent      | Silent      | KFOA | St. Louis, Mo.        | 545.1 | Silent     | 8:15-7:15  | 8:00-7:00  | Silent     | Silent      | Silent     | Silent     | KFOA       |     |
| KFOU | Silent      | 8:15-9:15   | 8:00-0:00   | Silent      | 9:15-10:15  | Silent      | Silent      | KFOU | University City, Mo.  | 240   | 8:00-10:00 | Silent     | 8:00-10:00 | 8:00-10:00 | 8:00-10:00  | 8:00-10:00 | 8:00-10:00 | KFOU       |     |
| KFVE | 10:00-12:00 | Silent      | 10:00-12:00 | 10:00-12:00 | 10:00-12:00 | Silent      | Silent      | KFVE | Ogden, Utah.          | 261   | Silent     | Silent     | 8:00-10:00 | Silent     | 8:00-10:00  | Silent     | 8:00-10:00 | KFVE       |     |
| KFWA | Silent      | Silent      | 10:00-12:00 | Silent      | 10:00-12:00 | Silent      | Silent      | KFWA | Hollywood, Calif.     | 252   | 7:00-11:00 | 9:00-11:00 | 6:30-11:00 | 7:45-11:00 | 7:00-11:00  | 7:00-11:00 | 7:00-11:00 | KFWA       |     |
| KFWB | 9:00-1:00   | 11:00-1:00  | 8:30-1:00   | 9:45-1:00   | 9:00-1:00   | 9:00-1:00   | 9:00-1:00   | KFWB | Oakland, Calif.       | 361.2 | 8:00-12:00 | 3:30-9:00  | 8:00-10:00 | 6:00-7:00  | 6:00-7:00   | 8:00-10:00 | 8:00-10:00 | KFWB       |     |
| KGO  | 10:00-2:00  | 5:30-11:00  | 10:00-12:00 | 10:00-12:00 | 8:00-0:00   | 10:00-2:00  | Silent      | KGO  | Portland, Ore.        | 491.5 | 6:00-8:00  | 7:15-9:00  | 6:00-7:00  | 8:00-11:00 | 10:00-11:00 | 10:00-1:00 | 9:00-10:30 | KGO        |     |
| KGW  | 8:00-10:00  | 9:45-11:00  | 8:00-9:00   | 10:00-1:00  | 12:00-1:00  | 12:00-2:00  | 11:00-12:30 | KGW  | Los Angeles, Calif.   | 405.2 | 5:30-11:00 | 6:00-11:00 | 7:00-1:30  | 5:30-11:00 | 5:30-11:00  | 5:30-11:00 | 5:30-11:00 | KGW        |     |
| KHJ  | 7:30-1:00   | 8:00-1:00   | 9:00-3:30   | 7:30-1:00   | 7:30-1:00   | 7:30-1:00   | 7:30-1:00   | KHJ  | Sihtpik, Minn.        | 421   | Silent     | 2:00-3:00  | 7:00-8:00  | Silent     | 7:00-8:00   | Silent     | 7:00-8:00  | KHJ        |     |
| KIAF | Silent      | 4:00-5:00   | 9:00-1:00   | Silent      | 9:00-10:00  | Silent      | Silent      | KIAF | Seattle, Wash.        | 384.4 | Silent     | 7:00-8:00  | 7:00-11:00 | Silent     | 7:00-10:00  | 8:30-12:00 | 8:30-11:00 | KIAF       |     |
| KJR  | Silent      | 9:00-1:00   | 9:00-1:00   | Silent      | 0:00-12:00  | 10:30-2:00  | 10:30-1:00  | KJR  | Los Angeles, Calif.   | 293.9 | Silent     | 7:15-9:30  | Silent     | 8:00-9:00  | Silent      | 8:00-9:00  | Silent     | KJR        |     |
| KJS  | Silent      | 9:15-11:30  | Silent      | 10:00-11:00 | 10:00-11:00 | 10:00-11:00 | Silent      | KJS  | Independence, Mo.     | 440.9 | Silent     | 4:30-8:00  | Silent     | 6:00-7:00  | Silent      | 0:00-7:00  | Silent     | KJS        |     |
| KLOS | Silent      | Silent      | 8:00-1:00   | Silent      | 8:00-1:30   | Silent      | Silent      | KLOS | Dakland, Calif.       | 508.2 | Silent     | Silent     | 8:30-12:00 | 6:30-12:00 | 7:00-10:00  | 6:30-12:00 | 8:30-12:00 | KLOS       |     |
| KLX  | 10:00-4:00  | 7:00-1:00   | 8:30-2:00   | 8:30-2:00   | 9:00-12:00  | 8:30-2:00   | 8:30-2:00   | KLX  | Hollywood, Calif.     | 336.9 | 8:00-2:00  | 5:00-11:00 | 8:30-12:00 | 6:30-12:00 | 7:00-10:00  | 6:30-12:00 | 8:30-12:00 | KLX        |     |
| KNX  | 9:00-12:00  | 5:00-10:00  | 7:30-10:00  | 8:30-9:30   | 7:30-12:00  | 7:30-8:30   | 7:30-10:00  | KNX  | Oonvor, Colo.         | 322.4 | 7:00-10:00 | 3:00-8:00  | 5:30-8:00  | 5:30-7:30  | 5:30-10:00  | 5:30-10:00 | 5:30-8:00  | KNX        |     |
| KOA  | 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  | KOA  | Cornell Bluffs, Ia.   | 278   | 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 | KOA        |     |
| KOIL | 8:35-2:00   | 8:30-12:00  | 8:30-1:00   | 8:30-1:00   | 8:30-1:00   | 8:30-1:00   | 9:00-1:00   | KOIL | San Francisco, Calif. | 428.3 | 6:35-12:00 | 6:30-10:00 | 6:30-11:00 | 6:30-11:00 | 8:30-11:00  | 6:30-11:00 | 7:00-11:00 | KOIL       |     |
| KPD  | 7:30-10:00  | 8:00-9:00   | 7:30-10:30  | 7:30-10:00  | 7:30-10:00  | 7:30-10:00  | Silent      | KPD  | Houston, Texas        | 296.9 | 5:30-8:00  | 6:00-7:00  | 5:30-8:00  | 5:30-8:00  | 5:30-8:00   | 5:30-8:00  | 5:30-8:00  | KPD        |     |
| KPRC | 7:00-8:00   | 9:00-10:00  | 9:00-10:00  | 7:00-8:00   | 7:00-8:00   | 7:00-8:00   | 7:00-8:00   | KPRC | St. Louis, Mo.        | 515.1 | 5:00-6:00  | Silent     | 7:00-8:00  | 5:00-6:00  | 5:00-6:00   | 5:00-6:00  | 5:00-6:00  | KPRC       |     |
| KSD  | 9:00-12:00  | 10:00-12:00 | 9:00-12:00  | 10:00-12:00 | 9:00-12:00  | 9:00-12:00  | 9:00-12:00  | KSD  | Salt Lake City, Utah. | 259.8 | 7:00-10:00 | 8:00-10:00 | 7:00-10:00 | 8:00-10:00 | 7:00-10:00  | 7:00-10:00 | 8:00-10:00 | KSD        |     |
| KTAB | Silent      | 5:30-10:45  | 10:00-11:00 | 10:00-12:00 | 11:00-1:00  | 11:00-1:00  | 11:00-1:00  | KTAB | Oakland, Calif.       | 215   | Silent     | 3:30-8:15  | 8:00-9:00  | 8:00-10:00 | 9:00-11:00  | 9:00-11:00 | 8:00-10:00 | KTAB       |     |
| KTCL | 8:30-2:00   | 9:50-12:10  | 9:00-11:00  | 9:00-11:00  | 9:00-1:00   | Silent      | Silent      | KTCL | Seattle, Wash.        | 305.9 | 6:50-12:00 | 7:50-10:10 | 7:00-9:00  | 7:00-11:00 | 7:00-11:00  | 7:00-11:00 | 7:00-12:00 | KTCL       |     |
| KTCS | 9:00-11:00  | 0:00-11:00  | 9:00-11:00  | 9:00-11:00  | 9:00-11:00  | 9:00-11:00  | 9:00-11:00  | KTCS | Hot Springs, Ark.     | 374.8 | 7:25-8:25  | 7:25-8:25  | 7:25-8:25  | 7:25-8:25  | 7:25-8:25   | 7:25-8:25  | 7:25-8:25  | KTCS       |     |
| KTW  | Silent      | 9:00-11:30  | Silent      | Silent      | Silent      | Silent      | Silent      | KTW  | Seattle, Wash.        | 475   | Silent     | 7:00-9:30  | Silent     | Silent     | Silent      | Silent     | Silent     | KTW        |     |
| KWKH | 9:00-12:00  | Silent      | 3:00-9:00   | 9:00-12:00  | Silent      | 8:00-9:30   | Silent      | KWKH | Shreveport, La.       | 253   | 7:00-10:00 | Silent     | 6:00-7:00  | 7:00-10:00 | 6:00-7:30   | 6:00-7:30  | 6:00-7:30  | KWKH       |     |
| KYW  | 6:00-12:30  | 3:00-4:00   | Silent      | 6:00-10:30  | 6:00-12:30  | 6:00-10:30  | 6:00-12:30  | KYW  | Chicago, Ill.         | 535.4 | 4:00-10:30 | 1:00-2:00  | Silent     | 4:00-8:30  | 4:00-10:30  | 4:00-8:30  | 4:00-10:30 | 4:00-10:30 | KYW |
| NAA  | Silent      | Silent      | 6:45-7:00   | 6:45-7:00   | 6:25-7:40   | 6:45-7:00   | 6:45-7:00   | NAA  | Radio, Va.            | 434.5 | Silent     | Silent     | 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      | 7:30-10:00  | Silent      | Silent      | Silent      | PWX  | Havana, Cuba.         | 400   | 5:30-8:00  | Silent     | Silent     | 5:30-8:00  | 5:30-8:00   | 5:30-8:00  | 5:30-8:00  | PWX        |     |
| WAHD | 11:00-1:00  | 10:00-10:00 | 6:00-12:00  | Silent      | 5:30-10:00  | 6:00-9:30   | 6:00-9:30   | WAHD | Richmond, N. Y.       | 315.6 | 9:00-11:00 | Silent     | 4:00-10:00 | 4:00-10:00 | 4:00-10:00  | 4:00-10:00 | 4:00-10:00 | WAHD       |     |
| WAMG | 10:00-11:00 | 2:00-10:00  | Silent      | 10:00-11:00 | 10:00-11:00 | 10:00-11:00 | 10:00-11:00 | WAMG | Minneapolis, Minn.    | 243.8 | 8:00-9:00  | 12:00-8:00 | Silent     | 8:00-9:00  | 8:00-9:00   | 8:00-9:00  | 8:00-9:00  | WAMG       |     |
| 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 | 5:30-8:45  | 5:30-8:45   | 5:30-8:45  | 5:30-8:45  | WBAP       |     |
| WBAR | Silent      | Silent      | 10:00-11:00 | Silent      | 8:00-9:00   | 7:30-8:30   | Silent      | WBAR | Sisht, Wis.           | 406   | Silent     | 8:00-10:00 | 7:00-8:00  | Silent     | 6:00-7:00   | 5:30-6:30  | Silent     | WBAR       |     |
| WBAV | Silent      | Silent      | 7:00-9:00   | Silent      | Silent      | Silent      | 7:00-8:00   | WBAV | Columbus, D.          | 293.9 | Silent     | Silent     | 5:00-7:00  | Silent     | Silent      | Silent     | 5:00-6:00  | WBAV       |     |
| WBBM | 7:00-12:00  | 8:00-1:00   | Silent      | 7:00-11:00  | 7:00-1:00   | 7:00-11:00  | 7:00-11:00  | WBBM | Chicago, Ill.         | 226   | 5:00-10:00 | 1:00-11:00 | Silent     | 5:00-9:00  | 5:00-9:00   | 5:00-9:00  | 5:00-9:00  | WBBM       |     |
|      |             |             |             |             |             |             |             |      |                       |       |            |            |            |            |             |            |            |            |     |



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## Attacking Petty Politics

DR. LEE DE FOREST, famous Radio inventor, has just completed a tour of European broadcasting stations, and as a result, draws some interesting conclusions. He states that it is his opinion that the use of American broadcasting stations for political battles is very deplorable.

"One of the most noticeable differences between European and American broadcasting is the fact that overseas Radio fans are not forced to listen to petty political squabbles being fought over the air. In the estimation of the European program directors, nothing is farther from the ideals around which broadcasting is built than political wrangling and mud slinging," Dr. DeForest said.

"This mud slinging," he continued, "which comes from the throats of silver-tongued orators under the guise of educating the 'deer peepul' is nauseating. Take as an instance the bosh and hokum that is nightly being broadcast from the privately operated political stations. The operators of such stations see in their operation a means of forcing dubious data and information down the throats of the citizens. The fact that the public can tune out such programs is no excuse for their being broadcast.

"The news value of politics has a definite place on the air. Large conventions or departmental meetings of the government of national importance are permissible, but the use of the air to enable a political aspirant to some office to inform the public how much good (?) he is doing—generally for himself—is stretching the matter several points too far. It is yellow journalism of the air."

We do not believe that the well-known inventor and "Father of Radio" means that the rights of the free press and the free ether should be seriously restricted.

That would be monarchical. But there is much to be said in favor of his arguments.

Program managers who do not or will not take care of the political material they allow to be broadcast, are the great offenders. Perhaps they do not realize that the public has a great habit of tuning out stations which make such mistakes, and the listeners often stay tuned out forever.

## The Listeners' Strike

A SIMPLE problem in proportion will be the solution of the Chicago Broadcast Listeners association strike against certain stations for a silent night in the territory immediately surrounding the city. Two of the stations, and it is against these two that the most complaints have been registered, depend upon the selling of time for funds to operate and to make a profit for their owners. They say that if they were to remain silent one night a week they would lose 16 2/3 per cent of their revenue. All the strikers have to do is to enlist enough listeners in their ranks to reduce the audience of these stations to a point where advertisers will demand that rates be reduced low enough to be in proportion to the smaller circulation. When the reduction in rates goes over 16 2/3 per cent the listeners can claim a moral victory which will easily be turned into a real win if the broadcasters are practical business men.

Of course, this reasoning is only theoretical. What the strike will really show is of interest to fans all over the country. The outcome will determine whether or not the owners of receiving sets are strong enough to demand and obtain what they want from the broadcasters merely by refusing to tune in certain stations. Many stations have oftentimes stated that all their actions are governed by the wishes of their audiences. A strike of this kind would determine the sincerity of such statements.

Some time ago when the air in this district first began to be crowded the stations then located in Chicago entered into an agreement to remain silent after seven o'clock every Monday night. At that time there were no high power stations located outside of the city limits near enough to cause interference with DX reception. Neither were there stations broadcasting in this neighborhood which operated as straight out and out commercial advertising mediums. With the coming of both came the strike.

## RADIO INDI-GEST

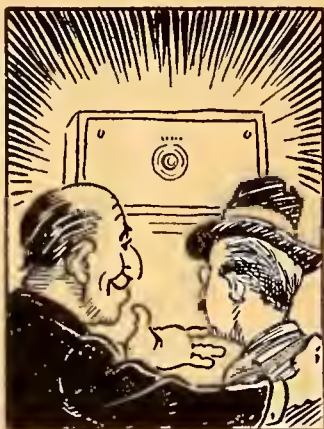
OHELL

A Rayjo Tragedy in Three Acts  
by the Celebrated Author

### THE THIRD TROMBONE PLAYER

ACT I

A Rayjo dealer's store. At opening, the dealer and Mr. Hatstead are discovered in earnest conversation.



Dealer: "Yes, Mr. Hatstead, for volume, distance and selectivity, ya can't beat the Ejectodyne. Only one dial to turn and ya get them in from coast to coast. She's a world beater and sells for only \$330 F. O. B. Why, Mr. Wcaaks up the street reported hearing a Chicago station last Monday on their silent night, now what do you think of that? Ya get them all on this boy. Shall I wrap it up?"  
Hatstead: "Wrap it up."

ACT II

Same place three months later. Enter Mr. Hatstead with a package under his look, then waits on everybody else first, finally turns with disgust to Hatstead.

arm. Dealer gives him dirty body else first, finally turns

Hatstead: "Say, I would like to trade this in for the new Barnumdyne."

Dealer: "What, that pile of junk? I got enough of them old sets on the shelves now. Ennyhow, that darn thing couldn't bring in local on a rainy day, and ya know it! Outside with that junk before I call a cop!"

ACT III

The bridge at midnight. A lonely figure with a package under the arm is making its way to the bridge. Yes, gentle reader, you have guessed it. It's Mr. Hatstead with his Ejectodyne. He gazes down at the river. The clock from a nearby steeple tolls the midnight hour. At the last stroke a splash is heard as the Ejectodyne lands in the icy waters. Hatstead: "Ohell."



(Exit)

## New Tin Cup Nomination

From J. H. F. down South in New Orleans comes this new nomination in the Tin Cup contest: "We wish to nominate for the position of world's worst announcer the bird who never fails to announce his station call at least two times after each number. His usual speech reads this way: 'You have just been listening to "Dada Da" played by the MWSB orchestra under the leadership of Professor Tzxxwvnyk, playing at the St. Johns theater, owned and operated by the Player Amusement company and broadcast by remote control from MWSB, the Player Amusement company and the White House General store of Podunk. This theater is now closed for repairs and redecoration and will re-open about the middle of September. The next number will be "Da Dada," played by the MWSB orchestra under the leadership of Professor Tzxxwvnyk. This is Station MWSB, the Player Amusement company and the White House Department store of Podunk, Radiocasting America's most intristing city.' This station is not on the air for advertising purposes, but is presented to the people for no other purpose than to entertain their listeners."

## The Cat's Whiskers, Toes and Tail (A Howl in Two Meows)

I  
The cat stepped on the battery wires,  
And every hair throw electric fires;  
She gave a jump, and let out a wail,  
When jazzy music came from her tail.

II  
She leaped out the window, wild with fear,  
When a soprano solo came from her car:  
She'll not forget where 'ere she'll go,  
The night she sang on the Radio.

GEORGE.

## Tragedy at 5XX

Dear Indi: Let it not be thought that the poem specially written by Alfred Noyes to commemorate the opening of 5XX, the B. B. C. high-power station at Daventry, was the only one. As a matter of fact, the station director received another one also, but it could not be recited on the opening night because the elocutionist, upon reading it, bit his teeth in the mike, and no one could find the smelling salts (5XX being a dry station). He is still suffering from encephalitis lethargica. Here is the poem:

Yes. We have atmospheric's,  
We have atmospheric's today.  
We've inductance, reaction,  
Cats' whiskers and crystals,  
Dull emitter tubes also and, say,  
We have antiphonics and filaments,  
Grid leaks and switches, and say,  
But, yes, we have atmospheric's,  
We have atmospheric's today.

LONDON BOBBY.

Thus proving the Banana song still to be popular in "Merry Old Hingland,"

## "Mad Dog!"



## Condensed

BY DIELECTRIC

Regardless of whether a song is of the popular kind, semi-classical or classical, a singer should give his very best to its rendition. Unfortunately those who sing the songs from music revucs, etc., treat their vocal chords to severe strain in an effort to follow what is apparently a more or less traditional manner of vocalizing. The absence of such throatiness in concert artists whose programs are inclusive of the most lasting type of song should point the way for them. A Serbian tenor appeared on a program arranged by WEAf recently, most of his numbers were classical, it's true, but the beauty of his tone modulation arrested the attention as much as careful phrasing. Cannot the popular song artists improve their tones?

There are other features put on the air from WSB, Atlanta, that deserve mention to the same extent as does the Melody orchestra, but right here there is being handed out a special bouquet to these players. They make of any piece an interesting selection and that is not an easy feat. Of course Lamdin Kay puts everyone in good humor and warms them up with southern geniality before and between numbers. He alone couldn't make these boys so agreeable as they are to many in their Radio audiences.

It is quite possible that some members of the Red Apple club do not turn their dials to catch the strains of music produced by the members of the Detroit Symphony orchestra, and if that is the case, then by all means get WCX on your speaker during one of these concerts. It will please you. There is little of detail in orchestration or interpretation that is glossed over by this body of players and their director. Just tune in once, then repeat.

Among a few of the reviewers of Radio programs a soprano is an athema no matter how well she sings—nor what. Certainly programs devoting too much place to soprano songs would become tiresome, which is just as true of any other type of entertainer, but to condemn soprano singing in toto is a bit unjust to a great many listeners in. A Miss Thomas appeared on a program arranged in the studio of KDKA, "the world's most popular broadcaster," and I sincerely hope this feature was heard all over the globe. Many an exquisite song is rendered ice cold—no heart in it at all. That old Welsh air, "My Ain Folk," has a heart throb in each note and Miss Thomas placed her own sympathetic feeling behind every word of it. I should have liked it all over again when she finished.

Planning for the amusement or edification of listening fans who expect the best obtainable night after night is not a sinecure, as any listener would discover were he to try it. A varied program, which is at once pleasing to the majority and different from its predecessors, calls for considerable ability. The programs from WOC are surely eligible to placement under this category. Further mention will be made of special features.

WSAI, Cincinnati, doesn't seem like the same station with the sweet voice of a soprano talking through the speaker. She announced a group of cello numbers recently in a manner preparing one for the music which followed. The instrument was mellow in tone and the selections were worthy a place on the choicest program. Following this came singing—yes, just singing. What should be mentioned with favor is the modulation of the United States Playing Card company's station.



# Preventing Trouble in Radio Reception

## Part II—Storage B Batteries and Tube Troubles

By James McDonald

AS MADE now, storage B batteries are rather efficient units and cause but little trouble, but as they were first brought out two years ago they were much inferior to dry B units instead of an improvement, as their makers claimed. Then, an outer case about 11 inches long by 3 inches wide and deep was divided by walls into twelve comparatively tiny pockets into which two plates, one positive and one negative, were slipped. The ampere hour capacity of such a cell could not be better than 2,500 milliamperes hours or 2.5 ampere hours, which was entirely too small for multi-tube sets; in addition, there was so small an amount of electrolyte that none could be removed for hydrometer readings.

### Storage B Now Practical

Now, the cells are much larger and, of course, the plates also. The capacity runs on the average, about 5,000 to 6,000 milliamperes hours, or 5 to 6 ampere hours. There is sufficient electrolyte for use in a hydrometer, and large sets can be operated for many hours without the necessity of recharging the B units. A typical storage B supply unit is shown in figure 4.

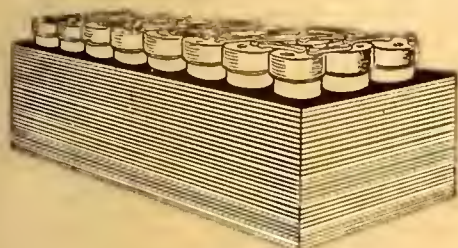


Figure 4

While a very few manufacturers still make these in the 24-volt size, these usually come in 48-volt models. Since each cell furnishes slightly better than 2 volts, there are 24 glass jars, either round or square to such a B unit and, while rated at but 48 volts, they usually supply, at the terminals, about 54 volts. Their care is, in many respects, similar

to the larger storage A batteries. The liquid within the cells is sulphuric acid and water, which should not be allowed to get on clothing, carpets or anything else of value. The moisture or dampness on the tops of the cells is just as damaging, so always wash the hands thoroughly after caring for a storage B, before doing anything else. It is the water which gradually evaporates out of the cells and

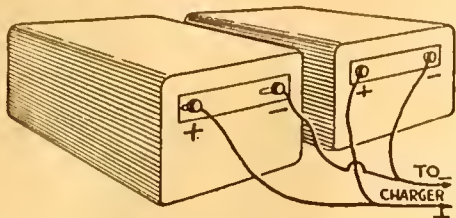


Figure 5

causes the level of the electrolyte to gradually go down, and it is the water only which needs replacing. Use only purified distilled water, such as can be had at drug stores for 25 to 40 cents a gallon. Most storage B cells are made with some sort of liquid level mark in the glass near the top at which the surface of the electrolyte should be kept. Such refilling should not prove necessary oftener than about every six weeks to two months.

### Charging

The charging rate must be watched to avoid damage. While you can put current into a storage A battery to 2 to 5 amperes, these smaller cells are to be charged at but 1/4 ampere and a voltage greater than that available between the terminals. If one has lighting current of 110 volts D. C. (direct current), which flows always in one direction only, one or two storage B units can be connected direct to this supply without trouble for recharging. If the current available is 110 volts A. C. (alternating current), which changes its direction of flow 25 to 60 times per second, a device known as a rectifier must be inserted in the line to

supply current to the batteries which flows only in one direction. This rectifier may be part of a unit known as a charger.

Most of these rectifiers, in the process of altering the type of current for charging use, cut the voltage or pressure and it is not possible to then charge two 48-volt units in series, which is the way they are connected to the set. Two may be charged at once, however, by connecting in what is known as parallel (shown in figure 5) and increasing the charging rate to 1/2 ampere. This would necessitate the changing of wires every time one wished to charge these batteries so the switching arrangement shown in figure 6 is suggested. This is composed of two "double pole double throw" knife switches, available from any electric supply store. Connected as shown, they put the two B batteries in parallel for charging when thrown back, and connect them in series, to the set, when thrown forward.

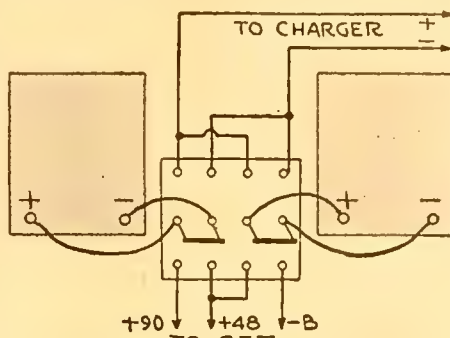


Figure 6

Edison or alkali storage B batteries are also made of many small cells, but usually in glass test tubes about 6 inches long. Since each cell furnishes but about 1.3 volt, more of them are necessary to make a total of 48, 96 or 140 volts. They cannot be tested with a hydrometer, but fairly accurate readings of their condition

can be taken with a voltmeter. The electrolyte or liquid within the test tubes is potassium hydroxide, which is corrosive and must be handled with as much care as the sulphuric acid mixture of the other type units. Evaporation can be slowed up considerably by placing a few drops of light mineral oil on the surface of the liquid in each cell. In this way, the water component of the liquid will escape only when charging and bubbles

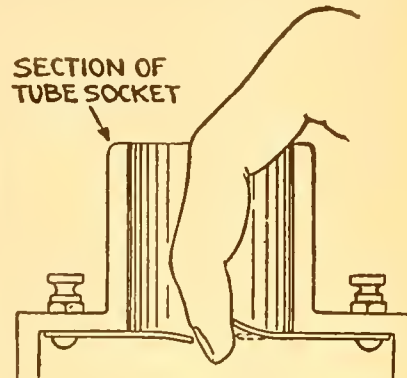


Figure 7

force their way up through the oil. Pure distilled water should be used to replace liquid which escapes and to keep the level of the electrolyte above the top edges of the plates.

The editors of Radio publications receive scores of letters every week from Radio fans who state that they have tested their batteries, know the aerial and ground are in good condition, have tested tubes and yet cannot get their sets, either home constructed or purchased complete, to work. From experience with scores of sets over a period of years, the editor's first suggestion always is to examine the tips of the tube pins and the springs in the sockets. You cannot see

(Continued on page 18)

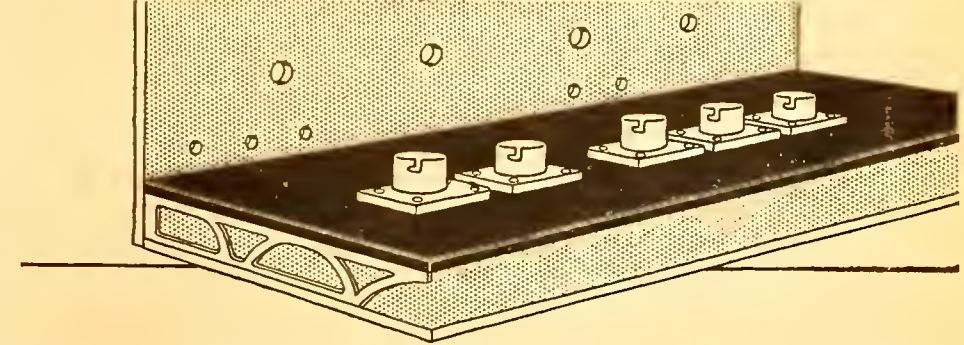
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# Lonely Shut-In Describes Airphone as Means of Acquiring New Education

## New York Woman Says Field of Radio Is Unlimited; Calls it Equal to Public Schools as an Instrument of Democracy; No Need Being Shut-in

By Clay Irwin

NEW YORK.—Here is a satisfying answer to the contention that the Radio public is primarily concerned only with jazz, to the oft-repeated observation that Radio makes its appeal most largely as an entertainer, to the general opinion that only a few of the many millions listening in really have a vision of the real potentialities of wireless telephony.

"Yes, the Radio is equal to the public schools as an instrument in democracy,—a kind of research university. . . . I believe there is no decent side to human nature, no constructive interest in life, that is not recognized and ministered to somewhere on the air. The range is unbelievable, till tried."

Thus writes Mrs. Lodema R. Towne, of Albion, N. Y., in a remarkable letter testifying to her experiences in Radio reception, sent to the Radio World's Fair, as a contribution fostered by the so-called "Radio Diana" contest, to determine America's most successful and enthusiastic feminine listener, who will be awarded a silver cup and other honors in connection with the exposition opening September 14 in New York city.

Mrs. Towne is a cultured woman, a shut-in, reclining in bed with a single dry cell set that an ex-service man made for her.

Mrs. Towne testifies to the great changes that Radio has made possible, its service to religion as well as to the cause of good government and fine music.

Extracts from her analysis of Radio's part in sociological development are as follows:

"We are no longer dependant upon partisan newspapers; we who heard know what a speaker said and ours is the responsibility of decision.

"Of a more frankly educational purpose are the extension lectures from many of

our universities. Personally, where should I more naturally turn than to the traditional culture of New England and the stamping ground of my own college days?

"As a resource for the shaking of prejudice and conceit, Radio is not so bad a proxy for travel and scholarship," she adds.

"The opportunities in religion are as great as in politics.

"Thus far I believe the air is free and uncensored to an extent far beyond any other means of appeal. It begins, and let us hope, remains 'modern.'

"General information? Lots of it. I tried to be set every week for Mr. Kaltenborn's review. And what a revelation of the younger generation's superiority in intelligence was that current events contest!

"I might add that I do not usually listen to anything so far from my immediate interests as stock, market, and weather reports, but when a speaker forty miles away refers to their cloudburst I see that the windows are not left dangerously open.

"From my home city I frequently hear the familiar voices of personal friends, separated in time and space by hundreds of miles and weeks—and some people are surprised that I can recognize a speaker and singer before hearing the announcement. The voice is a magic revealer of personality, and there is indeed a big heart interest to my Radio experiences.

"A little imagination added to my own experience prevents any cynical smile from me even when Radio is heralded as harbinger of world peace.

"Why should so many remain shut-ins when by a turn of the wrist one may cut loose from hampering restrictions and go adventuring to the far and unexplored geographical, mental, and spiritual regions of our universe?"

### PREVENTING TROUBLE

(Continued from page 17)

these parts when in the set and the only two of which you can be sure are those in the filament circuit. If the tube lights in every socket, one knows that the two pins and two springs in the filament circuits are O. K., but there is no way of knowing whether the grid and plate pins and springs are giving good contact.

All tubes are to be removed from the set, if it fails to function, and an effort made to fix the springs in the sockets. Most sockets available either to the home constructor or used in complete sets, have a low enough cylindrical wall that the finger may be used as shown in figure 7. The spring will, of course, pull up; the trick is to determine just how much to pull so that the spring is bent slightly close to the point where it fastens to the socket. This is not so hard to learn, however, and a little experimenting will quickly give one the "feel." If the wall of the socket is too high you can use a nail file or orange wood stick or screwdriver and get leverage on the upper edge of the socket.

#### Clean Springs and Tips

The top surface of each spring near its end is to be bright and clean. Grease or dust at this point can insert resistance or even prevent contact at all. With the end of a screwdriver or point of a pocket knife blade, scrape this surface bright. Now give attention to the pins in the base of each tube. You will notice that each is composed of a small brass tube in the end of which there is a chunk of solder. This chunk of solder secures a fine wire which runs down through the brass tube. This solder being lead, corrodes easily and quickly becomes coated with a layer of fine dark powder. A simple method of cleaning this tip is

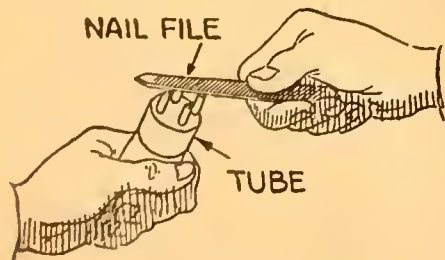


Figure 8

shown in figure 8. Very light pressure should be used, as the lead is soft and we do not wish to remove too much and possibly break the connection to the fine wire beneath. A knife blade can also be used to lightly scrape the lead tip.

If batteries test up in good condition and one is sure of good contact at all tube tips, there is only one more point within the ability of the average fan to remedy. Do to jars in shipment or to vi-

bration where set is located, one or more connections may have come loose. Wherever you see a wire held by a nut or binding post within the set, try the nut or binding post cap to see that it is tight. If stiff wire with right angle bends has been used to connect up the parts within the set, tap each wire as a means of finding loose connections. A good connection will give a hum like a tightly stretched violin or guitar string. The "dead" feel as you touch it, or the rattly hum, will quickly show a loose connection.

#### Don't Take Set Apart!

You should not attempt to take the set apart, if it is a manufactured one, if all these suggestions have been tried. Neither should the average dealer. There are few engineers in the country capable of giving the average five tube set thorough analysis or making changes, and of these few only those with the manufacturer should be allowed to go over the outfit trouble shooting. The manufactured set should be sent back for repair or replacement if neither owner or dealer are able to make it work when hooked up according to directions.

### WSMB—NEW ORLEANS

(Continued from page 5)

to 1:30 p. m., the noon-hour program, and from 6:30 to 7:30, the dinner-hour program. There are four de luxe night programs, from 8:30 to 10:30 p. m., Monday, Wednesday, Thursday and Saturday.

The noon-hour program features musical selections and news bulletins. The dinner-hour program broadcasts musical selections, news bulletins, market reports, sports and "Twilight Tales."

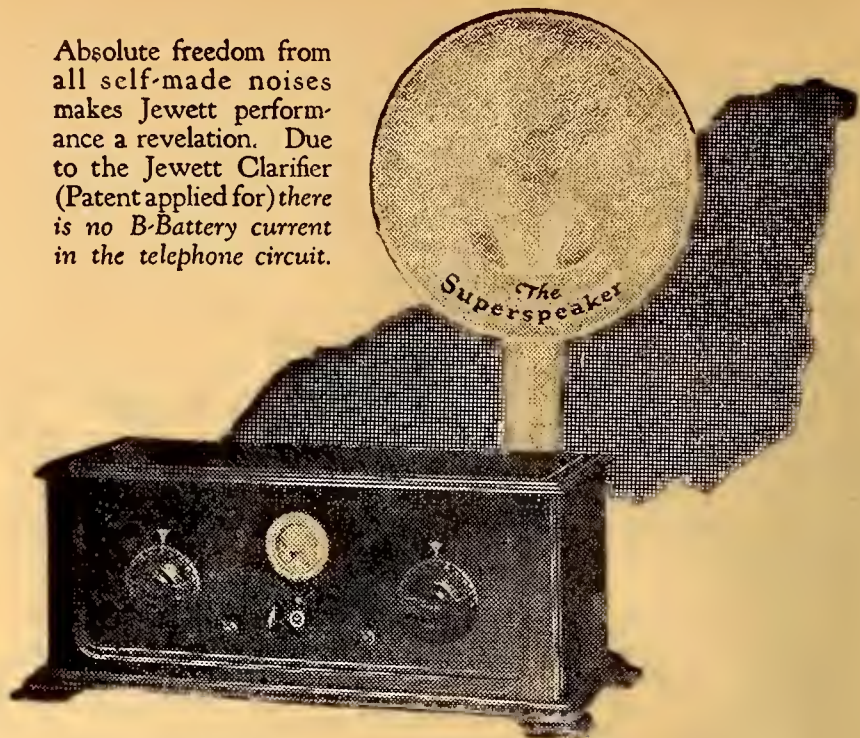
Monday and Thursday nights' programs are devoted to "syncopated" music, but "syncopated" music of the first class, by local orchestras that play "jazz" as harmony and not as "tin-panning."

Wednesday night's de luxe program is devoted exclusively to classical and operatic music, the artist personnel being chosen from New Orleans' most distinguished musicians and vocalists, as well as guest artists from the theaters.

Saturday night's program is an ensemble of classical, semi-classical and popular music, and is broadcast by local artists and amateur musical circles, representing the best obtainable in New Orleans.

Proof of the wide interest being taken in WSMB is found in the number of congratulatory telegrams and letters received by the station's management. To date more than fifty thousand letters and telegrams have been received. They have come from all sections of the United States, Canada, Mexico and Central America. Every state in the Union is represented, and this is in spite of the summer season, now just passing.

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# Easy Methods of Making Receivers Selective

## Part II—Tuned R.F. Neutralized and Otherwise

By John G. Ryan

AT THE present time there are probably more five tube receivers in use than any other type. Some of these are of course neutrodynes; probably 40 per cent of them are. Another 40 per cent are tuned radio frequency without neutralization or compensation of any kind. The remaining 20 per cent would, according to letters received by the technical editor, seem to be radio frequency sets balanced by some of the various methods brought out during the past few months.

In general design, all of these sets are pretty much alike. They contain two stages of tuned radio frequency, a detector (non-regenerative) and two stages of audio frequency amplification. There is an antenna coupler by which incoming oscillations are placed on the grid of the first tube; there are two air-core coupling

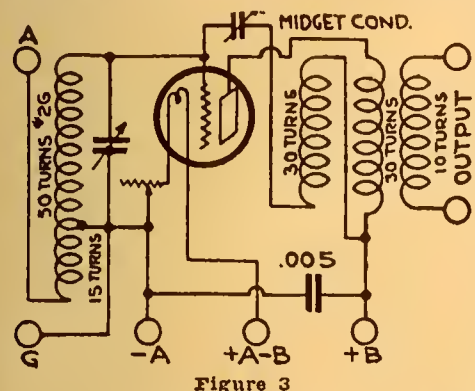


Figure 3

transformers connecting tube 1 with tube 2 and connecting tube 2 with the detector. Across each grid to filament circuit there is a variable condenser. Thus three such condensers are necessary in all these sets. It is the comparatively small points in design and construction which make the

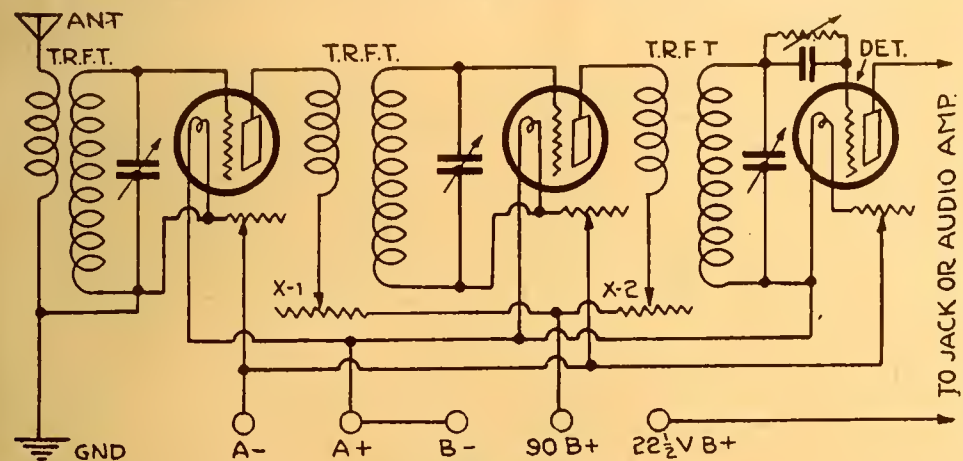


Figure 4

difference in results and efficiency. Some have losses which lower range—others have losses which lower selectivity. Frequently, a combination of losses reduces both. Most of these sets, with the exception of perfectly balanced neutrodynes, are run much below the maximum possible efficiency because small points in design or assembly do not permit full power without oscillation. This series of articles deals chiefly with selectivity but in this chapter the taking up of some other points is unavoidable.

It was well known to 1910, amateur experimenters back in 1910, the writer

recalls, that coupling was the major control over selectivity. If inductances in two circuits that could carry radio frequency oscillations were placed tight against each other and incoming signals were impressed on one circuit, these oscillations would appear in the other with maximum possible intensity. However, if there were three or four different streams of oscillations at closely similar wave lengths, all would appear in the second circuit. This was called "tight" coupling.

Now if the coils are separated slightly the intensity of the desired oscillations will slightly diminish, but one of the undesired set of signals will disappear in the second circuit. Continuing along this line and tuning each circuit carefully as the coils are separated, a point will be reached where all of the undesired signals will have been eliminated, but the wanted one will be only about 40 per cent of the intensity of its original strength.

Right there you have the whole problem of coupling and the major factor in selectivity. One must find a happy medium between volume and the elimination of

the undesired. It is possible to have even tighter coupling than the close relationship between two coils in independent circuits.

The tightest possible coupling between an antenna circuit and the first grid circuit was shown last week in figure 1. In this method of coupling, the same turns of wire are common to both circuits.

The next degree is shown in figure 3 herewith. Here 15 turns of the coil are the antenna circuit wound next to, and the grid coil, 50 turns which comprise the tuned coil.

The third degree is represented in figure 4 where we have two separate coils, one within or next to the other connected together at the low potential ends.

Figure 5 shows the next step in loosening coupling, if the primary is fixed in its relationship to the secondary or grid coil, while the last step would be to have them connected as shown but the primary so mounted that it can be turned on a

rotor or swung away from the secondary on some sort of hinge arrangement.

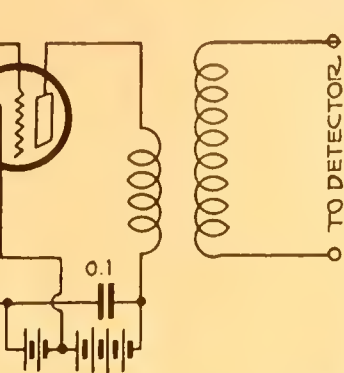


Figure 5

Figure 6 shows the next step in loosening coupling, if the primary is fixed in its relationship to the secondary or grid coil, while the last step would be to have them connected as shown but the primary so mounted that it can be turned on a

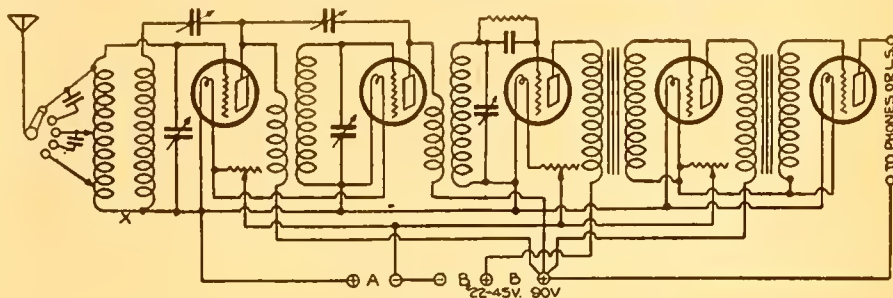


Figure 6

rotor or swung away from the secondary on some sort of hinge arrangement.

### Antenna Selectivity

Any of these types of antenna coupling may be used with any type of five tube receiver, and the degree of selectivity will be found to correspond very closely to the above order. Which brings us to the matter of antennas.

The relationship between antenna length and selectivity has also been known many years. The longer the antenna, the greater the volume and range, but the less the selectivity; the shorter the aerial, the less volume and range, but the greater the selectivity.

Now conditions under which one is receiving, vary every hour, as high power stations come on and sign off; but we cannot be running up to the roof to lengthen or cut the aerial every five min-

utes. A method of changing the (effective) length of the antenna as far as the set is concerned is shown in figure 6. While the actual length of wire put up cannot be changed, the effective or apparent length can be cut by the insertion of one or more fixed mica condensers in series in the lead-in wire.

At the same time, the degree of coupling can be varied within certain limits by varying the number of turns common in the first coil to both the antenna and grid circuits. When less turns are common to the antenna circuit, the effective coupling is much looser than when a great many turns are common.

### Varying Effective Antenna and Coupling

In figure 6 the arrangement shown permits one to vary both the effective antenna length and the effective coupling between circuits. When the five point switch is in the top position we have maximum length plus maximum coupling but minimum selectivity. This might be used at two o'clock in the morning when trying to get "the coast."

In the second position we have cut the length but still have maximum coupling. In position 3 we return to maximum

length but cut the coupling down. In position 4 we still have lowered coupling but we also have reduced the effective length of antenna. In position 5 we have again the full length of the antenna but the coupling consists of but two or three turns in the antenna circuit. Thus the arrangement is very flexible.

### Coil Construction and Circuits

Now we come to the matter of coil construction. While the battle of experts and engineers still rages, on this it seems to have been pretty well settled that the minimum possible dielectric, in the antenna coupler at least, is a step in the right direction. If we space the turns of wire or prevent their being parallel to each other as they go round and round by means of special windings, we lower the inductance (which is the chief reason

(Continued on page 21)

# MAGNATRONS

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# A. B. C. Course in Radio Fundamentals

## Chapter XXIV—Amplification Circuits Used in Radio

By David Penn Moreton

WHEN an alternating electrical pressure is impressed between the grid and the filament of a three electrode tube there will be an alternating pressure and current produced in the plate circuit which will be superimposed upon the steady pressure and current of the B battery connected in the plate circuit. As explained in one of the previous chapters, the external plate circuit of the tube offers a certain impedance  $Z$  to the alternating current. The power output of the tube will be a maximum when the internal impedance of the tube, plate to filament, is equal to the external plate impedance. A curve showing the variation in the power output of a tube as the external impedance is varied is shown in figure 102. For this particular tube the maximum power output was obtained when the external impedance had a value of 5,000 ohms, and this was the value of the internal plate filament impedance of the tube.

The maximum power output can be obtained by varying either the external or internal impedance of the tube or both

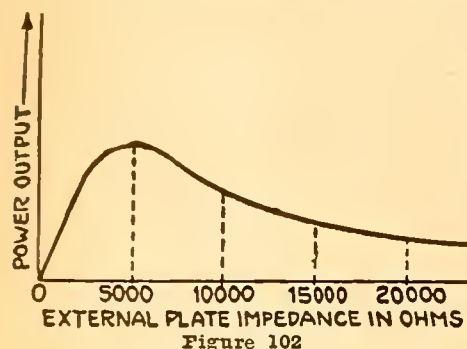


Figure 102

of them. If the plate circuit has an inductance or resistance connected in circuit, these may be varied, or the internal impedance may be varied by adjusting the temperature of the filament, or changing the plate potential, or by introducing a battery in the circuit between the grid and filament, called a C battery, which will give the grid a constant potential and move the operating point of the tube to a point on the characteristic curve where the internal impedance of the tube is equal to the external.

The above relations are important when the tube is to be used as a power amplifier, but they are not so important where it is a matter of voltage amplification. In the majority of cases the energy picked up by the antenna is so extremely small that, after being amplified and detected by a single tube, the effect produced on the telephones is too small to operate them properly and practically no sound, or a very weak sound, is heard. Under these conditions it becomes necessary to amplify the received signals as picked up by the antenna. When the amplification action taking place in the detector tube is not sufficient to give the desired results, it is necessary to use several tubes in succession, which form what is called a cascade amplifier. The following paragraphs will be devoted to a description of several of the more common forms of cascade amplifiers.

the plate  $P_1$ . The resistance  $R_1$  should be about 100,000 ohms. This circuit is similar to one previously described and you doubtless remember that the small alternating current electrical pressure impressed between the filament and the grid by the alternator  $A$ , is amplified by the tube and appears between the terminals of the resistance  $R_1$ . The ratio between the electrical pressure between the terminals of the resistance  $R_1$  and the electrical pressure between the filament and the grid is practically equal to the voltage amplification factor  $k$  of the tube I.

The electrical pressure between the terminals of the resistance  $R_1$  may be applied between the filament and the grid of a second tube II, which operates in exactly the same manner as the first tube, and the amplified electrical pressure appears between the terminals of the resistance  $R_2$ . The purpose of the condenser  $C_1$  and the high resistance  $r_1$  may be explained as follows: If the electrical pressure between the terminals of the resistance  $R_1$  was applied between the filament and the grid of the second tube, by connecting the terminals of the resistance  $R_1$  to the filament and grid respectively of the second tube, the potential of the battery  $B_1$  would be impressed upon the grid  $G_2$  of the second tube. The condenser  $C_1$  which is connected between the grid  $G_2$  of the second tube and one terminal of the resistance  $R_1$ , as shown in the figure, prevents the potential of the B battery  $B_1$  being applied directly to the grid of the second tube. This condenser, however, does not prevent the alternating electrical pressure between the terminals of the resistance  $R_1$  being impressed upon the grid of the second tube. With the condenser  $C_1$  in circuit, as shown in the figure, a resistance  $r_1$  of several megohms must be connected between the grid and the filament in order to provide a leakage path for the negative charges, which tend to accumulate on the grid and interfere with the proper operation of the tube.

The operation of the second tube results in an alternating electrical pressure being produced between the terminals of the resistance  $R_2$  which is approximately equal to the amplification factor  $k_2$  of the second tube, times the alternating electrical pressure between the terminals of the resistance  $R_1$ .

A third tube may be connected as shown in the figure and the alternating electrical pressure between the terminals of the resistance  $R_2$  amplified by this tube. Additional tubes may be added, and each time the alternating electrical pressure is amplified by an amount approximately equal to the voltage amplification factor of the tube. If all of the various tubes used in the amplifier had the same voltage amplification factor  $k$ , then the alternating electrical pressure impressed upon the grid of the first tube  $e_g$  would be amplified approximately  $k$  times for each tube. If there were two tubes the amplified electrical pressure would become  $k^2 e_g$ , if there were three tubes, the amplified electrical pressure would become  $k^3 e_g$ , etc. The last tube is connected as shown in the figure to the

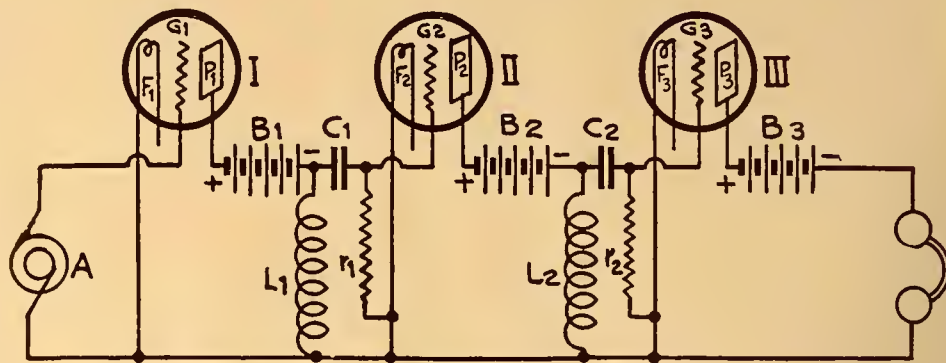


Figure 104

trical pressure is a reproduction on a larger scale of the alternating electrical pressure applied to the grid, and it may be impressed upon the grid of a second tube in the manner shown in the figure.

An advantage of the choke coil coupled amplifier is the fact that the external plate circuit of each tube may be made of low resistance, and there is a comparatively small amount of energy lost in the external plate circuit, which means a saving on the B battery, and a lower voltage B battery may be used. A variable condenser may be connected across the terminals of the inductance and the external plate reactance may be made to

approach an infinite value. An arrangement of this kind is suitable for Radio signals but not for audio, and a cascade amplifier employing this principle will be explained in the next chapter.

(Tuned impedance hook-ups have not been very popular as yet due to our inability to control oscillations when all circuits are brought into resonance. With the more common usage of wheatstone bridge control systems, however, this type of radio frequency amplifier will come into its own. Read Professor Moreton's next chapter carefully for a full understanding of this type of signal booster.—Editor's Note.)

### Low Resistance Connections

It is very important to offer as little resistance as possible in a Radio receiving circuit. When making for highest efficiency, use square bus bar. Round bus bar or any other round wire has too small a contact surface when merely clamped under a nut. When fastening to binding posts make loops just big enough to fit snugly over the screw, bending the bus bar in the same direction the nut turns.

In connecting one piece of bus bar to another, bring three-fourths of an inch of both wires together and solder the full length of the joint taking care not to use too much solder. Sometimes it is neces-

sary to erect an aerial of several wires because of lack of space, and it often happens that some of the energy picked up by the aerial never reaches to set because of a poorly made joint where the lead-in wires come together and are connected to the one wire which runs to the set.

To make the best joint here, first scrape clean about two inches of each wire and bind the ends of the joint with fine wire, then solder the full two inches on all sides. This is a very neat joint compared with the usual twisted one and it offers little resistance to the feeble aerial currents.—J. C. Heberger, Rochester, N. Y.

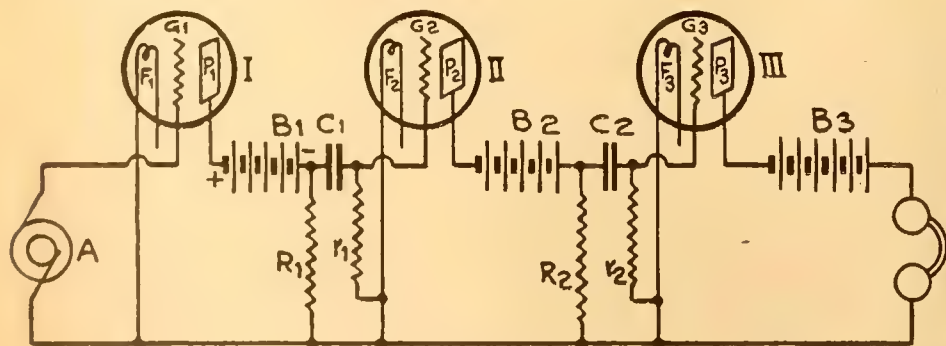


Figure 103

### Resistance Coupling

In discussing these amplifiers, the alternating electrical pressure to be amplified will be assumed, for convenience, to be generated by an alternating current generator although the operation of the circuits would be exactly the same if the electrical pressure to be amplified were delivered to the amplifier by the receiving antenna, and detector circuits. A three-tube amplifier using resistance coupling is shown in figure 103. An alternator  $A$  is connected between the filament  $F_1$  and the grid  $G_1$  of the first tube marked I. The battery used for heating the filaments is not shown in order to simplify the diagram. The plate circuit of the first tube is composed of the plate  $P_1$ , a B battery  $B_1$ , a resistance  $R_1$  to the filament  $F_1$  and, through the tube, back to

telephone receivers, and it is possible to amplify very weak signals.

The chief drawback to this type of amplifier is the necessity for high B battery voltages, yet the results obtained are very satisfactory particularly for high frequencies.

### Impedance Coupling

An amplifier using choke coil coupling is shown diagrammatically in figure 104. An alternating electrical pressure produced by the alternator  $A$  is impressed upon the grid  $G_1$  of the first tube I, which causes pulsations in the plate current of the tube and, as a result of these variations in plate current, there will be an electrical pressure induced in the coil which at all times tends to oppose the change in the value of the current taking place in the circuit. This induced elec-

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# How to Make Beautiful Cone Speaker

## Wall Paper Diaphragm Is Basis of Neat Horn

Much has been said lately in many of the Radio magazines about the paper cone loud speaker. Instructions have been printed in these same papers on how to make this type of speaker at home.

### WORKSHOP KINKS EARN A DOLLAR—

**T**HERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much interested in obtaining such material. Send them in with full details, including stamped envelope, so rejected copy may be returned. The work must be entirely original, not copied.

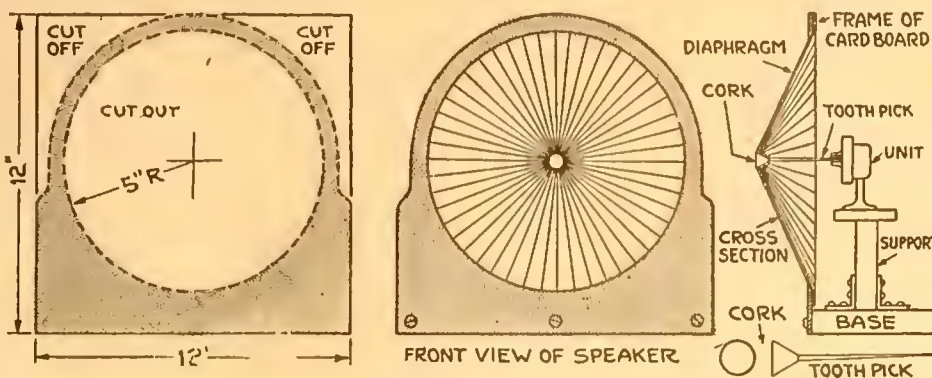
RADIO KINKS DEPARTMENT  
Radio Digest,  
510 North Dearborn St., Chicago

shall tell how I made such a speaker which gives very good results, bringing out the low tones beautifully yet not losing any of the high ones.

This speaker has one advantage over any of them I have seen described in the magazines, namely, it does not require the soldering of a wire to the diaphragm of your unit. Therefore you can still use the unit again with a horn if desired.

Procure two pieces of 1/8-inch card-

## HOMEMADE CONE TALKER DETAILS



board 12 inches square. Trace a 10-inch circle on these as shown in the diagram and cut them out with a sharp penknife or with a safety razor blade. Next cut the outside as shown. The paper cone can be made from a good grade of wall paper, and if good taste is used in selecting this, one can make a very beautiful speaker. A border paper with a small design will give a neat appearance when it is pleated and the ends are carefully glued together.

A strip 33 inches long and 5 1/2 inches wide is required. Lay this on a table and, with a pencil and ruler, draw lines across it every half inch for its entire length. If a blunt pencil is used and you bear rather heavily on it when making the lines, it will make the paper easy to bend. Forming the pleats then will not prove such a task. The lines should, of course, be drawn on the back side of the paper.

After cone is pleated, hold the pleats together at one side with one hand and

flatten out in a circle. Cut enough off one end so it will lap enough to glue and still be slightly cone shaped when flattened out with the outside edge stretched tight. Cover one side of both cardboards with glue, lay the cone over the hole in one of them and place the other over the cone. Press this frame together and secure tightly until dry. A cone shaped piece of cork is then glued in the center of the cone and a good stiff toothpick is stuck in the cork and glued firmly.

The speaker is mounted on a base as shown and a support is arranged for the unit. The unit should be so placed that the toothpick rests exactly in the center of the diaphragm. A small wire can be stretched across the back of the unit from one side of the speaker frame to the other in order to give tension so that the toothpick will not rattle on the diaphragm. The unit can be easily removed for use on the horn when wanted yet is available for this speaker also.—Byrl Stoll, Buffalo, Kansas.

ure 3 is that of Mr. Thatcher who opposes the undesirable capacity feedback from plate to grid by means of a voltage out of phase with it, created in an extra 30-turn coil and connected to the grid by a small condenser of approximately the same capacity as that from plate to grid within the tube. Figure 6 is one of Gurney's methods of creating bridges around the tube and getting a voltage out of phase with that in the grid circuit but bringing it in at the low potential end of the grid circuit. Either way is good, as are several other now being brought to the attention of fans. Considering the results from the standpoint of volume and range on the average set as 100 per cent with a selectivity of 50 per cent what it should be, by loosening couplings and at the same time increasing tube efficiency, we keep the 100 per cent volume and volume and bring up the selectivity to about 80 per cent what it will eventually be.

### Losses in Their Proper Places

Losses, whether from dielectric, metal in fields or pure resistance, should be avoided; no one questions that. Consider now figure 5. Connecting bypass condensers from the return end of plate inductances to the negative filament circuit enables the radio frequency component of the energy in the plate circuits to get back to the filaments and avoid the comparatively high resistance of the A and E batteries. Without neutralization or compensation, some sets require this and other high resistances or losses to stabilize them. The selectivity cannot be brought up without radically changing the set.

Summing up five tube sets then, it may be said: Loosen the coupling in the antenna circuit either permanently or by some flexible arrangement that permits it when necessary; loosen the coupling in the connecting transformer; eliminate losses in every way possible, and insert bypass condensers wherever they will get radio frequency current past resistance.

(While there are not quite so many super-heterodynes, due to their cost and size, Mr. Ryan will discuss that set next in his suggestions for the improvement of selectivity.—Editor's Note.)

## OBTAINING SELECTIVITY

(Continued from page 19)

for the coil being there) and the coil must be larger. If, on the other hand, we wind the turns closer it is claimed that the radio frequency energy jumps from turn to turn, through what is known as dis-

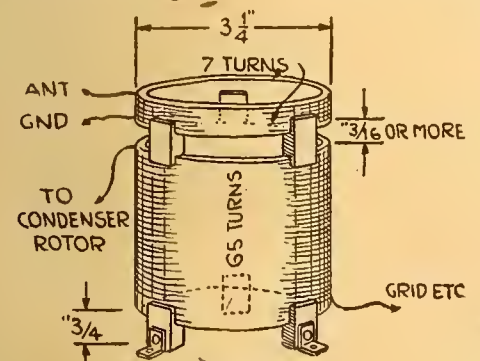


Figure 7

tributed capacity, instead of going round and round.

Again, a compromise must be reached. The type of coil construction shown by Mr. Skeeters of Nicaragua in the August 15 issue of Radio Digest looks rather good to the writer, and is shown here as figure 7. As shown it would be used in either figure 4 or figure 5. With the 7-turn primary removed, the 65 turns (or whatever number was suitable for your condenser) would be excellent for use in figure 6 which, by the way, is one of Milo Gurney's bridge hook-ups.

If 80 turns were used instead of 65, this could be used for the circuit of figure 3. The circuit of figure 3 is not desirable for 5 tube sets, however. It is the hook-up for a single stage of radio frequency amplification as designed by Mr. Thatcher and shown in the Radio Digest of August 15. So much for the antenna coupling; we can now proceed to other parts of the set.

### Variable Coupling

It would be very nice if we could vary the coupling between stages on the other two couplers or transformers. We have three tuning condensers already, however, and also either variable coupling between antenna primary and secondary or the switching arrangement shown in figure 6. Controls are getting too numerous. Such construction is beyond the average fan, however, and many an engineer for that matter.

We naturally want as much coupling between stages as possible for maximum transfer of energy from tube to tube, but this cannot be increased beyond a certain point without neutralization or compensation. If the coupling is made too tight and the turns in the primaries of the interstage couplers increased too far, we run into oscillation of the set on the lower wave lengths. An explanation of why this happens on lower wave lengths would occupy too much space for this article. Accept it as fact or by your own experience.

It would be desirable to have the ratio between turns of primary and secondary as low as three to one. But in actual practice this ratio cannot be lowered much less than eight or seven to one.

### Oscillation Prevention

The tendency to oscillation and instability on lower wave lengths has been tackled by one manufacturer as shown in figure 4. This tendency can be controlled by reducing the voltage from the B batteries as applied to the plates of the radio frequency tubes. A potentiometer used as a series resistance can be connected in the common B return of the first two tubes or, as shown, two 400-potentiometers can be put in the plate circuits.

In the writer's opinion this method has certain disadvantages that sooner or later will be solved in a different way. For instance, if the plate energy is cut down by increasing the resistance, there will be less voltage variation applied to the grid of the succeeding tube at low wave lengths, even though these circuits are

kept just below oscillation—the recognized point of highest efficiency.

It was stated above that loosening of coupling lowered the amount of energy passed. Therefore, to offset this we should increase the amplification per tube to the maximum. The writer has seen several methods of doing this suggested in Radio Digest, two of which are shown here. Fig-

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# Questions and Answers

### Resistance Coupled Audio Super (14186), PLG, Eldorado, Ark.

I would be glad to have you show a diagram of the Haynes Griffin Super-heterodyne using a Daven three stage resistance coupled amplifier for audio making nine tubes in all. I have always wanted a receiver of this type and have the necessary parts to build it but lack the diagram.

A.—We do not have the diagram of the Haynes Griffin Super. We suggest that you write to the Haynes Griffin Radio Service for the complete plans on the construction of their receiver and to the Daven Resistor company of Newark. This latter concern is probably the foremost manufacturer of resistance coupled amplifiers and they will be glad to send you literature showing the wiring diagrams of such units. If, when you receive these two sets of material, you are unable to combine the two diagrams, send them to the writer and we will be glad to do this for you.

### Phonograph Receiver

(14192) ASE, Houston, Tex.

I desire a non-radiating set, three or four tubes to go behind a panel 13" wide by 15" high. Want one without body capacity and able to cut out the 500-watt local station KPRC, as they broadcast every night except Friday.

A.—Since you advise that four tubes is preferable and the panel size is to be 13" by 15", we wish to call your attention to the receiver with which Mr. Milo Gurney concluded his series of articles in the issues of July 4, 11 and 18. To eliminate your local station you can construct a wave trap as described on page 22 of the July 25 issue. Much as we would like to we cannot spare the time to make complete panel and shelf layouts for your individual case, but there should be little trouble in combining the receiver referred to and the wave trap in a panel the size you are going to use.

### Power Hum

(14191) EOH, Reedsburg, Wis.

One hundred feet away at right angle to the antenna is a 2300 volt transmission line. To it I attribute most of my trouble, there is a constant humming noise, much like one hears from a bunch of phone lines. The antenna is about 75 feet long, the lead-in is No. 14 insulated wire 35 feet long. Antenna is suspended on a mast 5 feet above the house chimney and a mast 10 feet above the garage roof. For a ground I use an old antenna wire which runs along the base board to the back of the house where it connects on to the pump which is a driven well.

I use a 6 volt storage battery and two new Eveready 45 volt B batteries on a Radiodyne, Jr. five tube set. I am doubtful about the right way to connect one of the B plus wires. It is on the 16½ volt post next to the negative 90.

A.—Relative to the difficulty from the transmission line, we strongly recommend the installation of the Kane antenna advertised in our columns. This antenna is no better for the reception of signals alone than a straight wire but if properly installed it has the advantage of not picking up power line hum. That is, of course, under normal conditions when there are no broken insulators in the line or transformer trouble. As to the B battery connections, we presume that on the set there are five blinding posts, the negative A, the plus A, the negative B, the plus B for detector and the plus B for amplifier. The two 45 volt batteries should be connected in series, that is, the plus 45 on one should be connected to the negative on the other. To this connecting wire a lead should be connected from the positive detector blinding post on the set. This is presuming you are using 201-A tubes all the way through including the detector. The remaining negative connection on your B battery should connect to the negative B terminal on the set and the remaining positive terminal on the battery should be attached to the positive B90 on the receiver. If you are using a 200 tube, the wire from the jumper between batteries running to the set, should be taken from the jumper and connected to the plus 22½ post on the first mentioned B unit; the same one to which the negative B wire comes from the set.

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7 S. LaSalle St. Chicago, Ill.

### One Makes Underground Antenna According to Data Given

**SUITABLE Antennas,"** written by E. T. Jones, for Radio Digest, has demonstrated its worth. Many readers found the underground antenna not satisfactory—but nearly every one of the complaints came as a result of not following the directions as given by Mr. Jones. To prove that underground antennas will do the work, the following unsolicited testimonial from one user is published herewith:

"You certainly deserve thanks for the article on 'Suitable Antennas,' by E. T. Jones, on page 19 of your March 28, 1925, number. I clipped it on account of the notes on 'Underground Antennas,' and tried it out during my vacation up in Quebec. This is the third year that I have used a set up there, and it certainly was a relief to get rid of practically all of the static. The only part of the atmospherics that got through were the flashes of lightning in the immediate vicinity.

"In 1923 and 1924, and a few days this year, I used for a ground, a nail driven into a big root of a live pine tree about 20 ft. from the receiving set. It is interesting to note that I could scarcely tell the difference between a tree root and the lake for grounding, both in dial settings and oscillation points. I used a bright, new nail each year.

"Here is the way I built my underground antenna:

"Rubber insulated No. 14 wire; sealed end; buried 10"; 105 ft. buried; 5 ft. to set was not sheathed in lead; soil very sandy; 50 ft. between tree roots; 55 ft. in the open field; ground wire was bare No. 14 buried 4", running past tree roots all of 125 ft. to lake; nail driven in tree root was just as good for ground. Aerial and ground wires in a line directed at Chicago. Location was 40 miles north of Ottawa, Canada. At point less than 800 ft. to one side, the compass points straight down.

"My log reads as follows: July 22, WRNY, WGCP, WMBB, WCSH, WBCN, WEAN, WAFD, WHAD, KFUD, WFAF, WOC, WLW, CNRO, WHT (on 400 meters); July 27, KDKA, WCX, WCAE, WTAM; July 28, WGY, WBZ, WPG, WEAR, and each night new ones. The set is a Westinghouse RC using three C-12 dry cell tubes. Has fixed B voltage of 45 volts. Results as to distance about same as with 125 foot aerial strung 20 feet in air.

Weather: Rain and thunderstorms every day. The only static to get through to bother was the flashes of lightning in the immediate vicinity. Could not hear ordinary static, if it was present. Several storms occurred during above log."—H. G. Peebles, 5229 Maplewood Ave., Detroit, Mich.

### Interference

(14238) GMG, Marquette, Mich.

The receiver tunes sharp enough to separate stations entirely only a few meters apart. At present I have no trouble in tuning out WSAI on 325 and bringing in KOA on 323 meters without hearing a sound from the other. That is, I could do it about six months ago. Since that time I have heard KOA only once or twice. I can pick up their carrier wave, but am unable to hear anything else, which is the case with all stations with exception of five or six superpower and close stations.

There is some kind of local interference here that seems to kill the modulation on carrier waves. If one brings the set up to the oscillation or squealing point, or rather just below that point, there is some energy that causes it to go over that point at regular intervals of about two per second a sort of wow—wow—wow—wow. If it is turned a little higher so there is a continuous squeal, it changes tone at the same intervals, the tone running up, then down, up and down.

I can also hear the ripple of a generator commutator through it all the time, which can be made so loud it can be heard across the street. I thought perhaps it came from our light and power plant, which is located about three miles from town, but from what I have learned since, I am at a loss to even make a guess at the cause. Last evening I took my outfit in my car and drove out to a friend's house twenty miles from town and got the same interference—the up-and-down wave of energy and the generator ripple. Inasmuch as I

went in the opposite direction from the power plant, I was nearly twenty-five miles from it, with no electric wires running in that direction at all.

A friend tells me he has been bothered the same way and that he took his outfit, a DeForest reflex, out to camp at Little Lake, about 35 miles away from here, and almost in the same direction, and that he got the same interference there.

The city owns the electric plant which consists of three units run by water power. In addition a large corporation here also owns a large power station on the same river. I presume this interference comes from one of them. I did not

imagine interference would travel such a distance, however. Have you ever heard of anything similar, and do you know how one should go about it to have it cleared up?

A.—We beg to advise that at this particular time of the year distance reception is extremely limited even with the best of sets. KOA at times comes in fairly well but most generally poor. Atmospherics throughout the Rockies at this time of the year are extremely bad, although reception is improved greatly over one month ago.

In connection with the extraneous noise you mention it is possible that its source can be traced to power company plants. Are you sure that there are no "precipitators" used by any of the large ore companies in your immediate section of the country or any cement plants that may be working in or about your city? These two plants usually have equipment of this nature and they are a nuisance unless steps are taken to overcome it.

It is suggested that you place your set in a car and, using a loop, get the full strength of this extraneous signal. When you have secured it, drive in the direction of it and tune in again. If the signal strength has increased you are on the right path; if not, go back to the starting point and go in the opposite direction. Using this method you can trace it to the source. It is possible that this extraneous noise emanates from a plant in an adjoining town, is impressed on electric wires and is carried throughout the country. The writer had experience with a noise of this nature and found it back in the mountains sixty miles from the town in which it was heard. If you believe that you have it located, ask the engineer of the plant to close down the "precipitator" or other electrical equipment for a few seconds and, if the noise stops, you know that you have found the trouble. Write us concerning the type of machinery that is used and we will furnish you with data as to how you may overcome it.

The wave length to which a circuit will be in resonance is higher when the plates of a variable condenser are more in mesh. As they are turned out from the stator plates the wave length of the circuit is reduced.

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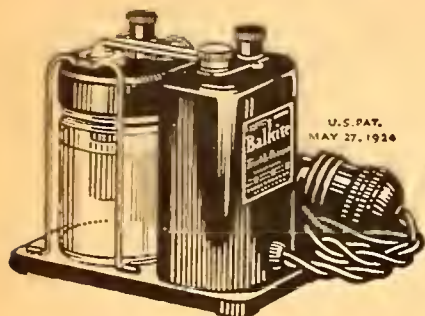
Set your Radio Dial at 210 meters for the new 1000 watt World Storage Battery Station, WSRB, Chicago. Watch for announcements.







# Announcing the Balkite Trickle Charger at \$10 and the new Balkite "B" at \$35



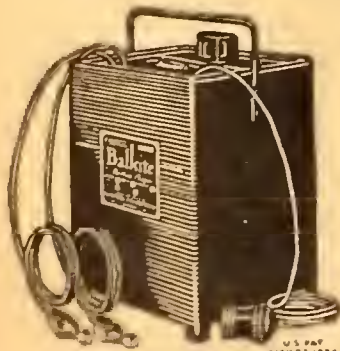
**Balkite Trickle Charger**

Charges both 4 and 6 volt radio "A" batteries at about .5 amperes. Usable in 3 ways: (1) As a regular charger with a low capacity storage battery for sets now using dry cells. (2) With storage battery sets of few tubes. Furnishes more current than used by 6 dry cell or 2 storage battery tubes, so that if used during operation it need be used at no other time. (3) As a "trickle" or continuous charger with any 4 or 6 volt "A" battery sets of as many as 8 storage battery or dry cell tubes. Size 5 1/2 in. long, 2 3/4 in. wide, 5 in. high. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

Low capacity batteries especially adapted for use with this charger with sets now using dry cells are being offered by practically all leading battery manufacturers this fall.

Reputable manufacturers are also offering this fall for use with this charger special switches which turn on Balkite "B" and turn off the charger when you turn on your set. This makes the current supply for both "A" and "B" circuits automatic in operation.

Price \$10  
West of Rockies, \$10.50  
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**Balkite Battery Charger**

This popular battery charger can be used while the radio set is in operation. If your battery should be low you merely turn on the charger and operate the set. Charging rate 2.5 amperes. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles. Also for 25-40 cycles with 1.5 ampere charging rate.

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The advantages of the popular Balkite Battery Charger are obvious. It is entirely noiseless and can be used while the set is in operation. Balkite "B" II is also well known. It replaces "B" batteries entirely and supplies plate current from the light socket. It was the outstanding development in radio last year.

We now announce the Balkite Trickle Charger at \$10. This low-rate charger is especially adapted to use with sets of relatively low "A" current requirements—any dry cell set and storage battery sets having a small number of tubes. Owners of dry cell sets can now make a very compact and economical installation with a Balkite Trickle Charger and a low capacity storage battery of the type being offered by leading battery manufacturers this fall.

We also announce at this time the new Balkite "B" at \$35. This new model is specially designed to serve sets of six tubes and less. It fits in your present "B" battery compartment.

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All Balkite Radio Power Units are based on the same principle. All are entirely noiseless in operation. They have no moving parts, no bulbs, and nothing to adjust, break or get out of order. They cannot deteriorate through use or disuse—each is a permanent piece of equipment with nothing to wear out or replace. They require no other attention than the infrequent addition of water. They do not interfere with your set or your neighbor's. Their current consumption is remarkably low. They require no changes or additions to your set.

An "A" battery, a Balkite Charger and a Balkite "B" constitute a complete, trouble-free radio power equipment, one that is economical, unailing in operation, and eliminates the possibility of run-down batteries. At your dealer's.

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# FANSTEEL Balkite Radio Power Units



U.S. PAT.  
MAY 27, 1924

**Balkite "B"**

Eliminates "B" batteries. Supplies plate current from the light socket. Operates with either storage battery or dry cell tubes. Keeps "B" circuit always operating at maximum efficiency, for with its use the plate current supply is never low. Requires no changes or additions to your set. No bulbs—nothing to replace. Requires no attention other than adding water twice a year.

A new model, designed to serve sets requiring not more than 20 milliamperes at 90 volts—practically all sets of 5 tubes or less, and most 6 tube sets. Size 8 1/4 in. long, 8 in. high, 3 1/4 in. wide. Occupies about same space as 45 volt dry "B" battery. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

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U.S. PAT.  
MAY 27, 1924

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