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Announcement of $1,000 Gold Set Contest Winners; Helps for Beginners; How to Select or Wind the Proper Size Coil for any Variable Condenser

Radio Digest

EVERY WEEK **Illustrated PROGRAMS** TEN CENTS

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RADIO ARTISTS ORGANIZE

FIVE NEW STATIONS GET IN VICTOR LINK

THIRTEEN BROADCASTERS ARE NOW IN CHAIN

World Famous Artists Heard February 12 from WTIC, WEAR, WWJ, WCCO and WOC

NEW YORK.—With the addition of five more broadcasting stations to the chain of eight broadcasting the Victor artist presentations, the Radio audience which has been entertained by these world famous artists, previously estimated at 6,000,000, has been considerably enlarged.

WTIC, Hartford, Conn.; WEAR, Cleveland; WWJ, Detroit; WCCO, Minneapolis, and WOC, Davenport, are now in the chain, in addition to WEAF, New York; WJAR, Providence, R. I.; WEEI, Boston; WCAP, Washington; WDBH, Worcester, Mass.; WGR, Buffalo; WFI, Philadelphia, and WCAE, Pittsburgh.

FORM BODY TO IMPROVE BROADCASTS

Would Get Pay for Work

Plan to Investigate Radio's Injury to Theater and Phonograph—to Devise Remedy

NEW YORK.—The organization of the Radio Artists' Association of America is the newest factor in Radio broadcasting. What effect the new body will have on present broadcasting procedure is yet unknown.

Its aims, however, are to develop pro-

(Continued on page 2)

Left, Bernice Berwin, a new voice in the KGO Audio Players. She will be heard in the three-act comedy, "Clarence." Above, Fay Marble, captivating stage and screen star, who entered the field of broadcasting from WJZ. Right, Winnie Lightner, one of the stars appearing in George White's Scandals, and broadcasting from WEAF and KYW.

WSY Is Property of Alabama Polytechnic

Former Birmingham Station Goes to Auburn College

BIRMINGHAM, Ala. — The Alabama Polytechnic institute at Auburn will have one of the best equipped broadcasting stations in America under the terms of a gift just made by the Alabama Power company of this city.

President Martin of the power company has donated the company's broadcast transmitter, formerly known in the Radio world at WSY, to the Auburn college. For some time this station was operated in Birmingham by the power company. The outfit was built by the power company.

FAN THINKS HIS SET HAS ITS EYE ON HIM

CHICAGO. — Harry Pettingill of Kewanee, Ill., while tuning in on his Radio set on a recent Saturday afternoon, decided to make himself some coffee. The coffee started, he came back to the set and had just tuned in WQJ, when he was greeted from the loud speaker with, "Is the coffee hot, Harry?" spoken to Harry Giese by Jerry Sullivan at WQJ's weekly Saturday afternoon Kaffee Klatsch. Mr. Pettingill knew, however, that he was not the "Harry" referred to.

RADIO ARTISTS IN BODY

(Continued from page 1)

grams, to put Radio on a paying basis and to protect microphone artists. It will be national in scope.

Steps will be taken by the association to co-operate with the theatrical, phonograph and music publishing businesses. Charges that Radio has hurt any of these or other industries will be investigated by the artists' body. A spirit of helpful co-operation will prevail.

Membership in the organization is to be limited to those artists who have proven their ability beyond doubt. In order to become a member an artist must have appeared on the programs of at least two stations and have been accepted for a return engagement on at least one.

To Extend Branches Over Country

That the Radio Artists' Association of America may truly live up to its name, branch bodies are being formed in a number of principal cities. The organization work is proceeding rapidly it is said.

May Singhi Breen, Jimmy Clark, Nat Martin, Henryetta Turner, Kay Macrae and Elmer Grosso form the advisory committee of six which will guide the new association. All six are microphone artists of high repute in the metropolitan area.

The advisory committee has announced its selection of a board of executive directors consisting of Austin T. Rogers, well-known lecturer on industrial subjects, Harry A. Bruno, program director of WEBJ, and Richard R. Blythe, broadcasting dramatic critic, known on the air as "Blybrun." Don Short, newspaper and magazine writer, has been elected corresponding secretary.

Wish Ability to Be Recognized

A statement from the association states that it will work "to bring into proper consideration the efforts and ability of the Radio artists and to establish a definite position for broadcasting in the world of entertainment." The statement also declares that the association is not affiliated with any other Radio association or trade organization.

The Radio Artists' Association of America is very definite in its policy and purposes. Providing the policy is adherred to there need be no fear of lack of sincerity or that broadcasting will suffer as a result of the association. An excerpt from the announcement of the formation of the body follows:

"Charges that Radio is proving a menace to various industries, which have been made repeatedly since the inception of broadcasting, will be investigated and the amount of truth they contain ascertained. Steps will be taken to co-operate with the theatrical, phonograph and music publishing industries in overcoming the alleged difficulties which have arisen. The Radio Artists' Association of America does not intend to take an aggressive attitude toward these other lines of business, but rather to confer with their heads in order to make conditions favorable to all.

"Steps will be taken to find out and draw a definite conclusion as to whether Radio broadcasting can hurt the attendance at a really good show, or the sales of a good song or phonograph record."

ASKS NATIONS IN MEET TO TALK COPYRIGHTS

Spain Would Make International Law Protect Authors

WASHINGTON, D. C.—It is reported here that a conference will be held in Madrid in May under the direction of the directive committee of the Society of Authors of Spain to discuss the intellectual property in broadcasting. All societies of authors, editorial syndicates, editors, broadcasting companies, and Radio societies of Europe and America will be invited to send representatives to the meeting.

The subject to be discussed at the conference will be international protection of the rights of authors, composers, etc. It will decide to deny broadcasting of their works or to permit it for a consideration. The conference, after confirming these rights, will ask all nations adhering to the Convention of Berne to add articles to their legislation on intellectual property in conformity with the findings of the conference.

Radiophans Make Fund for Elimination of Interference

SIOUX FALLS, S. D.—Cooperation between Radiophans and a local newspaper for the larger enjoyment of program receiving is shown here in a joint enterprise being carried on by fans, dealers and the newspaper to eliminate local interference. The paper is collecting a fund to which the public is contributing money for the employment of a Radio expert to trace down all interference. The paper prints a daily coupon for making subscriptions.

NEWS NOTES FROM FOREIGN LANDS

The first amateur Radio-photo fan has been discovered in England. Located at Burton-on-Trent, he has been assigned the experimental license 6PQ to transmit and receive photographs by Radio.

* *

Cardinal Gasparri, on behalf of His Holiness the Pope, has expressed great appreciation of the gift of a special broadcast receiver now in use in the Vatican. The set will receive all of the principal European stations.

* *

Station 5SC, Glasgow, claims British honors for 1924 in that it was the first to give a whole Greek play, first to give a play by children, first to broadcast educational talks for school children and first to give a complete act of opera.

* *

Curacao, Dutch West Indies, reports that American programs are well liked there. A number of United States broadcasters are received easily.

* *

Using a 100-watt transmitter, Gerald Marcuz of London, England, has succeeded in communicating with the Hamilton Rice expedition now on the Amazon in South America. The expedition also has a 100-watt set.

* *

Erin is having its first Radio exposition from February 23 to 28, inclusive, in Dublin. The Irish Free State is soon to have its own broadcasting station.

* *

A site near Dorchester, England, has been chosen provisionally for the first of the British "beam" Radio stations. This plant will act as a terminal for similar stations in Australia, Canada, South Africa and India.

* *

Yunnanfou, Indo-China, is now connected with Saigon by means of the new 50-kilowatt, 10,000-meter Radio telegraph station erected at the former place.

* *

A Southampton, England, listener has heard the strokes of Big Ben consecutively through seven stations of the British Broadcasting company. This was accomplished by tuning in successive strokes through a different station.

Hay, Ford and Glenn Visit WFAA for Week

WLS Stars Conduct Dallas News Programs as Guests

DALLAS, Tex.—George D. Hay, world's champion Radio announcer, of WLS, Chicago, and two of his stellar artists, Ford Rush and Glenn Rowell, have been conducting every program from WFAA here this week since Monday. Their last program will be given Saturday night, February 28.

The Dallas News and Journal station, of which L. B. Henson is director, invited the famous trio down south as its guests. The three will leave here for Kansas City where they will be present and heard over WDAF Monday, March 2. Mr. Hay will stay all week in Kansas City for the Radio-electric show being held there from March 2 to 7. The "Hired Hand," Lambdin Kay, W. G. "Bill" Hay, and Gene Rouse, will also be guest announcers at WDAF during the show.

Chicago Fan Has Reverse English on His Reception

WASHINGTON, D. C.—An interesting communication has been received by the Radio section of the department of commerce from a Chicago fan who claims his reception is far better during daylight than at night. During the evening he says that the reception is harsh and gratey and during the daytime it is clear. Officials here have not given any reason for this reversed situation.

CONTENTS

Radio Digest, Illustrated, Volume XII, Number 8, published Chicago, Illinois, February 28, 1925. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Foreign Postage One Dollar additional; single copies Ten Cents. Entered as second class matter at the postoffice at Chicago, Illinois, under the Act of March 3, 1879.

All the Live News of Radio ..... 1 to 8
WDAF Nighthawks and the "Merry Old Chief" 5
An Evening at Home with the Listener In, a Popular Chart Showing When to Listen in for Your Favorite Station 8
Advance Programs for the Week at All the Larger Stations ..... 9 to 14
Inductance and Capacity, by David B. Arnold 15
Editorial; Indi-gest; Condensed by Dielectric 16
Hetduogen Builders Getting Splendid Results, a Consensus of Opinion from Radiophans 17
Broadcast Listener's Library, Part IV—Tuning Your Regenerative Receiver, by E. T. Jones 19
Bed Table Supports Set for Invalid, by William Schubert 21
Questions and Answers 22
Radiophone Broadcasting Stations, Part V 23

Looking Ahead

The Last Word in Radio Receivers will be described by Jacques Fournier beginning in the next issue. The principle of the super-heterodyne is perfect but its application with one filter and three iron-core intermediates does not usually give sufficient selectivity. A "super" containing four filters, all tuned, and provided with a single push pull audio stage has been developed by Mr. Fournier. Loop regeneration is another important feature included.

WFAA, the Dallas News and Journal, may be far, far away from many Radiophans, but its signals always come in strong. Want to see pictures of the Texas station and its staff and learn more about both? See the next issue of Radio Digest.

Radio Frequency Amplification Is Explained by Edward T. Jones in his next article. There are many methods of utilizing this amplification and Mr. Jones goes into the advantages of each with some suggestions as to construction.

Grebe Synchrophase Is Easy to Operate, although it is a five tube tuned Radio frequency outfit. This set will be taken up next in our "Operating and Trouble Shooting" series. Binocular coils and straight line frequency condensers are incorporated units that make for pleasant operation and selectivity.

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ANNOUNCE WINNERS OF AWARD CONTEST

$1,000 IN GOLD SENT TO WINNERS OF PRIZES

C. C. Sheldon of La Verne, California, Declared First Prize Winner—University Professor Second

The first prize winner in Radio Digest's $1,000 Gold Award Set Contest is C. C. Sheldon of LaVerne, Calif. From among the scores of entrants the judges decided that his receiver contained ideas as to circuit construction which were a greater advance in Radio than were to be found in any other.

Radiophans will undoubtedly await with interest the description of the first prize receiver and other winners in future issues of Radio Digest. The set winning first place will soon be described in detail. Watch for it!

Mr. Sheldon's receiver contains five tubes and makes use of Weagant regeneration both in the detector and in one of the Radio frequency stages. It is so constructed that the throw of a switch enables him to use either three or five tubes and the receiver may be tuned with three tubes to a distant station and then five tubes brought into play for increased volume or, if five tubes are found to be too much for local reception, the switch may be thrown to the other position and three tubes utilized.

Novel Super-Het Second

The winner of second prize is A. Christen, Dr., Sc., who is Professor of Physics, Laval university, Quebec, Canada. Considerable experimental work is shown in his method of combining the oscillator with the first detector in a super-heterodyne and providing a tuned Radio frequency stage ahead of the double duty tube.

Third prize is awarded to P. Edelman, 231 East Garfield avenue, Chicago. His receiver is a tuned Radio frequency set employing tapped primaries for control of oscillation at different wave lengths, regeneration in one of the Radio frequency stages and reflexing.

Re-Radiation Preventer Fourth

A tuned Radio frequency unit, for use ahead of any single circuit set, and designed by Joseph A. Thatcher and Joseph B. Parsons, of Toronto Radio Research Society, Inc., Toronto, Canada, is awarded fourth prize, for when this unit is used with such a set, one is adding an extremely selective and efficient stage of Radio frequency amplification.

W. C. Torrence of Waco, Texas, is given fifth prize for a combination of tuned Radio frequency, regenerative detector and reflexing on three tubes. This receiver was slightly damaged in transit but even under this handicap proved an exceptional distance getter.

Combination Circuits Popular

To Mr. Joseph B. Harms, of Plainfield, N. J., goes the sixth prize for another combination of tuned Radio frequency, regeneration and reflexing. Excellent selectivity was obtained because of the loose coupling between the spider web coils which made up the antenna coupler.

A three tube regenerative super-heterodye which was, of course, reflexed, won seventh prize for E. M. Sargent, Oakland, Calif. In the opinion of the judges this receiver has not been worked out to its full possibilities but showed some excellent ideas and was fairly easy to control.

Harl Stogsdill, Bloomington, Ind., is awarded eighth prize for a regenerative reflex in which the oscillations are controlled by an absorption circuit. The absorption circuit consists of a 50-turn coil tuned by a three-plate condenser.

The Potentiodyne is the name given by its owner, Alan Murray of Brooklyn, N. Y., to a tuned Radio frequency, regenerative reflex which won the ninth prize. The unusual feature of this set, and which is responsible for its name, is an absorption circuit which includes a 400-ohm resistance coupled to the air core transformers between the tubes and by which the oscillations are kept under control at all wave lengths.

Friday, February 13, wasn't such an unluckly day for the nine winners, as they were notified by wire on that day as to the decision of the judges.

So the contest ends. The judges are through with their work, but the set builders remain to do the final and more important judging. Watch for the early issues of Radio Digest, which will give complete details for building the first prize winner and other prize sets.

Communicates with South Africa

LONDON, England.—Another big step has been achieved by Signor Marconi towards the perfecting of the British Empire's Radio communications. He has now proved their success by the receipt in South Africa of messages sent by short wave Radio from the Prince of Wales.

SOUTH AFRICA RELAYS PITTSBURGH

Broadcasting a special program was accomplished recently to South Africa from Pittsburgh. Among the features on the program was a playlet in which several KDKA "stars" participated. The artists in this playlet are, from left to right, Raymond Griffin, Mabel King, Irma Carpenter, Roy Strayer and Earl Mitchell. This program was rebroadcast by Station JB, in Johannesburgh.

KDKA REBROADCAST BY SOUTH AFRICANS

JOHANNESBURGH PICKS UP PITTSBURGH PROGRAM

Radio Relay Spans 8,500-Mile Distance When Station JB in Africa Repeats Broadcast

PITTSBURGH.—On February 19, Station KDKA, Westinghouse station here, established a new mark of achievement when it broadcast the first program directed to and prepared especially for listeners in South Africa where it was rebroadcast by JB, Johannesburgh station.

The feat with Station JB inaugurated an 8,500-mile Radio repeating tie-up, a distance equal to one-third the circumference of the entire globe.

Broadcasting was started from KDKA at 5:00 p. m. Eastern time. However, the South Africans were listening in at midnight their time. There is a difference in time of seven hours between Pittsburgh and Johannesburgh.

Cables Tell of Success

All South Africa was listening in the night of the special broadcast. Owners of sets in all parts of the Transvaal in East, South and West Africa tuned in for KDKA's signals in the epoch-making test, Many cablegrams were received telling of success in reception.

In speaking of the broadcast Vice-President H. P. Davis of the Westinghouse company said, "The fact that our signals are reaching South Africa consistently must not be attributed to a Radio freak but is the natural outcome of the improved efficiency of Station KDKA. In recent months, KDKA's transmitting apparatus has been moved from its former site in the Westinghouse factory to an isolated position on a hill about a mile distant from East Pittsburgh. In this position, the signals are not shielded by any iron or steel framework, such as are in buildings, and an improvement in distance work has been noted.

"The South African broadcast is an indication to the world that we are not far distant from international broadcasting."

2LO Adds to Power; Will Have Three KW.

Moves Transmitter to New Store of Selfridge

LONDON, England.—Preparations are in hand to double the power of the London station, 2LO, and the transmitter is being moved from Marconi house to the new building of Selfridge's department store in the west end, the roof of which provides a suitable location for the new aerial.

Insurmountable difficulties were almost everywhere encountered by the British Broadcasting company in its search for a new location for 2LO. The new aerial will be about a mile way from the studios at Marconi house, so it has been considered advisable to raise the power from 1½ to 3 kilowatts to make sure that reception in South London shall not suffer. Whether or not three kilowatts will be maintained will depend on many points, but it is certain that the new 2LO will make itself heard better than its old former self.

The latest contribution of Radio to marine life saving was installed recently on a British ship. All the lifeboats of this ship are equipped with Marconi direction finding apparatus.

KFI AND WOC WON'T DO THIS AGAIN SOON

LOS ANGELES.—A. F. Conradt of Wallace, Idaho, reported a new and unusual freak when he tuned in KFI and WOC recently, both broadcasting the same piece of dance music simultaneously to the same rythm. Checking the phenomenon with a metronome, he thought it was a rebroadcast, but later found that the arrangements of the two orchestras were slightly different. The chance of duplicating this freak is about one in a million "listen ins."

Titania's Phonograph Record Tricks Fans

Diminutive Star's "Wax" Voice Thought to Be Real

LOS ANGELES.—A novel stunt was afforded fans recently by KHJ during the dinner hour broadcast of the weekly visit of Queen Titania, the child movie and broadcast star.

Without letting the invisible audience in on the proceedings a portable phonograph recording machine was brought into the studio and a master record made of her evening's talk. At the conclusion of the reading the record on the machine was reversed and the talk again broadcast, this time through the needle, diaphragm and horn of the phonograph. It went out so realistically that many hearers, even after the whole matter had been explained fully, wrote in an accused Queen Titania of repeating her talk.

Quit Checkers for Radio

ENSLEY, Ala.—City firemen here have abandoned the checker board to while away the long weary hours between calls to fires and have adopted Radio instead. The Ensley Kiwanis club voted recently to purchase a Radio set for the city firemen.

EQUITY AND RADIO IN SHORT TRUCE

The Actors' Equity and Radio had a short truce recently when Jane Cowl (above) and several Equity officers appeared before the WJZ microphone to solicit funds to finish building the Cathedral of Saint John the Divine, New York city.

COOLIDGE ENDORSES LARGER RADIO FUND

$125,000.00 EXTRA MAY BE GIVEN DEPARTMENT

President Asks Congress to Allow Money to Take Care of Unforseen Demands

WASHINGTON, D. C.—An additional appropriation of $125,000 for the administration of the Radio law has been recommended to Congress by President Coolidge. In transmitting this recommendation the president includes a statement from the director of the budget reading as follows:

"This estimate is necessary to enable the department of commerce to meet rapidly increased and unforseen demands upon this appropriation. Not only are the uses of Radio receiving and broadcasting apparatus growing beyond all anticipations, but innumerable and unexpected problems in connection with their use are arising daily. Every receiving and broadcasting set is a possible source of demand upon the department for investigation.

"The past few weeks have brought in complaints and requests from the country that are far beyond the capacity of the department to handle with its present organization and equipment. These complaints and requests come from all sections of the country and each one is a separate problem requiring special personal inquiry, involving much travel and the transportation of instruments. The requirements arising from this most rapidly growing industry could not be fully anticipated at the time the budget for the fiscal year 1925 and 1926 were submitted."

SELL COLLIE PUP BY KFNF AUCTION

First Radio Auction Held to Raise Funds for Repairing of Parsonage

FORT WORTH, Texas.—The first dog ever sold by Radio auction arrived here recently. "Tired as a dog" from his long trip from Shenandoah, Iowa, the Scotch collie pup made friends with his new master, Police Commissioner Alderman.

A few weeks ago the fact that a parsonage in a little Iowa town needed refurnishing and repairs was broadcast to the world from Shenandoah. The speaker suggested that persons friendly to the cause send in articles of value which might be auctioned.

The first to respond was Henry Field of Shenandoah, Station KFNF, who donated the pup which has since been named "Radio." Bids were called for over KFNF and received by telegraph.

NEWSY BRIEFS AND CHITCHAT FROM THE STATIONS

New realms of musical appreciation will be conquered by the KGO Little Symphony orchestra beginning Tuesday, March 3, when a series of night concerts will be inaugurated. The works of Dvorak will be played by the orchestra directed by Carl W. Rhodehamel. Arthur S. Garbett, music interpreter, will show how he believes the "Merry Widow Waltz" might have been evolved from the works of Beethoven and Mendelssohn. Radiophans who believe that all modern song writers are divinely inspired with their tunes, might do well to tune in to KGO and learn that there is very little new under the sun.

* *

WGBS's rendition of "Cavalleria Rusticana," with full operatic cast, has met with such great favor that the New York Gimbel Brothers' station announces more operas to be broadcast soon.

* *

The Westinghouse Symphony orchestra, directed by Victor Saudek, is a welcome newcomer on the air and is broadcast from KDKA every Sunday afternoon from 2:30 to 4 p. m., eastern time.

* *

"Roxy" Rothafel, broadcasting from the Capitol theater every Sunday night over WEAF, is the same old announcer again. The censorship on Roxy's breezy style, said to have been instigated by the American Telephone and Telegraph company, owners of WEAF, was removed because of public indignation.

* *

School teachers in Massachusetts have adopted WEEI's Big Brother club to aid them in teaching their pupils to write better letters. "Bob" Emery, director of WEEI and formerly head of WGI, founded the Big Brother club, which has now become almost as much of an institution in the East as the Boy Scouts of America.

* *

Dr. S. Parkes Cadman, D. D., speaking through WEAF and WEEI on Sunday afternoon, February 15, gave a sermon on "The Lure of London."

* *

Mrs. Oliver Harriman, distinguished philanthropist and widow of the late railroad king, and Howard Chandler Christy, pre-eminent Americant artist, presented a Camp Fire Girls' program last Saturday evening over WOR, Newark. The occasion was the thirteenth birthday of the organization of the Camp Fire Girls.

* *

The Atwater Kent Radio artists have begun another weekly series of musicales from Stations WEAF, WEEI, WFI, WGR, WJAR and WCAE, broadcasting simultaneously.

* *

WRC, "The Voice of the Capitol," at Washington, has lost its leading announcer, C. F. Gannon, who is bidding adieu to his friends of the invisible audience to go to New York and become a stock broker.

* *

Efram Zimbalist, the famous violinist, made his ether debut over WGBS recently when that metropolitan station broadcast the music incidental to "Quo Vadis," motion picture now being shown at the Apollo theater, New York.

* *

WTAM, Willard station, and WEAR, Goodyear, at Cleveland are both now inter-connected in the cross country chain of stations broadcasting WEAF programs. The two Cleveland broadcasters are dividing time.

* *

CKY, Winnipeg, Canada, recently rebroadcast WABN, La Crosse, Wis., when the latter station was featuring a program given by the "Winnipeg Kiddies," a group of child entertainers from the Canadian city. Parents and friends of the children in Winnipeg, listening on crystal sets to the CKY rebroadcast, were highly pleased.

* *

When all other means failed to locate H. L. Hartenstein, traveling in Michigan when his wife died at home in Chicago, Dr. Preston Bradley interrupted his Sunday sermon over WQJ to ask his Radio congregation to help. Mr. Hartenstein was found as a result.

* *

Four of the world's greatest organists and an orchestra of seventy from the Philharmonic society of New York were heard recently through WGY, Schenectady; WRC, Washington, and WJZ, New York city.

* *

The Mark Strand theater orchestra will be heard now every Wednesday and Friday evening at 7 p. m., eastern time, broadcasting from WGY, Schenectady. Julius Boxhorn is conductor.

* *

Several Broadway stars have been heard on Station WHN's nightly broadcasts since the addition of the Club Wigwam and the Silver Slipper revues to Loew's State theater studio's regular programs. Lew Holtz, Harold Stern and Charles Mason may be heard every Monday night from 12 to 12:30 a. m., eastern time.

* *

Gene Ingraham's orchestra, heard numerous times over WOR, Newark, has made its debut over WEAF, New York, and will continue to be a semi-monthly Saturday afternoon feature there.

* *

WHA, University of Wisconsin at Madison, has given three of a series of eight weekly educational talks on "Food Problems in Home Making." The subject for next Monday, March 2, will be "What Are Satisfactory Meals?" The lectures begin at 7:45 p. m., central time.

* *

Meyer Davis orchestras are now broadcast from seven stations—WRC, WFI, WEAF, KDKA, WCAU, KTHS and WDAX. Two distinct Meyer Davis orchestras are broadcast by WRC. The head of the orchestra organization is highly sold on the value of Radio advertising.

* *

WLW, Crosley station at Cincinnati, is broadcasting time signals daily at 11:55 a. m., central time.

* *

"Footlight and Lamplight," the weekly book and play criticism broadcast by Oliver Sayler every Thursday at 8:30 p. m., eastern time, from WGBS, New York, is being reprinted in many of the larger daily newspapers throughout the country.

A Radio show recently held at Nampa, Idaho, had as one of its attractions a receiving set contest, in which prizes were awarded to the person owning the receiver which tuned in the clearest signals from the most distant station. The competition was arranged by the Woodmen of the World.

* *

Clara Kimball Young recently tuned in on the excellent set in "Roxy's" office in the Capitol theater, New York, to hear her father and mother broadcast from KHJ, Los Angeles.

* *

Eddie Burke, that grand old Irishman, who is the possessor of a set of bagpipes more than 200 years old, gave Radiophans a thrill from Station WEBJ, New York, when he played a number of Irish melodies.

* *

Since WOC has eliminated all the forenoon schedules they have added several new and instructional features to their afternoon programs. One of these is a "Home Management" talk by a member of the WOC personnel known to fans as "Aunt Jane."

A new record in Radio reception has been accomplished by a French amateur in Tonkin, China. He reported reception of the Eiffel Tower station, using a one tube set on a loop aerial.

'Chocolate Drop' Now Tickles WBAP Keys

Is Eleven-Year-Old Rival to the "King of the Ivories"

FORT WORTH, Texas.—Hired Hand, substitute announcer for WBAP, the Star-Telegram station here, made a find recently. It was "Little Jimmy" Moore, age 11, negro, who caresses a piano in a manner that would do the average concertist credit.

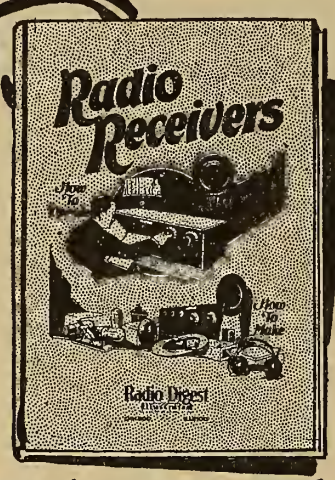
The boy, hardly tall enough to reach the pedals on the piano, has already furnished music for WBAP concerts and received messages of applause.

"Jefferson City, Mo., had its 'King of the Ivories,'" the Hired Hand says, "but WBAP now has its 'Chocolate Drop' for a mascot." Promises are made to the appreciative listeners that "Chocolate Drop" will be put on the air again soon. The little pickaninny has been playing "since he was knee high to a Texas grasshopper," but cannot tell one note from another, playing simply by ear.

KFI to Pilot Film Train

HOLLYWOOD, Calif.—Hollywood, home of the cinema, has started a Radio-directed movie caravan on a twelve-week tour throughout the eastern cities. KFI, Anthony's, at Los Angeles will keep the country informed of the progress of the silversheet stars' train, where to expect them, when they will arrive and what they will do at each stop.

The New Radio Book



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

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

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

Compiled by the technical staff of Radio Digest, it represents the high lights of the past twelve months in the Radio field. All this data is indexed for ready reference and logically arranged. Only a few thousand have been printed and this offer will stand for a limited time. The only book of its kind and is FREE with one year's subscription to Radio Digest.

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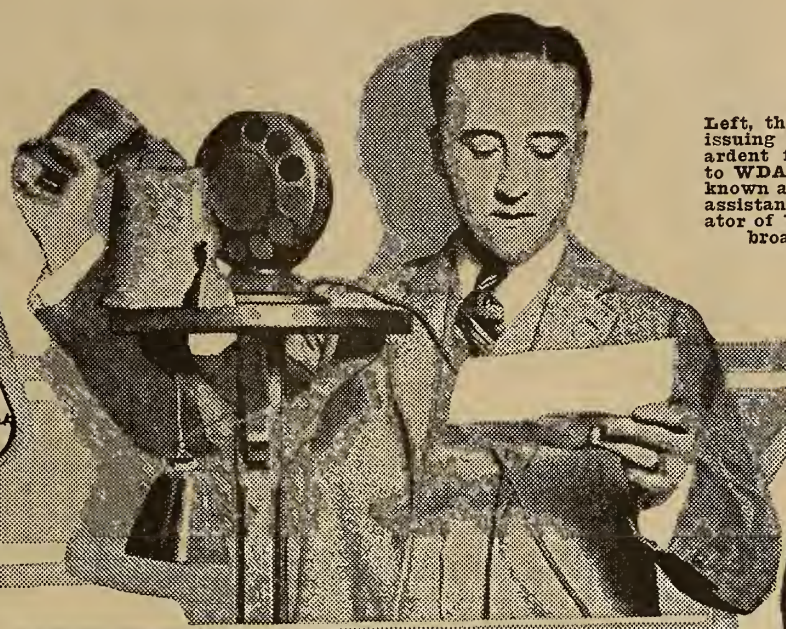
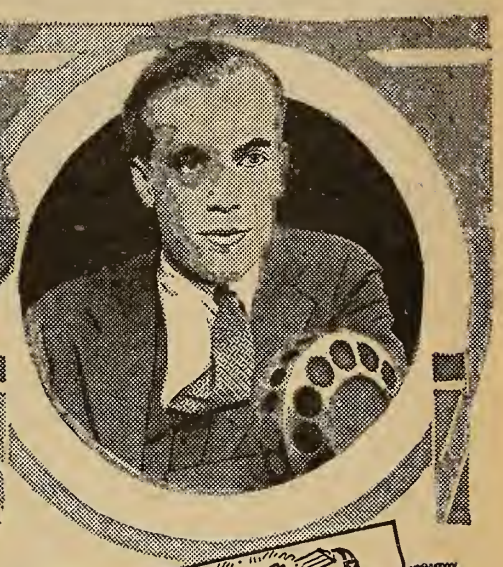
WDAF Nighthawks and the Merry Old Chief

More than 200,000 Nighthawk membership cards similar to the one pictured here have been issued by the "Merry Old Chief" to his constituents.



Left, the "Merry Old Chief," caught as he is issuing a Nighthawk charter to one of his ardent followers. Radiophans who listen in to WDAF, will hear the "chief," who is better known as Leo Fitzpatrick. Below, V. S. Batton, assistant announcer and remote control operator of WDAF, having charge of all programs broadcast outside of the Star's studio.



STATION WDAF, the Kansas City Star Nighthawks, just doing a little hawking, is a phrase familiar to Radio listeners all over the United States and other parts of the world. For when the "Merry Old Chief" starts to dispense his happiness and good cheer at 11:45 o'clock, fans invariably dial for Kansas City.

The "Merry Old Chief" is the most popular feature of the Nighthawk programs. His original style of announcing, his ready wit, his "million dollar" laugh and his unusual singing voice have endeared him to the hearts of many fans. Formerly a feature writer on the Star staff, Leo Fitzpatrick was made Radio editor upon the opening of Station WDAF. He won fifth place in the Radio Digest announcers' contest despite the fact that he had not been heard over Radio during the entire length of the contest.

There is hardly a listener in the country who does not know by heart the catching "signing off" words of the Nighthawks as they are repeated by the "Chief" each night, "WDAF, the Nighthawks, bidding good night to those on the Pacific coast, good morning to those on the Atlantic, goodbye to all until tomorrow night at 11:45 o'clock. Alright, Don, turn off the juice, crank the flivver, and let's go home."

Although WDAF is primarily noted for its Nighthawk frolic, it puts out other programs of exceptional merit and has introduced some very unique ideas in the Radio field.

The "School of the Air" program from 6 to 7 o'clock each night contains many entertaining and educational features for the whole family. It would be hard to say whether the "Tell-Me-a-Story Lady" or the Trianon Ensemble of the Hotel Muehlebach is the more popular feature of this program.

Mrs. J. Leon Coulter, the "Tell-Me-a-Story Lady," has entertained the kiddies nightly with her bedtime stories since March 4, 1924, and has instituted for them a "Laugh-in-Your-Dream" club. Any kiddie may become a member by doing a kind act. Grown-ups, as well as youngsters, enjoy her stories and are included in the membership of the club. Although the club is only two months old, there are already 5,000 members.

Other regular features of the "School of the Air" programs are the readings by Cecile Burton, weekly talks by representatives of the Meat Council of Greater Kansas City, Health Conservation association, children's bureau, C. H. Cheney, under the auspices of the American Bankers' association, a personal message from Roger W. Babson, statistical expert, and a book review by Louis Mecker of the literary department of the Star.

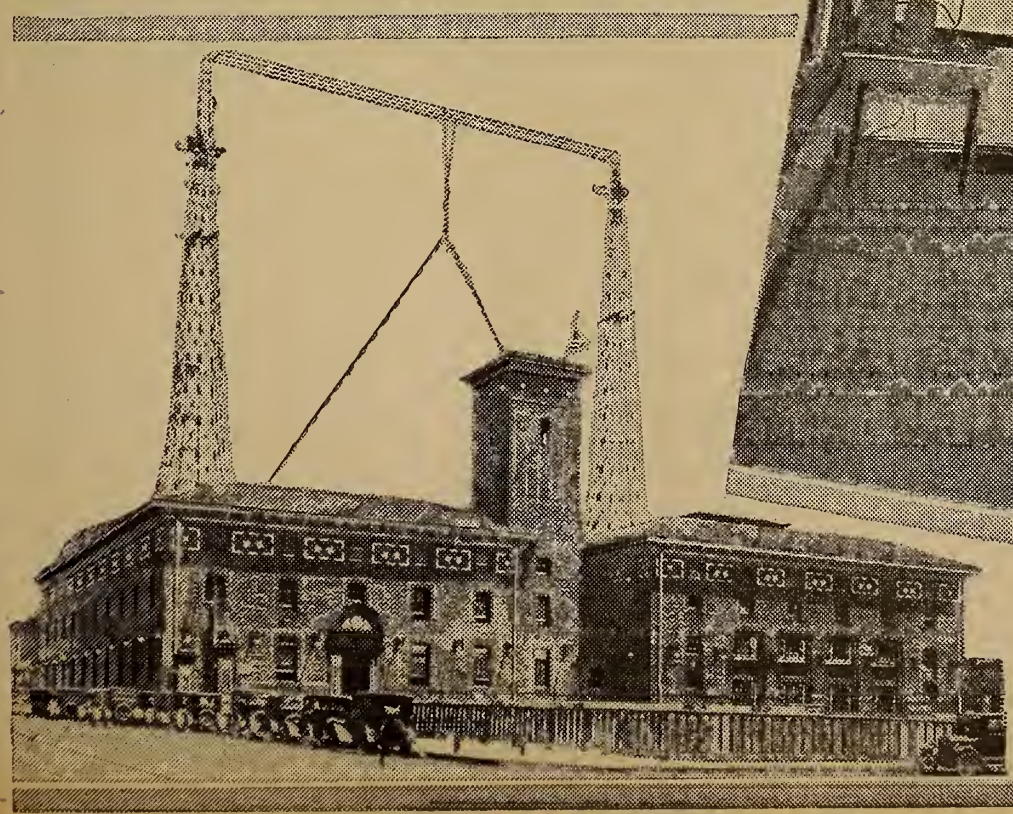
WDAF's popular musical programs on Monday and Friday nights are unsurpassed for variety. A popular feature of these programs is the flivver with its motor, horn, rattles, bumps, and everything. The "Merry Old Chief" is the driver and the listeners in are the passengers. The flivver takes imaginary trips around the town, transporting the Radio audience to various theaters and hotels where entertainment is furnished by orchestras, soloists and vaudeville artists.

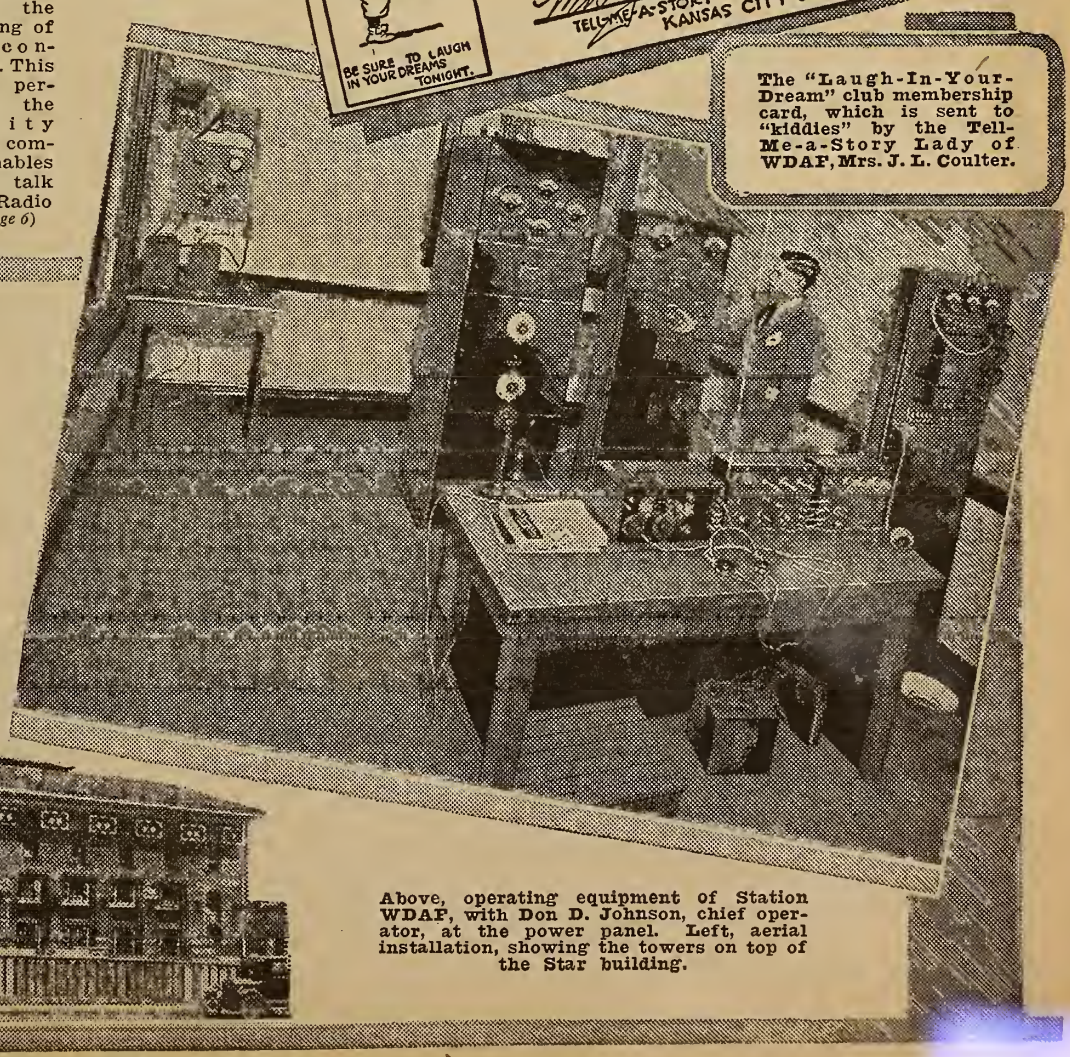
This remote control broadcasting involves an intricate system of special telephone lines. As many as eleven places may be connected with the Star's operating room in as many seconds.

WDAF is the institutor of one of the most unique and original ideas in the history of Radio in the broadcasting of telephone conversations. This system, perfected by the Kansas City Telephone company, enables anyone to talk over the Radio

(*Turn to page 6*)

The "Laugh-In-Your-Dream" club membership card, which is sent to "kiddies" by the Tell-Me-a-Story Lady of WDAF, Mrs. J. L. Coulter.





Above, operating equipment of Station WDAF, with Don D. Johnson, chief operator, at the power panel. Left, aerial installation, showing the towers on top of the Star building.

WCCO ONLY STATION TO RELAY AIRPLANE

ECLIPSE REBROADCAST IS GIVEN BIG ACCLAIM

New York Test Fails, but Minneapolis Succeeds—Plane Transmitter Made Up in Hurry

MINNEAPOLIS, Minn.—The story of the recent solar eclipse, as the Gold Medal station, Saint Paul-Minneapolis, WCCO, broadcast it by remote control from an airplane, was heard from Saskatchewan to Texas.

WCCO was the only station west of New York to try broadcasting from an airplane in connection with the eclipse, and, according to reports, it was the only station to carry it through successfully.

The broadcast was planned as rather a last minute affair. Weather reports early in the week indicated that people in the Middle West might be prevented from seeing the eclipse by clouds. The suggestion to send a plane up above the clouds and broadcast from it was made to Ray R. Sweet, chief engineer of WCCO. He called upon three of his operators, Hugh McCartney, Lyall Smith, and Howard Kelley, to assist him. The 109th Observation Squadron offered to provide a plane, and First Lieutenant G. M. Palmer volunteered to fly.

Use Rebuilt 5-Watt Transmitter

A 5-watt amateur transmitting set owned by Mr. McCartney was rebuilt so that it would fit into the fuselage of the plane. On it was installed an ordinary telephone mouthpiece with a hushaphone (a device to prevent extraneous noises from being picked up). A 100-foot trailing wire served as antenna and the stay-wires and all metal parts of the airplane as counterpoise.

A short wave, low loss, two tube receiving set built by Mr. Kelley was placed in WCCO's St. Paul studio.

At 7:30 on the morning of the eclipse, WCCO went on the air. The announcer described the experiment about to be attempted and asked that those who heard it send in reports to the station. The announcer talked until 7:37. Then the switch was made to the plane. Immediately the voice of McCartney, who was acting operator, came through clear as a bell. There was some interference from the airplane motor, but it was not enough to bother.

To a large part of the west, clouds had obscured the early part of the eclipse, but the plane flown by Lieutenant Palmer and carrying Mr. McCartney rose above the clouds where an excellent view of the phenomenon was obtained. Mr. McCartney described it in detail, as well as the flight they were making.

Station Changes

WCCO, the Gold Medal station of Minneapolis-St. Paul, plans to have the formal opening of its new 5,000-watt transmitter concurrent with the broadcasting March 4 of the inaugural address of President Coolidge. A special program will be given later in the evening from the new Nicollet hotel studios. Tests of the large transmitter will be made for some days prior to the opening.

* *

WOC, Davenport, has changed its silent night from Tuesday to Monday.

* *

WORD, at Batavia, Ill., with control studio in Chicago, has added an extra schedule on Tuesday evenings.

* *

KGO, General Electric station at Oakland, Calif., has had its recently assigned wave again changed. For a short time operating on 300 meters, KGO has now taken the wave length of 361 meters.

* *

The Portland Oregonian station, KGW, now has its silent night on Monday instead of Thursday as formerly was the case.

* *

KFMQ, Fayetteville, Ark., is now operating on 299.8 meters.

First American Diamond Is Given Girl Fan by KTHS

HOT SPRINGS, Ark. — Miss Louise Givens of Malvern, Ark., is the proud possessor of the first American mined diamond ever given away by a broadcasting station. She was recently awarded the diamond by Station KTHS, the New Arlington hotel, here.

The stone, which was sent to KTHS Director G. C. Arnoux by the business men of Nashville, Ark., was mined in America's only diamond mine, located eighteen miles from Nashville. It is an uncut stone weighing one and sixty-eight one-hundredths carats.

LEE SIMS SUCCEEDS HERB MINTZ AT KYW

Lee Sims

CHICAGO.—With Herbie Mintz' departure from KYW to go with the new local station, WHT, where he has accepted the role of musical director, W. J. Wetherbee, director of KYW, has superintended another "scoop" in signing up Lee Sims as a member of the Chicago Evening American-KYW staff.

An introduction of Lee Sims is not necessary. The Radio world recognizes him as the former studio director of Station WTAS, Elgin, Ill., and others recall him as having been an organist and pianist in various theaters throughout the United States. Today Lee Sims holds an enviable record in the music world as one of the best popular pianists. His playing has created many wonderful thrills to listeners in.

STANDARD FREQUENCY TRANSMISSION HOURS

Bureau of Standards Announce March and April Schedule

WASHINGTON.—The next transmissions of standard frequency signals by the bureau of standards will be held on March 5 and 20, and April 6 and 20. WWV at Washington, D. C., and 6XBM at Stanford university, California, as usual, will send out the signals.

The schedule of transmissions appears below. The figures not in parentheses below the dates indicate kilocycles frequency, while the figures in parentheses immediately below these refer to approximate equivalent wave lengths.

Time*	Mar.5*	Mar.20*	Apr.6	Apr.20**
10:00 to 10:08 p. m.	300	550	1500	3000
	(1000)	(545)	(200)	(100)
10:12 to 10:20 p. m.	315	630	1650	3300
	(952)	(476)	(182)	(91)
10:24 to 10:32 p. m.	345	730	1800	3600
	(869)	(411)	(167)	(83)
10:36 to 10:44 p. m.	375	850	2000	4000
	(800)	(353)	(150)	(75)
10:48 to 10:56 p. m.	425	980	2200	4400
	(705)	(306)	(136)	(68)
11:00 to 11:08 p. m.	500	1130	2450**	4900
	(600)	(265)	(122)	(61)
11:12 to 11:20 p. m.	600	1300	2700**	5400
	(500)	(231)	(111)	(55)
11:24 to 11:32 p. m.	666	1500	3000**	6000
	(450)	(200)	(100)	(50)

*Eastern standard time for WWV, Washington, D. C. Pacific standard time for 6XBM, Stanford university, California.

**The schedules marked with this sign are tentative for 6XBM, Stanford university; later announcement will be made if there is any change.

Information on how to receive and utilize the signals is given in bureau of standards letter circular No. 92, which may be obtained on application from the bureau of standards at Washington, D. C.

WDAF AT KANSAS CITY

(Continued from page 5)

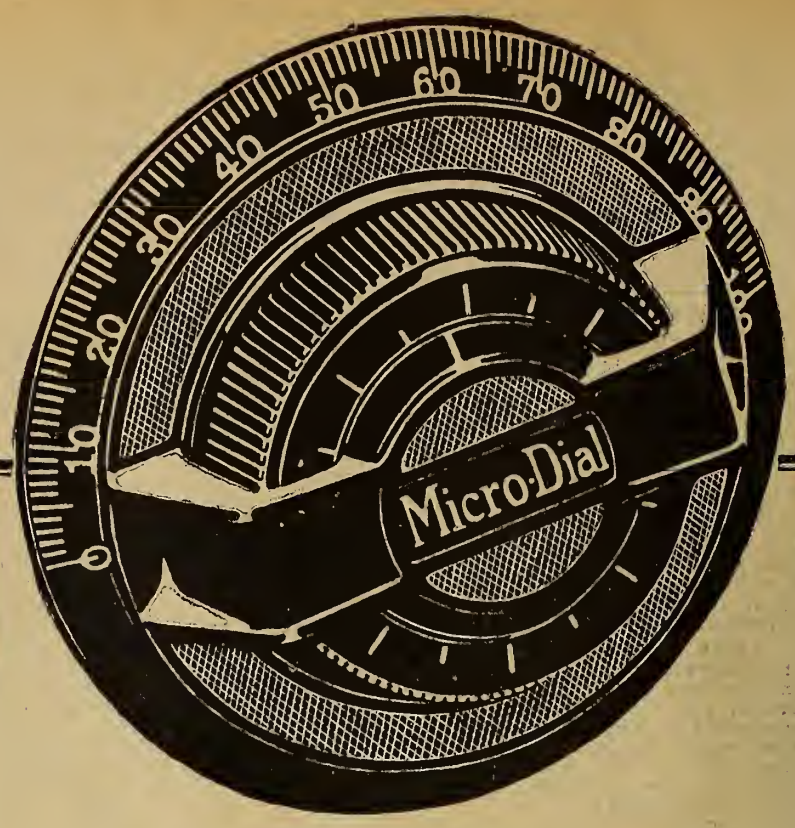
by calling the station on the phone. The calls are put directly through the amplifier without the aid of a microphone other than the telephone transmitter. By this system also the station may transmit entertainment. Recently a full program was broadcast over telephone from various homes in Kansas City.

Since Harry Snodgrass has discontinued broadcasting from WOS, it is doubtful if there is a pianist in the country who is as popular or as versatile as Lee, the "mystery man" of WDAF. His full name is Lee Mansfield and he is almost totally blind. He plays only by ear, being unable to see the notes on a sheet of music, and having once heard a piece he is able to reproduce it without mistake. He plays on the Nighthawk programs every night, supplying numbers requested.

The Radio staff is exceptionally small for the hours the station is on the air and for its popularity. Leo Fitzpatrick is Radio editor of the Star, director and chief announcer of Station WDAF and the "Merry Old Chief" of the Nighthawks. He is assisted by Don D. Johnson, chief operator, V. S. Batton, remote control operator and assistant announcer, Ralph H. Patt, assistant program director, and Martin McKiddy, corresponding secretary.

Seven Stations Maintain a Constant Frequency Output

WASHINGTON. —Seven broadcasting stations whose transmitting waves were measured during December by the Bureau of Standards were found to maintain a sufficiently constant frequency to be useful as frequency standards. These stations were: WCAP, Washington; WRC Washington; KDKA, Pittsburgh; WBZ, Springfield, Mass.; WGY, Schenectady, N. Y.; WSB, Atlanta and WWJ, Detroit.



SHARP!

Fifty times as sharp as an ordinary dial. Revolutionizes reception in any set. Indispensable in sets of naturally high selectivity. Install with a screwdriver—no butchering of shaft or instrument.

Two dials in one, both operating through complete circle—Fits any standard shaft—Logs to one-eighth of a degree—Built like a fine watch—Equip with Jewett Micro-Dials and get everything your set can drag in!

At your dealer's or direct from us, if he is not yet supplied. Price $3.50 each.

JEWETT RADIO & PHONOGRAPH CO.
5670 Twelfth Street • Detroit, Michigan

"Compare It; You'll Buy!"

MICRO-DIAL

WTAT GOES TO SEA AND EARNS A NAME

BECOMES "ONLY SEAGOING BROADCAST STATION"

Portable 100-Watt Set of Edison Light, Boston, Gains Fame from Eclipse Tests

BOSTON.—WTAT of Boston is now known as "The Only Seagoing Broadcast Station in the World," as a result of the most sensational tests of transmission ever attempted.

Broadcasting on the high seas from one of Uncle Sam's coast guard cutters was the unusual mission assigned to the Edison Light broadcast station during one of the scientific tests conducted during the solar eclipse. WTAT, portable 100-watt broadcasting station, was taken 100 miles off the Atlantic coast on the United States coast guard cutter Tampa, and broadcast a 16-hour continuous program for official scientific checkers, experimenters and broadcast fans.

WTAT Doesn't Mind the Sea

The Tampa left her dock at Charlestown navy yard at four o'clock Thursday afternoon prior to the eclipse. As the Tampa cast off for her trip to sea, WTAT started broadcasting and remained on the air for thirty minutes. Broadcasting continued throughout the day at hourly periods beginning on the hour for thirty minutes until 12 o'clock midnight on the night before the eclipse. From that time until 5 p. m. on the afternoon after the eclipse WTAT broadcast almost continuously.

The Tampa arrived back at her dock in the Charlestown navy yard Sunday morning after the eclipse. More than 1,000 letters and reports have been received from the New England states, New York, New Jersey, Pennsylvania, Ohio, Kentucky and Canada. Florida, Illinois and Nova Scotia were the greatest distances heard from.

So now WTAT is "The Only Seagoing Broadcast Station in the World."

YOUNG SOLOIST FROM SIOUX TRIBE

Sioux Indians permitted the youngest soloist of their tribe to broadcast recently from Station WCCO. She is Irene Burge, three-year-old daughter of Mr. and Mrs. Burge. Despite her American name, she is a direct descendant of the red men who roamed the western plains.

Canada Buys $7,000,000 Worth

WASHINGTON, D. C.—Radio apparatus sold in Canada last year was valued at $7,000,000. It is believed that Radio will stand out preeminently in the sales of electrical goods in Canada in 1925.

AIM TO LEARN MORE ABOUT ANNOUNCING

COMMITTEE TO STUDY THE PECULIARITIES OF ART

Scientific Foundation Sought by Body Formed at Instigation of Station WJZ

NEW YORK.—A definite step towards the perfection of the newly-born art of Radio announcing was made recently in the meeting of the newly organized Radio voice technique committee. The committee was formed at the request of WJZ, the Radio Corporation of America station here, "for the purpose of determining what characteristics constitute the perfect Radio announcer."

By means of a Radio recording device recently perfected by Alvin Busse and Robert C. Borden, instructors in public speaking at New York university, the committee listened to a series of records setting forth the various factors of Radio announcements. Rate of delivery, accent variation, average pitch, pitch variation, formality, distinctness, mechanically recurrent rising inflection, mechanically recurrent falling inflection, arbitrary stress placement, provincialisms, and tone qualities were illustrated by the records and judged by the committee members.

The committee does not aim for any standardization of announcers.

The Panels That Produce Results

A superior panel will increase the efficiency of your reception through reducing surface leakage. You can be certain of this if your set is built with—

ELECTRASOTE
TRADE MARK
PANELS

These beautifully finished panels will neither warp nor change color. They are scientifically constructed to reduce surface leakage to a minimum, hence assure increased efficiency of the set.

One of the famous "sote" products introduced by The Pantasote Company, Inc., Electrasote Radio Panels are sold strictly on their merits—yet are

Lower Priced
than other standard panels

Make your Set an "Electrasote Panel Set"—and get results!

On Sale at good Radio Dealers

M. M. FLERON & SON, Inc.
Sole Sales Agents
Trenton - New Jersey

"This Free Book Showed Me the Way to Big Money in *Radio*"

It has Started Thousands on the Road to Independence and Success—has Lifted Them Out of the Rut of Office Routine and Helped Them Become Experts in This New, Fascinating, Profitable Profession. Let It Do the Same for You.

SIX months ago I was what you might call "a handy man about the office." I had what I considered a good job with a large manufacturing concern. Having taken a two years' business course, knew enough of stenography and elementary bookkeeping to be of real value in general office work.

I took special dictation from the President, assigned general correspondence to the regular typists, was responsible for the purchase of office supplies, approved petty cash vouchers for the errand boys and clerks, and was entrusted with the responsibility of making deposits at the bank and bringing in the pay-roll.

In addition to these, I was often privileged to arrange accommodations for the President when he went off on a trip. And when he wanted some personal matter attended to, such as purchasing theater tickets or having his evening clothes brought down to the office, I was always selected for such tasks. I was, in fact, an assistant to the President. And accordingly I was paid $40 a week.

I won't say that I was satisfied with this salary—although it was more than the other clerks were getting—but the fact that the President had confidence in me gave me a certain standing among the others which kept me fairly contented.

Then one day, having a little extra money on hand, I bought a small Radio receiving set. Several of my chums had Radio outfits and I had always wanted one in order to enjoy the broadcast programs in the evenings at home. There was ordinarily nothing unusual about this, yet that little radio set changed my whole slant on life and opened up my future overnight.

I didn't know a thing about Radio, but I soon got onto the tricks of operating a receiving set and rapidly became a real "fan." But much to my surprise, I got more fun out of the mechanical operation of my set than I did from the music, speeches, reports and regular program of the nearby stations.

Then I began to take my set apart, reassemble it and experiment. I rigged up an outdoor aerial and installed a tube set. Then I bought a loud speaker and gradually added part by part until I had a first class outfit with a wave length capable of "picking up" the programs from distant stations.

Naturally, I didn't stop there. Several of my friends had "sending" sets and I wanted nothing less. I began to study the code and longed for the day when I could get a license and have a "call letter" of my own. My routine, humdrum work at the office began to lose its appeal. I could hardly wait until evening came so that I could get home to the "work" I actually enjoyed.

One day the traffic manager at the office mentioned that he was going to buy a Radio and flattered me by asking my advice. I offered to help him select a set and install it. He told me to go ahead, rig one up for him and let him know what I wanted for my trouble. It wasn't trouble—it was **real fun**—and I made $30 for a single night's amusement.

That set me thinking. Why not get into Radio in earnest? Two fellows I knew had given up office work and were making big money as Certified Radio-tricians. One was a salesman for a large radio manufacturer, with a fine office of his own in his home town; the other was a ship operator, traveling around the world, seeing things I had always wanted to see—and getting **big money** for doing it.

I decided to study Radio and train for a real job. But I wasn't in a position to give up my work at the office, for I had saved little or nothing, and had to contribute something at home every week.

Then one day I noticed an advertisement in **Radio Digest.** The heading first attracted me, for it read—"Men Wanted in Radio—You Can Train at Home for One of These Big-Paying Positions—This Free Book Will Tell You How." Here was a chance, I thought. At least it wouldn't cost anything to get the book for it was **free.**

I sent for the book—"Rich Rewards in Radio." That was six months ago. What the free book meant to me is best explained by the fact that, as a Certified Radio-trician, my income this year will be at least $5,000. And that's only the beginning. For I can already see the enormous possibilities for trained men in this fascinating, profitable profession. And I'm going to get my share of the big money being made by those who are "growing up" with this fast growing industry.

Thanks to the splendid training which I got from the National Radio Institute, in my spare hours at home, and with a Government First Class License in my pocket, the rest is up to me. But the opportunities for money, independence and success are unlimited in Radio and I'm going to go the limit.

I won't attempt to tell you all the details of the wonderful opportunity that awaits you in Radio. The Free Book of the National Radio Institute—the same one that I sent for—will tell you all you want to know. It showed me the way to big money in Radio—it lifted me out of the rut of office routine and made me an expert in this fascinating profession. Why can't it do the same for you? It can—the 32 page, fully illustrated free book will tell you how. The coupon will bring it to you—without obligation. Why not send for it—TODAY?

National Radio Institute
Dept. 55YB WASHINGTON, D. C.

NATIONAL RADIO INSTITUTE,
Dept. 55YB, Washington, D. C.

Without obligation on my part, please send me the free book, "Rich Rewards in Radio," with full details as to how I can quickly train for the position of "Certified Radio-trician" in my spare hours at home. Also tell me how your free Employment Service will help me secure a good paying position. Please write plainly.

Name.....Age.....

Street.....Occupation.....

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

Pay Increases Over $100 a Month

I am averaging anywhere from $75 to $150 a month more than I was making before enrolling with you. I would not consider $10,000 too much for the course.

(Signed) A. N. Long,
Greensburg, Pa.

Doubles Salary

I can very easily make double the amount of money now than before I enrolled with you. Your course has benefited me approximately $3,000 over and above what I would have earned had I not taken it.

T. Winder,
Grand Junction, Colo.

From $15.00 to $80.00 a Week

Before I enrolled with you I was making $15 a week on a farm. Now I earn from $2,080 to $4,120 a year, and the work is a hundred times easier than before. Since graudating a little over a year ago, I have earned almost $4,000 and I believe the course will be worth at least $100,000 to me.

(Signed) Geo. A. Adams,
Tamaqua, Pa.

AN EVENING AT HOME WITH THE LISTENER IN
IN EASTERN TIME
(SEE INSTRUCTIONS FOR USE BELOW)

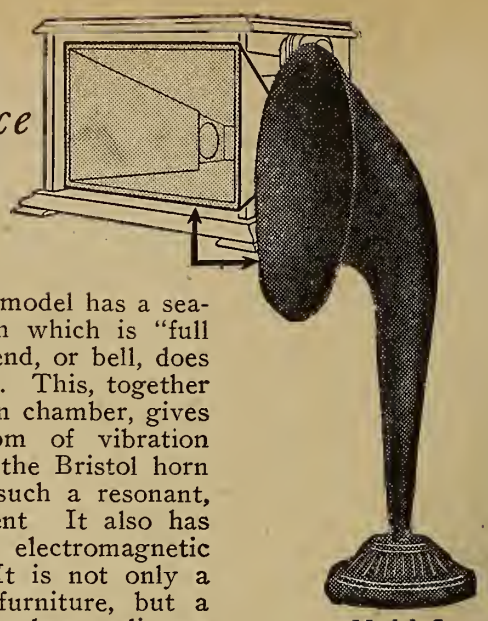
Station and City	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
AT9, Fort Bragg, N. C.	435	8:00- 9:55	8:00- 9:00	Silent	8:00- 9:55	Silent	8:00- 9:55	Silent
CFAC, Calgary, Alta.	430	Silent	Silent	11:00- 3:00	10:45-11:45	10:15-11:15	12:00- 2:00	10:00-11:00
CFCA, Toronto, Ont.	350	Silent	7:00- 8:00	Silent	8:15- 9:15	8:15- 9:15	8:15- 9:15	Silent
CFCN, Calgary, Alta.	440	11:00- 1:00	Silent	Silent	12:30- 1:30	Silent	Silent	Silent
CHYC, Montreal, Que.	341	Silent	9:00-10:00	Silent	Silent	8:30- 9:30	Silent	Silent
CKAC, Montreal, Que.	437	7:30-11:00	4:30- 5:30	Silent	7:30-11:30	Silent	8:30- 9:30	Silent
CKCO, Vancouver, B. C.	410	11:30-12:30	Silent	11:30-12:30	11:30-12:30	11:30-12:30	11:30-12:30	11:30-12:30
CKY, Winnipeg, Man.	450	Silent	8:00- 9:00	Silent	8:30-10:15	Silent	8:30-10:15	8:30-10:15
CNRO, Ottawa, Ont.	435	7:30-12:00	Silent	Silent	Silent	7:30-12:30	Silent	Silent
CYB, Mexico City, Mex.	370	9:30-10:00	Silent	Silent	9:30-10:00	Silent	10:00-12:00	Silent
CYL, Mexico City, Mex.	480	Silent	Silent	Silent	11:00-12:30	Silent	Silent	11:00-12:30
CYX, Mexico City, Mex.	330	Silent	Silent	10:00- 1:00	Silent	Silent	Silent	9:00-11:00
KDKA, E. Pittsburgh Pa.	309.1	6:00- 9:55	4:00- 8:45	6:15- 9:55	6:15-12:00	6:15- 9:30	6:15-12:00	6:15- 9:55
KFAE, Pullman, Wash.	330	Silent	Silent	10:30-11:30	Silent	10:30-11:30	Silent	10:30-11:30
KFAU, Boise, Idaho	275	Silent	Silent	10:00-11:00	Silent	Silent	Silent	10:00-11:00
KFOM, Beaumont, Tex.	315.6	Silent	Silent	Silent	9:00-12:00	Silent	Silent	9:00-12:00
KFI, Los Angeles, Calif.	467	9:45- 3:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 3:00	9:45- 2:00	9:45- 3:00
KFKB, Milford, Kan.	273	7:00-12:00	9:00-11:00	7:00-12:00	7:00-12:00	7:00-12:00	7:00-12:00	7:00-12:00
KFKU, Lawrence, Kan.	275	Silent	Silent	7:50-10:45	Silent	Silent	7:50- 9:45	Silent
KFKX, Hastings, Nebr.	283.3	Silent	Silent	10:30-12:00	Silent	Silent	10:30-12:00	Silent
KFMQ, Fayetteville, Ark.	299.8	Silent	Silent	Silent	10:00-11:00	Silent	8:30- 9:30	Silent
KFMX, Northfield, Minn.	336.9	Silent	8:00- 9:00	Silent	Silent	10:00-11:00	Silent	Silent
KFNF, Shenandoah, Ia.	266	7:30-10:00	7:30- 9:00	7:30- 9:00	Silent	7:30-10:00	7:30-10:00	7:30-10:00
KFOA, Seattle, Wash.	455	9:45- 2:00	Silent	9:45- 1:00	9:45- 2:00	9:45- 1:00	Silent	9:45- 2:00
KEPT, Salt Lake City Utah.	261	10:00-12:00	11:00-12:00	10:00-11:00	10:00-11:00	10:00-11:00	10:00-11:00	11:00-12:00
KFRU, Bristow, Okla.	395	10:00- 1:00	6:00- 7:00	8:00-11:30	11:30- 1:00	9:00-11:20	11:30-12:30	12:00- 2:00
KFUO, St. Louis Mo.	545.1	Silent	10:15-11:15	Silent	Silent	10:15-11:15	Silent	Silent
KGO, Oakland, Calif.	361	11:00- 3:00	6:30-10:30	11:00- 3:00	11:00- 3:00	Silent	11:00- 3:00	Silent
KGW, Portland, Ore.	492	1:00- 3:00	6:00-10:00	Silent	11:00- 3:00	11:00- 3:00	11:00- 3:00	11:00- 2:30
KHJ, Los Angeles, Calif.	404.1	11:00- 1:00	11:00- 1:00	Silent	11:00- 1:00	11:00- 1:00	11:00- 1:00	10:45- 1:30
KJS, Los Angeles, Calif.	293.9	Silent	10:15-12:30	Silent	11:00-12:00	Silent	11:00-12:00	Silent
KLX, Oakland, Calif.	509.9	Silent	Silent	9:00- 2:00	9:00-10:00	9:00- 2:30	Silent	9:00- 1:30
KNX, Hollywood, Calif.	336.9	9:00- 2:00	11:00- 1:00	9:00- 2:00	9:00- 2:00	9:00- 2:00	9:00- 2:00	9:00- 2:00
KOA, Denver, Colo.	322.4	11:00- 2:00	9:45-10:45	10:00-11:00	Silent	10:00-11:00	Silent	10:00-11:00
KOB, State College, N. M.	348.6	Silent	Silent	9:30-10:30	Silent	9:30-10:30	Silent	9:30-10:30
KPO, San Francisco, Cal.	429.5	11:00- 3:00	11:30- 1:00	10:00- 2:00	10:00- 2:00	9:30- 2:00	11:00- 2:00	11:00- 3:00
KSAC, Manhattan, Kan.	340.7	Silent	9:00-10:00	8:20- 9:00	8:20- 9:00	8:20- 9:00	8:20- 9:00	8:20- 9:00
KSD, St. Louis, Mo.	454.1	9:00-10:00	Silent	8:00- 9:00	7:00-11:00	Silent	8:00-11:00	Silent
KTHS, Hot Springs, Ark.	374.8	9:30-12:00	9:30-12:15	9:30-12:00	9:30-11:00	9:30-12:00	9:30-11:00	9:30-11:00
KTW, Seattle, Wash.	272.6	Silent	10:00-12:30	Silent	Silent	Silent	Silent	Silent
KYW, Chicago, Ill.	535.4	8:00- 3:00	8:00- 9:00	Silent	8:00- 3:30	8:00- 3:30	8:00- 3:30	8:00- 3:30
NAA, Radio, Va.	434.5	Silent	Silent	6:45- 8:20	7:00- 8:20	7:25- 8:40	6:45- 8:40	8:05- 8:40
PWX, Havana, Cuba	400	8:30-11:00	Silent	Silent	Silent	8:30-11:00	Silent	Silent
WABL, Storrs, Conn.	275	Silent	Silent	7:00- 9:00	Silent	7:00- 9:00	Silent	7:00- 9:00
WABN, La Crosse, Wis.	244	Silent	Silent	9:00-11:00	Silent	Silent	10:00-12:00	Silent
WAHG, Richmond, N. Y.	315.6	12:00- 2:00	Silent	8:00- 2:00	Silent	7:30- 1:00	Silent	8:00-11:30
WBAP, Fort Worth, Tex.	475.9	8:00- 9:00	12:00- 1:00	8:30-11:45	8:30-11:45	8:30-11:45	8:30-11:45	8:30-11:45
WBAV, Columbus, O.	293.9	Silent	Silent	8:00- 9:00	Silent	Silent	Silent	8:00- 9:00
WBBG, Mattapoisett, Mass.	248	Silent	Silent	8:00-10:00	Silent	8:00- 9:00	Silent	7:00- 2:00
WBBR, Staten Island, N. Y.	272.3	8:00- 9:00	9:10-10:10	8:00- 8:40	Silent	8:00- 8:40	9:10-10:10	Silent
WBCN, Chicago, Ill.	266	7:00- 2:00	5:00- 1:00	Silent	7:00- 2:30	7:00-11:15	7:00- 2:00	7:00- 2:00
WBZ, Springfield, Mass.	331.1	6:00-12:00	8:30-10:00	6:00-12:00	6:00-12:00	6:00-12:00	6:00- 7:30	6:00-10:30
WCAE, Pittsburgh, Pa.	461.3	6:30- 9:30	4:00- 7:30	6:30-12:00	6:30-12:00	6:30-10:00	6:30-11:00	6:30-10:00
WCAL, Northfield, Minn.	336.9	1:00- 2:00	9:30-11:00	Silent	Silent	Silent	10:00-11:00	9:30-10:30
WCAP, Washington, D. C.	468.5	Silent	6:20-10:15	7:00-11:30	Silent	6:00-12:00	Silent	7:30-12:00
WCAU, Philadelphia, Pa.	278	Silent	5:30- 7:00	Silent	7:30- 9:15	8:05-11:10	7:30- 9:35	8:00-11:10
WCBO, Zion, Ill.	344.6	Silent	3:30-10:00	9:00-11:30	Silent	Silent	9:00-11:30	Silent
WCCO, Minn.-St. P., Minn.	416.4	9:00-12:00	5:10-10:15	9:00-12:00	7:30- 9:00	8:00- 1:30	7:30-12:00	7:30- 1:00
WCX, Detroit, Mich.	516.9	Silent	7:15- 8:15	8:30- 9:30	8:30-11:00	8:30- 9:30	8:30- 9:30	8:30- 9:30
WOAF, Kansas City, Mo.	365.6	7:00- 2:00	5:00- 6:30	7:00- 2:00	7:00- 2:00	7:00-10:15	7:00- 2:00	7:00- 2:00
WOWF, Providence, R. I.	440.9	Silent	5:00- 6:45	Silent	9:00-10:30	Silent	Silent	Silent
WEAF, New York, N. Y.	491.5	6:00-12:00	8:15-10:15	6:00-11:30	6:00-11:00	6:00-12:00	6:00-11:00	6:00-12:00
WEAO, Columbus, Ohio	293.9	8:00- 9:00	Silent	Silent	Silent	9:00-10:20	Silent	Silent
WEAR, Cleveland, O.	389.4	Silent	Silent	7:00- 8:00	7:30-11:00	7:00- 8:00	7:00-11:00	7:00- 8:00
WEBH, Chicago, Ill.	370.2	8:00- 1:00	8:00-10:00	Silent	8:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00
WEBJ, New York, N. Y.	273	Silent	Silent	Silent	7:00- 9:00	7:00- 9:00	Silent	7:00- 9:00
WEBW, Beloit, Wis.	268	Silent	5:30- 6:30	Silent	9:00-10:00	Silent	8:30- 9:30	Silent
WEEI, Boston, Mass.	475.9	Silent	3:45-10:15	6:30-10:00	6:30-11:00	6:30-12:00	6:30-11:00	6:30-10:30
WEMC, Berrien Spgs., Mch.	285.5	Silent	9:15-11:00	9:15-10:15	Silent	9:15-10:15	Silent	10:00-11:45
WFAA, Dallas, Tex.	475.9	9:30- 1:00	7:00-12:00	7:30-10:30	7:30- 1:00	Silent	7:30- 1:00	7:30-10:30
WFBH, New York, N. Y.	272.6	6:00- 8:45	6:00- 8:30	6:00- 1:15	6:00-11:30	6:15- 1:15	6:00-12:30	6:00- 1:30
WFI, Philadelphia, Pa.	394.5	6:30- 9:00	7:30- 8:30	6:30- 8:00	6:30-11:00	6:30- 8:00	6:30- 9:30	6:30- 8:00
WGAQ, Shreveport, La.	263	10:00- 1:00	Silent	10:00- 1:00	Silent	9:00-10:00	Silent	Silent
WGBS, New York, N. Y.	315.6	6:00-12:00	3:30- 3:45	6:30- 7:30	6:00-12:00	6:00- 1:00	6:00- 1:00	6:00- 7:30
WGN, Chicago, Ill.	370.2	7:30-12:00	3:00-11:00	Silent	7:00-12:00	7:00-12:00	7:00-12:00	7:00-12:00
WGR, Buffalo, N. Y.	319	6:00- 7:30	4:00- 8:30	8:15-11:00	6:00-11:30	8:00-11:00	6:00-11:00	6:30-11:00
WGST, Atlanta, Ga.	270	Silent	Silent	10:00-11:00	Silent	Silent	8:00- 9:00	Silent
WGY, Schenectady, N. Y.	379.5	9:30-12:00	7:30-11:00	7:30- 9:00	6:30-12:15	Silent	6:30-11:30	7:00-11:30
WHA, Madison, Wis.	535.4	Silent	Silent	8:45- 9:45	Silent	10:00-11:00	Silent	8:45- 9:45
WHAS, Louisville, Ky.	399.8	8:30-10:00	5:00- 6:00	Silent	8:30-10:00	8:30-10:00	8:30-10:00	8:30-10:00
WHAZ, Troy, N. Y.	379.5	Silent	Silent	9:00-10:00	Silent	Silent	Silent	Silent
WHB, Kansas City, Mo.	365.6	Silent	9:00- 2:00	8:00- 9:00	9:00-11:15	8:00- 9:00	8:00-11:00	8:00- 9:00
WHK, Cleveland, Ohio	273	6:00- 1:00	7:30-11:00	6:00- 7:30	6:30- 7:30	6:00- 7:30	6:00-11:30	6:00-10:00
WHN, New York, N. Y.	361.2	6:30-12:00	3:00- 1:00	6:30- 1:00	6:30-12:30	6:30-11:00	6:30- 7:35	6:30-12:30
WHO, Des Moines, Ia.	526	Silent	5:00- 6:00	8:30- 1:00	Silent	7:30-12:00	12:00- 1:00	8:30-10:00
WIP, Philadelphia, Pa.	508.2	7:00-12:05	10:30- 1:00	Silent	8:00-12:00	Silent	8:00-12:00	Silent
WJAR, Providence, R. I.	305.9	7:10- 8:10	7:20-10:15	8:00- 9:00	8:00- 9:00	8:00- 1:00	Silent	7:30-11:00
WJAS, Pittsburgh, Pa.	275.3	Silent	Silent	8:30-11:00	8:30-11:00	7:30-11:00	8:30-10:00	7:30-10:00
WJJD, Mooseheart, Ill.	302.8	8:15- 1:00	Silent	8:15- 9:15	8:15- 9:15	8:15- 9:15	Silent	8:15- 9:15
WJY, New York, N. Y.	405.2	Silent	8:15-10:15	Silent	8:15-10:15	Silent	7:30- 9:30	9:00-10:00
WJZ, New York, N. Y.	454.3	7:00-11:00	8:30-10:20	7:00-11:45	7:00-10:00	7:00-11:30	7:00-11:30	7:00-11:30
WKAQ, San Juan, P. R.	340.7	Silent	Silent	Silent	8:00- 9:30	7:00- 9:00	7:00- 8:30	Silent
WKAR, Lansing, Mich.	285.5	12:30- 2:30	Silent	7:00- 8:00	Silent	8:00- 9:15	Silent	7:00- 8:00
WLBL, Stevens Pt., Wis.	278	1:00- 2:00	Silent	Silent	9:00-10:00	Silent	Silent	Silent
WLIT, Philadelphia, Pa.	394.5	7:30- 8:30	Silent	7:30-11:02	7:30- 8:50	7:30-11:03	7:30- 8:30	7:30-11:03
WLS, Chicago, Ill.	344.6	9:00- 1:00	7:30- 9:00	Silent	7:30- 2:00	7:30- 1:00	7:30- 9:00	7:30-12:00
WLW, Cincinnati, O.	422.3	7:00- 8:00	8:30-10:15	7:00-11:00	7:00- 1:00	7:00-11:00	7:00-12:00	Silent
WMAK, Lockport, N. Y.	265.5	Silent	Silent	Silent	8:00-10:00	Silent	12:00- 1:00	Silent
WMAQ, Chicago, Ill.	447.5	7:00-11:00	Silent	Silent	7:00-11:00	7:00-11:00	7:00-11:00	7:00-11:00
WMBF, Miami Beach, Fla.	384.4	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00
WMC, Memphis, Tenn.	499.7	9:30-10:30	Silent	9:30-10:30	9:00- 1:00	Silent	9:30-10:30	9:30- 1:00
WMH, Cincinnati, O.	422.3	11:00- 1:00	7:00- 8:30	9:00-11:00	Silent	9:00-11:00	9:00-11:00	Silent
WNAC, Boston, Mass.	280.2	10:00-11:00	8:30-10:30	7:00-11:00	9:00-11:00	7:00-11:00	9:00-11:00	7:00-11:00
WNYC, New York, N. Y.	526	8:30-11:30	9:00-11:00	7:00-11:00	7:30-10:30	8:30-11:30	8:30-11:30	8:30-11:30
WOAI, San Antonio, Tex.	394.5	Silent	8:30-11:30	Silent	9:30-11:30	Silent	10:30-11:30	Silent
WOAW, Omaha, Nebr.	526	7:00- 1:00	7:00-11:00	7:00-12:30	7:00-12:30	Silent	7:00-12:30	7:30-12:30
WOAX, Trenton, N. J.	240	Silent	Silent	Silent	9:15-11:00	Silent	Silent	9:00-11:00
WOC, Davenport, Ia.	483.6	7:30- 1:00	9:00-12:30	Silent	7:30-12:00	7:30-11:00	7:30- 1:00	7:30-10:00
WOI, Ames, Ia.	270	Silent	Silent	11:00-12:00	Silent	Silent	9:15-10:15	Silent
WOO, Philadelphia, Pa.	508.2	Silent	Silent	7:30-11:00	Silent	7:30-11:00	Silent	7:30-11:00
WOR, Newark, N. J.	405.2	6:15-10:15	Silent	6:15-11:15	6:15- 7:15	6:15-10:00	6:15- 7:15	6:15- 7:15
WORO, Batavia, Ill.	275	Silent	8:00- 8:50	9:00- 9:50	9:00- 9:55	Silent	8:00- 9:00	Silent
WOS, Jefferson City, Mo.	440.9	Silent	8:30- 9:30	9:00-10:00	Silent	9:00-10:00	Silent	9:00-10:00
WPG, Atlantic City, N. J.	299.8	9:00-12:00	3:15-11:00	Silent	8:00-12:00	Silent	7:00-11:00	9:00-11:00
WQJ, Chicago, Ill.	447.5	8:00- 3:00	9:00-11:00	Silent	8:00- 3:00	8:00- 3:00	8:00- 3:00	8:00- 3:00
WRBC, Valparaiso, Ind.	278	Silent	8:30- 9:00	8:30- 9:00	Silent	Silent	Silent	Silent
WRC, Washington, D. C.	468.5	6:45-12:15	Silent	Silent	6:45-12:00	Silent	6:45-11:30	Silent
WREO, Lansing, Mich.	285.5	Silent	7:00- 8:00	Silent	8:15- 9:45	Silent	8:15- 9:45	Silent
WRW, Tarrytown, N. Y.	273	9:00-11:00	8:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30	9:00-11:30
WSAC, Clemson Coll., S.	336.9	Silent	Silent	Silent	Silent	8:00- 9:00	Silent	Silent
WSAI, Cincinnati, O.	325.9	9:00- 2:00	4:00- 5:00	7:00- 1:00	8:00-11:10	Silent	11:00- 1:00	Silent
WSB, Atlanta, Ga.	428.3	9:00- 1:00	8:30-10:15	9:00- 1:00	9:00- 1:00	11:45- 1:00	9:00- 1:00	9:00- 1:00
WSUI, Iowa City, Ia.	483.6	8:30-10:00	Silent	Silent	9:00-10:00	10:00-10:30	Silent	Silent
WTAM, Cleveland, O.	389.4	9:00-12:00	Silent	8:00-10:00	Silent	8:00-10:00	Silent	Silent
WTAS, Elgin, Ill.	302.8	7:00- 1:30	7:00- 1:30	7:00- 1:30	7:00- 1:30	7:00- 1:30	7:00- 2:30	7:00- 1:30
WTAY, Oak Park, Ill.	250	7:10-11:00	Silent	Silent	7:10- 8:30	7:30-11:00	7:10- 8:30	7:10- 8:30
WTIC, Hartford, Conn.	348.6	Silent	Silent	Silent	8:00- 9:00	8:00-11:00	Silent	8:00- 9:00
WWJ, Detroit, Mich.	352.7	8:30- 9:30	Silent	6:00- 9:30	6:00- 9:30	6:00- 9:30	6:00-12:30	6:00- 9:30

Instructions for Use—All the hours above are given in Eastern Standard Time. If your city uses Central Time, subtract one hour from each of the periods stated; if your city uses Mountain Time, subtract two hours; if your city uses Pacific Time, subtract three hours. This table includes only the evening and, on Sunday, the late afternoon programs.

STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
240	WOAX	275	WORD	315.6	WGBS	361.2	WHN	416.4	WCCO	468.5	WRC
244	WABN	275.3	WJAS	319	WGR	365.6	WDAF	422.3	WLW	475.9	WBAP
248	WBBG	278	WCAU	322.4	KOA	365.6	WHB	422.3	WMH	475.9	WEEI
250	WTAY	278	WLBL	325.9	WSAI	370	CYB	428.3	WSB	475.9	WFAA
261	KFPT	278	WREC	330	CYX	370.2	WEBH	429.5	KPO	480	CYL
263	WGAQ	280.2	WNAC	330	KFAE	370.2	WGN	430	CFAC	483.6	WOC
265.5	WMAK	285.5	WKAR	331.1	WBZ	374.8	KTHS	434.5	NAA	483.6	WSUI
266	KFNF	285.5	WREO	336.9	KFMX	379.5	WGY	435	AT9	491.5	WEAF
266	WBCN	285.5	WEMC	336.9	KNX	379.5	WHAZ	435	CNRO	492	KGW
266	WCBK	288.3	KFKX	336.9	WCAL	389.4	WEAR	437	CKAC	499.7	WMC
270	WGST	293.9	KJS	336.9	WSAC	384.4	WMBF	440	CFCN	508.2	WIP
270	WOI	293.9	WBAV	340.7	KSAC	389.4	WTAM	440.9	WDWF	508.2	WOO
272.3	WBBR	293.9	WEAO	340.7	WKAQ	394.5	WLIT	440.9	WOS	509.9	KLX
272.6	KTW	299.8	KFMQ	341	CHYC	394.5	WFI	447.5	WMAQ	516.9	WCX
272.6	WFBH	299.8	WPG	344.6	WCBD	394.5	WOAI	447.5	WQJ	526	WHO
273	KFKB	302.8	WJJD	344.6	WLS	395	KFRU	450	CKY	526	WOAW
273	WEBJ	302.8	WTAS	348.6	KOB	399.8	WHAS	454.3	WJZ	526	WNYC
273	WHK	305.9	WJAR	348.6	WTIC	404.1	KHJ	455	KFOA	535.4	WHA
273	WRW	309.1	KDKA	350	CFCA	405.2	WJY	461.3	WCAE	535.4	KYW
275	KFAU	315.6	KFDM	352.7	WWJ	405.2	WOR	467	KFI	545.1	KFUO
275	WABL	315.6	WAHG	361	KGO	410	CKCD	468.5	WCAP	545.1	KSD

It Has the Full Sweet Resonance of Our Upright Horn



THE new cabinet model has a seasoned wood horn which is "full floating"—the outer end, or bell, does not touch the cabinet. This, together with a long expansion chamber, gives it that same freedom of vibration which goes to make the Bristol horn type Loud Speaker such a resonant, sweet-toned instrument It also has the same high-grade electromagnetic sound mechanism. It is not only a handsome piece of furniture, but a speaker worthy of the best radio set that money can buy.

Model S, $25.00

Cabinet Model, $30.00

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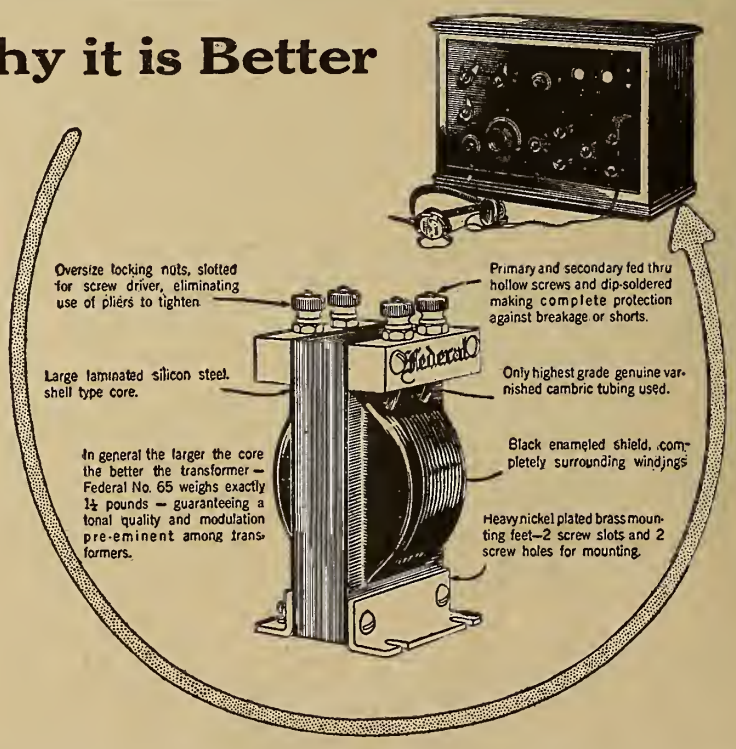

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WFAA HOST TO HAY, FORD AND GLENN

Saturday, February 28

Saturday, silent night for: AT9, CFAC, CFCA, CHNC, CKY, KFAE, KFDM, KFKU, KFKX, KFMQ, KFMX, KJS, KLX, KOB, KSAC, WBAP, WBAV, WCAU, WCBO, WDWF, WEAO, WEBJ, WEBW, WEEI, WEMC, WGST, WHAZ, WHB, WHO, WJY, WKAQ, WMAK, WOAI, WOI, WOO, WORD, WOS, WSUI.

Eastern Time Stations

CHIC, Toronto, Can. (350), 9-11 p. m., dance music, Charles H. Bodley and his orchestra; Jimmy Reid and others.

CHNC, Toronto, Can. (350), 9-11 p. m., Charlee E. Bodley and his orchestra.

CKAC, Montreal, Can. (425), 7 p. m., kiddies' stories in French and English; 7:30, Windsor hotel concert orchestra; 8:30, variety entertainment; 10, Windsor hotel grill room dance orchestra.

CNRO, Ottawa, Can. (435), 7:30 p. m., bedtime story, Aunt Agnes; 8, dinner concert, James McIntyre and his Chateau Laurier hotel orchestra; 8:30, Mrs. E. Sanders, vocalist; Earl Walker, tenor; Mrs. E. J. Horning, violinist; "The Barren Lands Caribou," G. H. Blanchet; 9, Dr. Herbert Sanders, organist; 9:45, Mrs. E. Sanders, vocalist; Mrs. F. J. Horning, violinist; dance program, James McIntyre and his Chateau Laurier hotel orchestra.

KDKA, E. Pittsburgh, Pa. (309.1), 6 p. m., dinner concert, Westinghouse band, T. J. Vastine, conductor; 7:30, Richard, the riddler; 7:45, last minute helps to Bible school teachers, Carman Cover Johnson; 8:30, concert, Westinghouse band.

PWX, Havana, Cuba (400), 8:30 p. m., concert, Prof. Juan Gonzalez and members of his academy.

WAHG, Richmond Hill, N. Y. (315.6), 12-2 a. m., special midnight program, Adam's symphonic concert orchestra (station will use 2XE call and 516.9 meters).

WBBR, New York, N. Y. (272.3), 8 p. m., Robert Young, pianist; 8:10, Malcolm Carment, clarinetist; 8:20, Bible questions and answers; 8:50, Malcolm Carment, clarinetist.

WBZ, Springfield, Mass. (331.1), 7:05 p. m., bedtime story for the kiddies; 7:15, sketches, United States naval history, E. S. R. Brandt; 7:30, concert, Hotel Kimball trio; 8, Anna Wollmann, soprano; 8:15, Beaudoin trio; Veronica LeMare, pianist; Gladys Berry, cellist; Anna C. Beaudoin, violinist; Marjorie Boutelle, soprano; 8:30, Anna Wollmann, soprano; 8:45, Beaudoin trio; Marjorie Boutelle, soprano; 9, Alwyn E. W. Bach, baritone; 9:15, Beaudoin trio; Marjorie Boutelle, soprano; 9:30, program, Alwyn E. W. Bach, baritone; 9:45, "Little Screen Players."

WCAE, Pittsburgh, Pa. (461.3), 4:30 p. m., Ed. Lally's Rendezvous cabaret orchestra; 6:30, dinner concert, William Penn hotel; 8:30, artists, Steubenville.

WCX, Detroit, Mich. (516), 6 p. m., dinner concert, Book-Cadillac.

WEAF, New York, N. Y. (491.5), 4-5 p. m., Eugene M. Ingraham's orchestra; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:10, Anna Hutter, soprano; 7:10-7:20, Joseph Martin, boy soprano; 7:30-8, stories for boys, Fred J. Turner; 8-8:30, Michael Markel's Society orchestra; 8:30-9, Knickerbocker male quartet; 9-9:45, Waldorf-Astoria concert orchestra; 10-10:15, Marguerite Fales, contralto; 10:15-10:45, Leslie Joy, baritone; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WFI, Philadelphia, Pa. (394.5), 3 p. m., Conshohocken High school orchestra; Isabelle Weaver Henry, soprano; 6, Rey Elrae and his dance orchestra; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim; Pathe News feature; 8, Catholic Mandolin club.

WGBS, New York, N. Y. (315.6), 1:30-2:30 p. m., Blue Husi Instrumental quartet; 3-3:10, interview, "Commissioner of Safety of Egypt," Terese Hose Nagel; 3:10-3:20, Doris Freemoyan, soprano; 3:20-3:40, invention talk, "Lady Edison;" 3:40-4, "Sayings of Mrs. Solomon," Helen Rowland; 6-6:30, Uncle Geebee; 6:30-7:30, Jack Wheatland'e orchestra; 9:45-10:45, Robertina Robertson, contralto.

WGR, Buffalo, N. Y. (319), 6-7:30 p. m., Hallpryd string quartet.

WGY, Schenectady, N. Y. (479.5), 9:30 p. m., dance music, Phil Romano's orchestra.

WHN, New York, N. Y. (360), 6:30-7 p. m., violin solos, Olcott Vail; 7:30-7:35, health talk, Dr. Landis; 7:35-8:30, Hotel Carlton Terrace orchestra; 8:30-9, Strand Roof orchestra; 9:10-9:45, Charlie Johnson'a orchestra; 9:45-10, Jimmy Flynn, tenor; 10-10:15, Estelle Crossman, pianist; 11:15-11:30, Jimmy Clarke and his entertainers; 11:30-12:30 a. m., Rosoland dance orchestra.

WIP, Philadelphia, Pa. (508.5), 3 p. m., Colonial dance orchestra; 5:05, Chas. Masters and his Hotel St. James dance orchestra; 7, Uncle Wip; William P. Young, harmonica expert, assisted by Mildred and Wesley Young; 8, Scout talk, Noah Swain; 8:15, DeMolay Boys' band; 9, Lenten talk; 9:15, DeMolay program; 10:05, Howard Lanin's Benjamin Franklin hotel orchestra; 11:15, Karl Bonawitz, organist.

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

WJZ, New York, N. Y. (454.3), 4:30-5:30 p. m., Sherry's Tea orchestra; 7-8, Freddie Rich and Hotel Astor orchestra; 8-8:15, "Art for Laymen," Walter M. Grant; 8:15-8:45, American Orchestral concert; 8:45-9, "British Journalism," George Laval Chesterton; 10-10:15, Erna Korn, contralto; 10:30-11:30, Joseph Knecht's Waldorf-Astoria dance orchestra.

WLIT, Philadelphia, Pa. (394.5), 2:30 p. m., Frances Smith Gibson, soprano; Charles Silverthorne, baritone; Marcella North, pianist; play by the Delphian players; 7:30, Arcadia cafe concert orchestra.

WNYC, New York, N. Y. (526), 6:30-7:30 p. m., Wooding's orchestra; 7:35-8:50, Chateau Five; 8:30-9, police quartet; 9-9:30, vocal and instrumental program; 10:10-10:30, lecture service, Board of Education.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Voegt; John Wannamaker Commercial Institute band concert.

WOR, Newark, N. J. (405.2), 3:15-3:30 p. m., Adams Arcadians; 6:15-7:15, Elmer Nippes and his Briar Cliff orchestra; 8-8:15, Julius Koehl, pianist; 8:30-8:45, Park City Four; 8:45-9, Julius Koehl; 9-9:15, Park City Four; 9:30-9:40, "Vitagrams," Mr. Schofield; 10:30-11, movie night.

WPG, Atlantic City, N. J. (299.8), 9 p. m., studio recital; 10, Galen Hall string trio; dance music.

WRC, Washington, D. C. (468.5), 6:45 p. m., children's hour, Madge Tucker; 7, dinner music, Irving Boernstein's Hotel Washington orchestra; 8, Bible talk; 8:15, Earl Carbaugh, baritone; 9, Edwin Scott, violinist; Eugene Stuart, pianist; 10:30, Joseph Knecht's Waldorf-Astoria orchestra; 11:15, Otto F. Beck, organist.

WWJ, Detroit, Mich. (352.7), 3 p. m., Detroit News orchestra; 8:30, concert, Detroit Athletic club.

Central Time Stations

KFNF, Shenandoah, Ia. (266), 6:30 p. m., Jubilee singers from Clarinda, Mrs. Joe Jones, director.

KSD, St. Louis, Mo. (545.1), 8 p. m., concert, St. Louis Symphony orchestra, Rudolph Ganz, conductor.

KTHS, Hot Springs National Park, Ark. (375), 8:30-9:15 p. m., Michael Reginsky, cellist; Louis Culp, pianist; 9:15-10, organ recital, Lawson Reid; 10-11, dano frolic, Meyer Davis-New Arlington hotel orchestra.

KYW, Chicago, Ill. (535.4), 7-7:30 p. m., dinner concert, Congress hotel; 8-8:58, program, Henry B. Roney, director; 9:05, Youth's Companion; 9:35-11:30, Congress classic; 12-1, Congress carnival; 1-2, Insomnia club.

WBCN, Chicago, Ill. (266), 7-8 p. m., George R. Cleveland, "Hobby Club Man;" Jack Heath and Eddie Downs, Harmony duo; 8-12, Catherine Miller, musical bits, Riviera theater; 9-10, Oriole orchestra; Eleanor Gilmour, soprano; Pat Barnes; Langdon Brothers, Hawaiian guitarists; Marie Kelly, reader; 11-12, Oriole orchestra; Banks Kennedy; Loos Brothers; Langdon Brothers; Ned and Ches; Wayne Myers; Kay Ronayne, vocalist; Marie Kelly, reader.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert, Nicholas Senn high school chorus; 10-11, dance numbers, Don Bestor Drake dance orchestra; Jerry Conley Blackstone dance orchestra.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, members of the Crescent Hill Women's club, Mrs. F. H. Johanboeke, director; Fanny May Baldridge, soprano; Nathan B. Chase, soprano; Mrs. F. H. Johanboeke, second soprano; Mrs. T. Fletcher Strain, first alto; Mrs. Frank Cowherd, second alto; Mrs. Walter Jacobs, accompanist; John O. Raplee, baritone; Mrs. T. Fletcher Strain, pianist; Fanny May Baldridge, reader.

WLS, Chicago, Ill. (344.6), 7 p. m., "Lullaby Time," Big Ford and Little Glenn's Trip to Australia; 7:20, national barn dance, Glenn's Cornhuskers, Harmony Girls, Nubs Allan, Walter Peterson, Isbam Jones and his College Inn orchestra, Ralph Emerson, organist, Ford and Glenn, Foxy Dave; 11, Senate theater revue.

WLW, Cincinnati, Ohio (423), 8 a. m., physical exercises, Y. M. C. A., William Stradtman, instructor; 3 p. m., Marco Melody Boys' dance program, Fred Lindemann, director and manager; 6, dinner hour concert, Selinsky Instrumental quintet; Lafafone, E. D. Leonard.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Tegtmeyer's orchestra; 8, Russell Pratt and Fred Daw; 8:30, "Bagdad," Robert J. Casey; 9, weekly Balaban and Katz Chicago theater revue.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., musical program arranged by J. M. Gates of Lonoke, Ark.

WOAW, Omaha, Nebr. (526), 6 p. m., dramatic hour, Davis Studio of Expression; lesson in voice improvement, J. Simmons Davis; 6:30, to be announced; 6:45, dinner program, Brandeis store restaurants; 9, artist pupils, Corinne Paulson Thorson, pianist; 11, Frank W. Hodek, Jr., and his Omaha Nightingales.

WOC, Davenport, Ia. (483.6), 6:30 p. m., sandman's visit, Val McLaughlin; 7, International Sunday school lesson; Erwin Swindell, soprano; 11, Lonis Connor and his LeClaire hotel orchestra; Peter MacArthur, baritone.

WOI, Ames, Ia. (270), 12:30 p. m., college chimes; talk on automobiles, Prof. A. Shane.

WOS, Jefferson City, Mo. (440.9), 8 p. m., Central, Howard-Payne orchestra.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; Agatha Karlen, reader; Henrietta Nolan, violinist; Grace Nelson, fourteen-year-old pianist; 10-2, Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; Harry Geise; the Melodians, Laurie, Eddie, Bennie; Clarence Theders, tenor; George A. Little, Larry Shay, Harmony singers; Yukons Cameron, soprano; Rick, Whalen, Gardener, Harmony singers.

WSAI, Cincinnati, Ohio (325.9), 8 p. m., chimes; 8:15, Bicycle sextet; 9, weekly news review, Allison F. Stanley; 9:15, Bicycle male quartet; Bicycle mixed quartet; 12, Roger Hills' Danceland orchestra.

WTAY, Oak Park, Ill. (250), 6:30-7:30 p. m., studio classical program, Dr. William P. Zimmer, tenor; Lillian Lubberman, vocal duo; Jack Parker, tenor; Midway Gardens orchestra; serial story, George R. Cleveland; Marie Wright, soprano; Mrs. Elizabeth E. Malone, soprano; Peggy O'Neil, Helen O'Brien; Hickey's barn dance trio; Murphy Sisters; Florence Tenney, blues singer; Drexel male quartet; Frank Solly, tenor; Clifton Newton Moore, "Harmonica King;" 12-1, Peggy O'Neil, Helen O'Brien; Frank Solly, tenor; Jack Parker, tenor; Lindsay McPhail, pianist; "Big Boy" Yagie.

WCAL, Northfield, Minn. (336.9), 12 midnight, College quartet, Kenneth Onsgard, Obed Grinder, Matthew Lyders, Osgood Westley.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 8 p. m., "Fireside Philosophies," Rev. Roy L. Smith; 8:15, "Extermination of the Gopher," J. W. Smith; 8:30, Zion Lutheran church; 10, Joe Peyer's St. Paul Athletic club orchestra; Bric Saxophone quartet.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., message from Roger W. Babson; Tell-Me-a-Story Lady; Trianon ensemble; 11:45-1, Nighthawk frolic, "Merry Old Chief," Plantation players; Eddie Kuhn's Kansas City Athletic club orchestra.

WEBH, Chicago, Ill. (370.2), 7 p. m., Oriole orchestra; Radio Sunday school lesson, Dr. Herbert W. Virgin;

Headliners of the Week

SATURDAY night will be a holiday night for WFAA announcer and entertainers. George Hay, last year's most popular announcer, and Ford Rush and Glenn Rowell of WLS, Chicago, will wind up a week of visiting at Station WFAA, Dallas.

Chief Yowlache is returning Sunday to sing again at KFI, Los Angeles. He has an excellent baritone voice and is a tall, stately representative of the native American. An Indian orchestra will accompany him.

The Cecilian quartet, a Des Moines women's organization, has been invited to sing Monday night at WHO. The ensemble work of this quartet is very fine. Other Des Moines artists will take part in the program.

Carl Zoeller's Melodists, a jolly lot of men who manipulate the trombone, saxophone, trumpet, banjo, tuba and other instruments that have put the blues in jazz, will occupy the evening Tuesday at WHAS, Louisville.

Wednesday is an important date for Radio. At noon the ceremonies connected with the inauguration of President Coolidge and Vice-President Dawes will reach every part of the country. Even the busy housewife may be invisibly present at this important event. The following stations will take place in the nationwide Radio link: KDKA, KFI, KFKX, KPO, WBZ, WCAE, WCAP, WCCO, WDAF, WEAR, WEEI, WGR, WGY, WHO, WJAR, WJZ, WLW, WMAQ, WOO, WRC, WSB, WTIC and WWJ. More than thirty stations will be linked by the time this publication is in your hands.

Thirteen musicians and a minister will entertain the KGO listeners Thursday. The musicians will offer everything from classical music to haunting melodies of the South Sea island. The minister, George W. Phillips, will confine his remarks to "Music and Shirts."

The American Legion of Arkansas will give the program Thursday at KTHS. The program will be composed of orchestral, quartet and many solo selections. Although given by a military organization, the music will not be confined to martial airs.

KOA puts on one of the Gilbert-Sullivan light operas, "Patience, or Bunthorne's Bride," not so well known as many of the other operas, but a clever satire on the tendency of the feminine to worship the aesthetic in art. WOC presents a special Swedish program directed by Olga E. Edlen.

Did you ever see a ukulele as large as this? Neither have we, but this doesn't happen to be a ukulele.

June Lee (above) with the mischievous eyes is the comedienne who will sing popular songs in a new way at WQJ, Chicago, March 5. Here are Big Brother Bob and Little Brother Harry as they look during the Big Brother hour at WEEI, Boston. Brother Bob, chief brother of the Big Brother club, is sitting down. June Lee photo, Drake Studio.

(Continued on page 10)

KOA GIVES FIRST LIGHT OPERA FRIDAY

Saturday, February 28

(Continued from page 9)

9-10, Lester Kolsey, tenor; Fred Jacobson, monologuist; Nip and Tuck; Casey and Gervais; 12-12:30, Parthenon organ concert.

Mountain Time Stations

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

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6, Exsminer's musical half hour; 6:45-7, "Inspirationsl Psychology," Dr. Clyde Sheldon Shepard; 7-7:45, Banks Richardson and his orchestra; 7:45-8, The Book Shelf; 8-9, Examiner, program, Alhambra Community Broadcsster; 9-10, classic instrumental trio; 10-11, Packard Radio club, Barney Weber, Varsity trio and others.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra; 6:45-8:15, Rhodes' Department store progrsm; 8:30-10, Seattle Times dance music; 10:05-11, Olympic Hotel dance music.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., sunshine hour program; 3:30-4:30 p. m., impromptu studio program, G. N. Nichols, Roy Reid Brignall and others; 7:30-9:30, auditorium service and sermon on Divine Healing, Aimee Semple McPherson, evangelist-pastor, special music.

KGO, Oakland, Calif. (361), 11:30-1 p. m., luncheon concert, Pacific States Electric company; 4-5:30, concert orchestra, Hotel St. Francis; 8, San Jose High school band, George T. Matthews, director; Emil E. Lichtig, baritone; Louise Kembie Brown, soprano; Ramon Oden Spanish and Hawaiian players; Harry E. Fossey, bass; "Stamp Collecting," George W. Ludlow; Edna Linkowski, pianist; "Juvenile Delinquency," Ollie Snedigar; 10-1, Henry Halstead's orchestra.

KGW, Portland, Ore. (492), 10 p. m., Colburn's Melody Men.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., Hi Moulton and his orchestra; 2:30-5, Charlie Wellman's Saturday afternoon frolic with Dot Street, Bubbles Smith, Jerry Cope, Bill Hatch, E. K. Barnes and others; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories, American history, Helen Pirie, screen juvenile, play by pupils of Edyth McGrath; 7:30, better speech talk;

Alvina Kasal, WOAW's new hostess, is a pianist and reader and contributes regularly to the programs. Miss Kasal has many duties as hostess, including the answering of telephone calls, the receiving of artists and visitors and secretarial work.

7:45, Dr. Philip T. Riley, "Care of Body;" 8-12, program, Pacific Electric Railway company. "A Trip to Mount Lowe," arranged by J. Howard Johnson. Selwyn Harris, tenor, Charlie Wellman, "The Prince of Jazz," Glayds Blackwell Pickering, soprano; 12-2 a. m., The Lost Angels of KHJ frolic.

KNX, Hollywood, Calif. (337), 8 a. m., morning prayer; 9, Hired Hand, news; 10, Hired Hand's morning message; 10:30, Radio technical talk, Forbes W. Van Why; 12-1 p. m., Wurlitzer pipe organ studio; 5, closing markets; 5:45-6:15, program, Wurlitzer remote control studio; 6:15-7:30, dinner hour music; 8-9, KNX feature program; 9-10, program, Hazen J. Titus Fruit Cake company; 10-11, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel; 11-1 a. m., Hollywood night, presenting a number of screen, art and literary luminaries of the movie city, tea dansant, Gene James' Rose Room Bowl orchestra; 5:30, what is playing at the local theaters; 8-12, Art Weidner's dance orchestra.

KPO, San Francisco, Calif. (429.5), 3:30-5:30 p. m., Symphony orchestra; A. O. Coggeshall, tenor; 5, Dr. Frank Sill Rogers, violinist; 7:30, First Methodist Episcopal church; 8:45, Waldorf-Astoria orchestra.

WHN, New York, N. Y. (360), 3-4 p. m., program, Queens County Christian Endeavor; 4:30-5, Collegiate dance club; 5-5:30, Roseland dance orchestra; 5:30-6, Olcott Vail and his string trio; 10-10:45, Gem Rszor entertainers; 11-11:30, Vanity club revue; 11:30-12, Connie's Inn revue; 12-12:30 a. m., Harry Richmsn and his entertainers.

WIP, Philadelphia, Pa. (508.5), 10:45 a. m., services, Holy Trinity church; 4, "The Radio Mind of God," William Forkell.

WJAR, Providence, R. I. (305.9), 7:20-9:15 p. m., program, Capitol theater; 9:15, organ recital (WEAF).

WJZ, New York, N. Y. (454.3), 9-10 a. m., children's hour; 11-12, church services; 2:30-3:30 p. m., Radio Bible class, Federation of churches; 4-5, vesper services, St. George's church; 7-8, Nathan Abas' Hotel Pennsylvania orchestra; 8:30-8:45, Wager Swayne Harris, soprano.

WMAK, Lockport, N. Y. (265.5), 10 a. m., First Presbyterian church service, Rev. Stewart M. Robinson.

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

WOO, Philadelphia, Pa. (508.5), 6:05 p. m., organ recital, Clarence K. Bawden; 7:30, services, Bethany temple; organ recital, Caroline Quigg, sermon, Rev. Gordon A. MacLennan.

WWJ, Oetroit, Mich. (352.7), 11 a. m., services, St. Paul's Episcopal cathedrsl; 2 p. m., Detroit News orchestra.

Central Time Stations

KFNF, Shenandoah, Iowa (266), 10:45 a. m., service, First M. E. church; 3, service, Methodist church; 6:30, service, Golden Rule circle.

KTHS, Hot Springs National Park, Ark. (374.8), 11 a. m., services, First Presbyterian church, Rev. Chauncey Hickok, pastor; 8:30 p. m., 10-piece Meyer Davis' New Arlington hotel orchestra, Jacques Renard, director; 10, dance concert, Phil Baxter's singing orchestra.

WBAP, Fort Worth, Texas (475.9), 11 a. m., services, St. Paul's M. E. church, Rev. C. D. Meade, pastor; 4 p. m., concert, Rialto theater.

WBCN, Chicago, Ill. (266), 10:30-12 m., sermon, Rev. Rufus A. White; 4-5 p. m., Lain & Son classical concert; 5:15-6:15, talk, Rev. Richard D. Hughes; 7-8, classical hour, L. Christensen, Danish baritone; Clyde Marsh, tenor; Otto Moore, baritone; Hazel O'Neil, soprano; 8-10, popular program; Harold Johnson, xylophonist; Dorothy Perling, reader; Midway Gardens orchestra; Bordon brothers; Buster Graves, boy soprano; Blanche Robinson, pianist; Florence Eastman, mezzo-soprano; Alfred Winterfeld, concertinist.

WCBO, Zion, Ill. (344.6), 8 p. m., mixed quartet; Mr. and Mrs. R. M. Steel, tenor and soprano; Ida Peterson, soprano; Ralph Reid, baritone; Richard F. Hire, violinist; Mrs. Huth, Miss Hollingshead, Mrs. Hire, harp, flute, viola trio; Mrs. Lillis Leech, pianist; Marion Lee, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 11 a. m., Trinity Baptist church, Rev. David Bryn-Jones, pastor; 4:10 p. m., House of Hope Presbyterian church, Rev. H. G. Swearingen; 7:30, First Baptist church, Rev. W. B. Riley, pastor; 9:15, classical concert.

WOAF, Kansas City, Mo. (365.6), 4-5 p. m., classical music, Star's studio; 5-5:30, Sunday school lesson, Dr. Walter L. Wilson.

WEBH, Chicago, Ill. (370.2), 5-6 p. m., twilight musicale; 7-9, artists program.

WEBW, Beloit, Wis. (268), 4:30-5:30 p. m., Beloit college vesper service.

WEMC, Berrien Springs, Mich. (285.5), 11 a. m., sacred music, Radio Lighthouse choir; Arlene Burdick, violinist; Jeanette Richardson, soprano; 11:45, sermon, Pastor W. R. French; 8:15 p. m., Radio Lighthouse choir; Prof. Louis Thorpe, saxophonist; Mrs. H. B. Taylor, soprano; 9, sermon, Pastor John Knox; 9:30, Kalamazoo church of Seventh-Day Adventists.

WGN, Chicago, Ill. (370.2), 11 a. m., Uncle Walt reads the comics; 11:45, program, Chicago theater; 2 p. m., organ recital, Lyon & Healy; 2:30, Albert de Cortez—Western English Opera company in "Faust;" 3:30, program, faculty artists Chicago Musical college; 9-10, "An Evening with the Great Composers," Charles H. Gabriel, Jr.; Ethel Wakefield, soprano; Drury Lenington, tenor; Drake concert ensemble.

WHAS, Louisville, Ky. (399.8), 9:57 a. m., organ music; 10, church service, Fourth Avenue Presbyterian church, Rev. Dr. Charles W. Welch, pastor; William E. Cohen, organist; 4 p. m., organ recital, George Latimer; 4:30, choral evening song service, Christ Church cathedral.

WHD, Des Moines, Iowa (526), 11 a. m., sermon, Dr. Charles S. Medbury; 4 p. m., Christian Science lecture, First Church of Christ Scientist.

WLS, Chicago, Ill. (344.6), 6:30 p. m., Ralph Emerson, organist; 7, Metropolitan ladies' quartet.

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, editorial staff of Sunday school publications, Methodist Book concern; 11, services, Church of Covenant, Dr. Frank Stevenson; 7:30 p. m., services, First Presbyterian church, Dr. Frederick McMillan; 8:30, Western and Southern orchestra, William Kopp, director; Joseph Vito, harpist.

WMC, Memphis, Tenn. (499.7), 11 a. m., services, First Baptist church, Rev. A. U. Boone, pastor.

WOAI, San Antonio, Texas (394.5), 11 a. m., services, First Presbyterian church; 7:30 p. m., services, Central Christian church; 9:30, "La Boheme," WOAI entertsiners.

WOAW, Omaha, Nebr. (526), 9 a. m., Radio chapel service, Rev. R. R. Brown, pastor; 1:30 p. m., matinee program, May Seed and Nursery company; 2:30, matinee program, North Side Christisn church Sunday school; 6, musical chapel service, Csivary Baptist church, Rev. Howard C. Whitcomb, pastor.

WOC, Oavenport, Iowa (483.6), 8 p. m., First Baptist church, Rev. Walter Ingram; 9:30, Palmer Little symphony, Erwin Swindell, conductor.

WOI, Ames, Iowa (270), 10:45 a. m., college chimes; 11, chapel services, Dr. W. K. McDonald.

WORO, Batavia, Ill. (275), 7 p. m., Virginia Polson, soprano; 7:10, Howard Breese, violinist; 7:20, piano solos; 7:25, Bible lecture, L. M. Smith; 7:50, Virginia Poison, soprano.

WQJ, Chicago, Ill. (447.5), 10:30 a. m., Dr. Preston Bradley's sermon; 8-10 p. m., Ralph Williams and his Rainbo Garden orchestra; Alma Wilson McMahill, soprano; Dorothy McGrath, pianist; Maridean Borresen, baritone; Fern Denicke, accompanist; Jeanette Van Lennep, soprano; Mary Van Lonnep, accompanist.

WSB, Atlanta, Ga. (428.3), 11 a. m., First Presbyterian church service; 3:30 p. m., Christian Science lecture from Lowe's Grand; 5-6, Sabbath service, the Baptist Tabernacle church choir; 7:30, Wesley Memorial church service.

Mountain Time Stations

KOA, Oenver, Colo. (322.4), 11 a. m., service, First Baptist church, Dr. A. H. C. Morse; 7:45 p. m., service, First Baptist church, Dr. A. H. C. Morse, pastor.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 10-10:45 a. m., L. A. Church Federation service; 11-12, regular service from First Church of Christ Scientist; 4-5 p. m., L. A. Church musicians' vesper service; 6:45-7, editorial talk; 7-8, atage acts, orchestra and specialties from Metropolitan theater; 8-9, program, Coso Hot Springs, presenting Indian orchestra, Chief Yowlache, baritone; 9-10, Examiner, Ray West and his Alexandria hotel orchestra; 10-11, Thereon Bennett's Anhelenos orchestra.

KFSG, Los Angeles, Calif. (278), 10:30-12:30 p. m., service of Angelus temple broadcast from pulpit, Aimee Semple McPherson, pastor; Esther Fricke Green, organist; 2:30-4:30, musical program by Silver band and Temple choir; sermon, Aimee Semple McPherson; 7-9:45, regular evening service of the temple beginning with hour of music, sermon by pastor; Esther Fricke Green, organist; 10-11, organ recital, Esther Fricke Green, organist.

KGO, Oakland, Calif. (361), 11 a. m., service, First Methodist Episcopal church, Rev. John Stephens, pastor; 3:30 p. m., KGO Little Symphony orchestra, Carl Rhodehamel, conductor; Arthur S. Garbett, musical interpreter; 7:30, service, First Methodist Episcopal church, Rev. John Stephens, pastor.

KHJ, Los Angeles, Calif. (404.1), 10 a. m., Margaret R. Weaver, "In My Father's House;" 10:30-12:30 p. m., services of First Methodist Episcopal church, Arthur Blakely, organist; E. E. Helms, pastor; 6:30-7, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 7-7:30, organ recital, Arthur Blakely, organist; 8-10, program, El Encanto apartments, Maude Fenlon Bollman, soprano.

KJS, Los Angeles, Calif. (293), 10:45-12:30 p. m., services of the Church of the Open Door, sermon by the pastor; Alfred A. Butler, organist; choir of 100 voices; 6-6:45, vesper musical hour, sermon by Rev. William H. Pike; 7:15-9:30, musical program arranged by Prof. J. B. Trowbridge and regular evening service of Church of Open Door.

KNX, Hollywood, Calif. (337), 5-6:15 p. m., Radio sunset service conducted by Rev. Chas. F. Aked and Rev. Frank Dyer from theater of Ambassador hotel; 7-7:45, musical hour by International Bible Students' association; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-11, program, Globe Ice Cream company.

KPD, San Francisco, Calif. (429.5), 11-12 m., church services; Letty Collins, contralto; Theodore J. Irwin, organist; 6:30 p. m., "What Is Playing at the Local Theaters;" 8:30-10, concert, Rudy Seiger's Fairmont hotel orchestra.

Monday, March 2

Monday, silent night for: AT9, CFCA, CKAC, CKY, KFDM, KFMQ, KFSG, KGW, KJS, KYW, PWX, WBAU, WBCN, WCAU, WDWF, WEAD, WEBH, WEBJ, WFI, WGN, WHAS, WJY, WKAQ, WLBL, WLS, WMAQ, WOAI, WDC, WQJ, WREO, WSUI, WTAY.

Eastern Time Stations

CFCA, Toronto, Can. (356), 5:30-6 p. m., R. C. Seyring, pianist.

CHNC, Toronto, Can. (350), 8:30 p. m., CHNC Little Symphony orchestra, Charles E. Bodley, director; Rigoletto mixed quartet, Madeleine Bell, soprano, Ella W. McQuillan, contralto, Lawrence Defoe, tenor, Edgar Smith, bass.

CKAC, Montreal, Can. (425), 4:30 p. m., Ilo lessons.

KOKA, E. Pittsburgh, Pa. (309.1), 6:15 p. m., concert, KDKA Little symphony orchestra, Victor Saudek, director; 7:30, children's period; 8, Girl Scout meeting; 8:15, address, University of Pittsburgh studio; 8:30, concert.

WAHG, Richmond Hill, N. Y. (315.6), 8-8:15 p. m., Milton Yokman, tenor; 8:15-8:30, Emery Deutsch, violinist; 8:30-8:45, Chapel Four quartet; 8:45-9:45, Synchrophase string trio; 9:45-10, Chapel Four quartet; 10-10:15, Emery Deutsch, violinist; 10:15-10:30, Maude Mason, pianist; 10:30-11:30, Bert Taylor and his Larremore orchestra; 12-2 a. m., special program of dance music, (station will use call 2XE and 516.9 meters for this late program).

WBBR, New York, N. Y. (272.6), 8 p. m., Herald quartet; 8:15, "The Masterpiece of God's Creation," H. H. Barber; 8:40, Herald quartet.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8:30, Edward L. Marsh, tenor soloist; 9, concert by the A. & P. Gypsy string ensemble; 11, flight of the mythical dirigible, the Press Kaybee; concert, Blackstone theater orchestra.

WCX, Detroit, Mich. (516), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7, program.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Firth Lee, basso cantate; 4:15-4:30, Ola B. Rankin, contralto; 4:40-5, "The Three Wishes," Mabel Foote Hobbs; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:15, Gustav Langenus, clarinetist; Paolina Guido, pianist; 7:15-8:30, Strand theater musical program; 8:30-9, Cushman's Sons, Inc.; 9-10, A. & P. Gypsies; 10-10:20, Premier male quartet; 10:30-11:30, Ben Bernie's Hotel Roosevelt orchestra.

WEEI, Boston, Mass. (475.9), 7:15 p. m., sport talk, Stanley Woodward; 7:25, Dok-Eisenbourg and his Sinfonians; 7:55, Pathe News flashes; 8, Lansing mandolin club; 8:30, Cuff brothers; 8:45, Francis C. Chantereau, tenor; 9, A. & P. Gypsies.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., State theater.

WFI, Philadelphia, Pa. (394.5), 3:05 p. m., Mrs. Thyrza Sloan stein, soprano; Dorothy Leake, soprano; Anna Wilson, mezzo-soprano; Caroline Hoffman, pian-

Elizabeth Awad will take part Monday at WBBR, Brooklyn, New York, in a Syrian program. Toufic Moubaid, also from this romantic country, will play an old oriental guitar. Miss Awad will accompany him at the piano.

ist; 6:30, Meyer Davis' Bellevue Stratford concert orchestra; 7, Sunny Jim.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview, "History of Paper," Charles C. Dans; 3:10-3:30, Guy Hunter, blind entertainer; 3:30-3:40, talk on "Godly Prints," Florence Gardner; 6-6:30, Uncle Geebee; 6:30-7:30, Lew Krueger's Alladin dance orchestra.

WGY, Schenectady, N. Y. (379.5), 2 p. m., "Colors for the Auburn Haired," Caroline Davies; 6:20, sports talk, Harold Anson Bruce; 6:40, dinner music, Hotel Ten Eyck trio; 7:30, program, male quartet.

WHN, New York, N. Y. (360), 6:30-7:15 p. m., violin solos, Olcott Vail; 7:15-7:30, fashion chats, Mme. Belle; 7:30-7:35, health talk, Dr. Landis; 7:35-8, Hotel Carlton Terrace orchestra; 8-8:15, "Storage Batteries," H. B. Shantz; 8:15-8:30, Roseland dance orchestra; 8:50-9:30, Littmann's employes' orchestra; 9:30-10, Dan Gregory and his Crystal Palace orchestra; 10-11, Jack Shack; 12-12:30 a. m., Lou Holtz and his Club Wigwam revue; 12:30-1, Harry Rose and his Silver Slipper entertainers.

WIP, Philadelphia, Pa. (508.5), 3 p. m., recital, students Skibinsky studio; "Everlasting Life on Earth," G. J. Calhoon; 4, concert, Vare Junior high school students; 6:05, Charles Masters and his dance orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 8 p. m., studio program; 9, A. & P. Gypsy string ensemble.

WJZ, New York, N. Y. (454.3), 4-4:15 p. m., Leo F. Heidelberg, pianist; 4:15-4:30, Lilian Bucknan, soprano; 4:30-5:30, Fred Hall's Royal terrace orchestra; 7-8, Bernhard Levitow's Hotel Commodore dinner concert; 8-8:10, Wall Street Journal review; 8:10-8:20, N. Y. U. Air college; 8:40-9:10, Margaret Manierre, soprano; 9:10-9:30, talk, Coach Meehan of New York university.

WLIT, Philadelphia, Pa. (394.5), 7 p. m., Dream Daddy's bedtime stories; 8, Arcadia cafe concert orchestra; 8:30, Jewish program; 10:03, Arcadia cafe dance orchestra; vaudeville features from Fay's Knickerbocker theater.

WMAK, Lockport, N. Y. (265.5), 8 p. m., Al Utsinger's orchestra.

WNYC, New York, N. Y. (526), 7-7:30 p. m., dance program, Royal orchestra; 7:35-7:40, health talk; 7:45-8, dance program; 8-8:10, talk; 8:15-9:15, studio program; 10:40-11, "Trend of the Times," Dr. Sydney Ussher.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's ensemble from Hotel Adelphia; 8, program from WEAF; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo's Hotel Sylvania dance orchestra.

WWJ, Oetroit, Mich. (352.7), 6 p. m., dinner concert; 8, Detroit News orchestra; Iris quartet; T. Stanley Perry.

Central Time Stations

KFKU, Lawrence, Kans. (275), 6:50 p. m., piano tuning-in number; 7, music; 7:15, "Training for Track Athletics, Fundamentals of Track and Field Athletics," Karl Schlademan; 7:30, "Play Analysis for Production," Prof. Allen Grafton; 7:45, Elementary Spanish lesson IX.

KFKX, Hastings, Nebr. (288.3), 9:30-11:30 p. m., dance program, Ralph Britt and his University Six orchestra.

KFNF, Shenandoah, Ia. (266), 6:30 p. m., Smith-Belding Harmony orchestra.

KSAC, Manhattan, Kans. (340.7), 7:20 p. m., college band, H. P. Whelier, director; 7:30, "History of Development of Sheep Industry," H. E. Reed; 7:40, college band, H. R. Wheeler, director; 7:50, "Dairy Barns and Equipment," H. W. Cave.

KSO, St. Louis, Mo. (545.1), 8 p. m., St. Louis University glee club and orchestra, George Devereux, director; 10, Mrs. Madalene Schleicher Johnson, soprano; Mrs. Harvey D. Lamb, pianist; Mrs. Oliver T. Johnson, reader.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., concert, Mrs. J. M. Frisbee; 10, dance frolic, the Charles L. Fischer orchestra.

WBAP, Fort Worth, Texas (475.9), 7:30-8:30 p. m., concert, Mrs. Z. Ora Williams and choir, College

(Continued on page 11)

Better Advance Programs

BEGINNING with the last issue the presentation of Radio Digest's advance programs are being made in a new and different manner than heretofore. The change was made because it is believed to be a distinct improvement that will provide Radiophans with an even more indispensable aid to the popular pastime of listening in. Briefly the change embraces:

1. Under each date heading the stations are classified first according to the time standard used at the station, then alphabetically. Thus all eastern time stations, grouped together, will come first. These will be followed by the central, mountain and Pacific time stations, in the order named.

2. The two index boxes, "Where to Hear Concerts" and "Where to Hear Talks," are now arranged according to the time standard in use at the stations, following the general arrangement of the stations as just explained.

The new presentation of the advance program material will make it much more valuable locally than heretofore. Eastern fans will find all of their closest stations, programs and index tables in Eastern time. Listeners in the middle west will find their stations listed in Central time, the kind of time they use. Rocky mountain Radiophans will likewise find their stations and time tables expressed in the kind of time in use in their vicinity, Mountain time. Likewise, on the Pacific coast, listeners will find KHJ, KGO, KPO, KGW and other west coast stations presented in Pacific time.

At this time it might be wise to call attention to the breadth and scope of the advance programs carried by Radio Digest. Practically every station in the country transmitting with 500 watts or more power will be found to have its weekly program given in advance in these columns. The few absent stations are those which have been unable to schedule their artists sufficiently far in advance to make the listing of their programs possible.

The department of commerce states there are 104 of these larger stations. Radio Digest each week gives programs for an average of 100 of these. In no other medium will this material be found so complete. Radio Digest is the "National Broadcast Authority."

Sunday, March 1

Sunday, silent night for: AT9, CFAC, CKAC, CHNC, KFAE, KFDM, KFKU, KFMQ, KFKX, KFOA, KOB, KLX, KSO, PWX, WAHG, WBAV, WCAE, WOAF, WDWF, WEAO, WEBJ, WEBW, WGBS, WGST, WHA, WHAS, WHAZ, WHD, WIP, WJY, WKAQ, WLBL, WKIT, WMAK, WMC, WOI, WOO, WOR, WSAI, WTAY, WWJ.

Eastern Time Stations

CFAC, Calgary, Can. (430), 11 a. m., Knox church, Rev. George A. Dickson.

CFCA, Toronto, Can. (356), 11 a. m., service, Bloor Street Presbyterian church, Rev. George C. Pidgeon; 7, services, Timothy Eaton Memorial church, Dr. Trevor H. Davies.

CKAC, Montreal, Can. (425), 4:30 p. m., band from Sorel; talk, Mayor of Sorel.

KOKA, E. Pittsburgh, Pa. (309.1), 10:45 a. m., services, East End Christian church; 2:30 p. m., Westinghouse symphony orchestra; 4, Dr. Charles Heinroth, organist; 4:45, vesper service, Shadyside Presbyterian church; 6:30, dinner concert, Pittsburgh Athletic association orchestra; 7:45, services, Calvary Episcopal church, Rev. E. J. Van Etten, pastor.

WBBR, New York, N. Y. (272.6), 9:10 p. m., instrumental trio; 9:25, Carl Park, violinist; 9:35, "The World's Judgment Day to Last a Thousand Years," Harry Pinnock; 10, Carl Park, violinist; 10:10, instrumental trio.

WCAE, Pittsburgh, Pa. (461.3), 10:45 a. m., services, Rodef Shalom temple; 3 p. m., Peoples Radio church services; 4, Prof. Otto Kaitels, Ricenist; 6:30, dinner concert, William Penn hotel; 7:30, "Roxy" and his gang, WEAF.

WCAU, Philadelphia, Pa. (278), 5:15 p. m., recital; 5:30, sermon, Rev. Dr. John W. Stockwell; 5:40, recital; 5:50, short message, Rev. Dr. John W. Stockwell; 6, Meyer Davis' Hotel Pennsylvania concert orchestra; 8, talk, G. G. Calhoon.

WCX, Oetroit, Mich. (518), 7:15 p. m., church services.

WOWF, Providence, R. I. (441), 10 a. m., chimes; 5-6:45 p. m., Venetian serenaders; Philharmonic pipe organ.

WEAF, New York, N. Y. (491.5), 8:15-9:20 p. m., Roxy and his gang, Capitol theater; 9:20-10:15, organ recital.

WEAR, Cleveland, Ohio (389.4), 1-2 p. m., symphony orchestra, Allen theater; 3:30-5, twilight concert, Ivan Francisci Hotel Cleveland orchestra.

WEEI, Boston, Mass. (475.9), 3:45-5:30 p. m., men's conference, Y. M. C. A.; 9:15, "Roxy and His Gang," Capitol theater; 9:15-10:15, organ recital, Columbia university.

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

WGBS, New York, N. Y. (315.6), 3:30-4:30 p. m., program, Piccadilly theater.

WGY, Schenectady, N. Y. (379.5), 10:45 a. m., service, First Methodist Episcopal church; 3:35 p. m., WGY

SPECIAL SWEDISH PROGRAM AT WOC

Monday, March 2

(Continued from page 10)

Avenue Baptist church; 9:30-10:45, Ward's "Trail Blazers;" 12-1 a. m., Swayne's Southern serenaders.

WCBD, Zion, Ill. (344.6), 8 p. m., Zion orchestra; Ladies' trio; Chester S. Bagg, baritone; John A. Mehaffey, pianist; Mrs. John A. Mehaffey, reader.

WEBW, Beloit, Wis. (268), 8-9 p. m., men's glee club.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:15 p. m., "Invitation to the Elks' Carnival," Lt. Governor W. I. Nolan; 8, "Marketing Poultry Products," Cora Cook; 8:15, "Town and Country," Curtis M. Johnson; 8:30, dramatic and musical evening; 10, dance program, Arnold Frank's Casino orchestra.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number; weekly "request story night," Tell-Me-a-Story lady; Trianon ensemble; 11:45-1, nighthawk frolic.

WEMC, Berrien Springs, Mich. (285.5), 8:15 p. m., concert, Radio Lighthouse musicmakers.

WHA, Madison, Wis. (535.4), 7:45 p. m., University School of Music, Mu Phi Epsilon; address on food and nutrition, Mrs. Nellie Kedzie Jones.

WHO, Des Moines, Ia. (526), 7:30-9 p. m., Mrs. Harry Kimball, contralto; Harry Kimball, tenor; Sam Caplan, violinist; Stewart Watson, baritone; Helen Birmingham, accompanist; Mary Eaton, pianist; Cecilian quartet; 11:15-12, L. Carlos Meier, organist.

WLW, Cincinnati, Ohio (422.3), 6 p. m., dinner hour concert, Selinsky instrumental quintet; 8, Cincinnati Times Star program; Sinfonio male quartet; Howard Hafford, tenor; Kathryn Reece Haun, soprano; flute Obligatoes, Ewald Haun; Henry Lange's Hotel Sinton orchestra.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:30, Hotel LaSalle orchestra.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., concert, hotel Gayoso orchestra.

WOAW, Omaha, Nebr. (526), 5:45 p. m., public news period, Eugene M. Konecky; 6, Arthur Hays, organist; 6:30, Stanley Jan Letovsky, composer-pianist; 9, program, auspices Matsui studio; 10:30, Hospe's Royal Serenaders.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., fashion talk, Cbarm magazine; 6:15-7:15, Dave Harman's Cinderella orchestra; 8-9, Al Reld's hour; 9:45-10:15, Dr. Spaeth and his studio party.

WORD, Batavia, Ill. (275), 8 p. m., Ward's six-piece orchestra; 8:10, Hawaiian music; 8:20, Mrs. Halter, Pianist; 8:30 p. m., World news items; 8:50, Hawaiian music; 9, Ward's six-piece orchestra.

WOI, Ames, Ia. (270), 10 p. m., program, popular music.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., Vick Myers' melody artists; Bonnie Barnhardt's bedtime story; 8-9, Durett and Hutchins, steel guitarists; 10:45, entertainment by the Coca-Cola club.

Mountain Time Stations

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, "Come Out of the Kitchen," KOA players, Iris Ruth Pavey, director; KOA orchestra, Lewis H. Chernoff, director.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., "Superstitions in Medicines," Dr. McBride.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner, program, Floryane Thompson, soprano; 7-8, Evening Herald Radiolands dance orchestra; Charlie Melson, tenor; 8-9, vocal and instrumental program; 9-10, program, Walter M. Murphy Motors company; 10-11, Anton Lada and his Louisiana Five dance orchestra.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Studio music; 6:45-8:15, Sherman Clay and company program; 8:30-10, Seattle Times studio program.

KGO, Oakland, Calif. (361), 4-5:30 p. m., Henry Halstead's dance orchestra; 5:30-6, Aunty Betty stories, KGO kiddies' club; 8, Arion trio; "Present Status of the Fruit Beverage Industry," J. H. Irish; "A Lesson In English," Wilda Wilson Church; "A Motorist's Duty in Case of Accident," George E. Sanford; "Chats About New Books," Joseph Henry Jackson; 10-1, Henry Halstead's orchestra.

KLX, Oakland, Calif. (509.9), 6-7 p. m., organ; 8-9:30, educational program; 9:30-10, American theater orchestra; 10, "Meeting of the Lake Merritt Ducks."

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., musical half hour from Wurlitzer studio; 6:30-7:30, dinner hour music; 8-9, KNX feature program; 9-10, program by Paulais, Inc.; 10-11, Silvertown Cord orchestra, Lillyan May Challenger, soprano, presented by B. F. Goodrich Rubber company; 11-12, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (429.5), 5:30-6:30 p. m., Big Brother of KPO; Helen Tomilson, pianist; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; Anna K. Blotcky, contralto; 6:30, "What Is Playing at the Local Theaters;" 10-11, Gene James' Rose Room Bowl orchestra.

Tuesday, March 3

Tuesday, silent night for: AT9, CHNC, KFAE, KFKU, KFKX, KFMX, KFNF, KLX, KOA, KOB, PWX, WAHG, WBAU, WBBR, WCBD, WEAO, WEBW, WEMC, WGST, WHA, WHAZ, WHO, WMAK, WOI, WOO, WORD, WOS.

Eastern Time Stations

CKAC, Montreal, Can. (425), 7:30 p. m., Windsor hotel concert orchestra; 8:30, French program; 10:30, Windsor hotel dance orchestra; midnight frolics.

KDKA, E. Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Pittsburgh Athletic association orchestra; 7:30, children's period; 7:45, "Overcoming Political Prejudice," Dr. John Ray Ewers; 8, concert; 9, Brunswick hour of music; 11, concert, Pittsburgh Post studio.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8, program from New York; 8:30, The "Gold Dust Twins;" 9, "The Eveready Hour;" 10, concert, Goodrich Silvertown Cord orchestra.

WCAU, Philadelphia, Pa. (278), 7, Paul Specht and his Columbia recording dance orchestra; 7:30, recital, N. Snellenberg and company; 8, selections, Cleve-Chandler Hawaiians; 8:15, talk, Philadelphia Electric company; 8:20, concert, Media Melodians; 8:40, Symphonic Surety orchestra; 9, recital.

WCX, Detroit, Mich. (516), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel; 7 p. m., musical program; 12, Red Apple club, dance frolic and novelty program.

WDWF, Providence, R. I. (441), 8-9:30 p. m., Vincent Lopez Arcadia dance orchestra.

WEAF, New York, N. Y. (491.5), 3-3:15 p. m., William Kenney, tenor; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:10, Adrien Blain, oboe soloist; 7:10-7:20, Elsie de Lawrier Harmon, soprano; 7:20-7:30, Chas. C. Green, adv. agency; 7:30-8, Royal Eastern Electric Supply company; 8-8:15, talk, Bank of America; 8:15-8:30, John R. Williams, tenor; 8:30-9, Gold Dust Twins; 9-10, Eveready hour.

WEBJ, New York, N. Y. (233), 7-7:30 p. m., Siebert's Original Midnight serenaders; 7:30-7:45, Almo trio; 7:45-8, Edith Law, accompanied by Alice Law; 8-9, Johnny Basilone and his Harlem Tea Garden orchestra.

WEEI, Boston, Mass. (475.9), 7:15 p. m., sport talk, William E. Mullins; 7:25, Dok-Eisenbourg and his Sinfonians; 8, New York program; 8:30, Gold Dust Twins; 9, Eveready hour; 10, Goodrich Silvertown Cord orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Hotel Cleveland-Percey; 8-11, WEAF program.

WFI, Philadelphia, Pa. (394.5), 3 p. m., income tax talk; Omicrom Chapter Mu Phi Epsilon honorary musical society concert; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Boy Scouts' period; 8, concert from WEAF; 9, Eveready hour; 10, Goodrich Silvertown Cord orchestra.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview, "Original Peggy O'Neill;" 3:10-3:20, Jessie Moss Berenson, soprano; 3:20-3:40, "The Motion Picture Situation in Germany;" 3:40-3:50, piano lesson; 3:50-4, Jessie Moss Berenson; 6-6:30, Uncle Geebee; 9-9:30, "In a Casting Director's Office," Charles Waltan; 9:30-10, program, Herald-Tribune; 10-10:15, Anthony Pesci, tenor; 11-12, Fred E. Benson's orchestra.

WGY, Schenectady, N. Y. (379.5), 6:30 p. m., dinner music, New Kenmore hotel orchestra; 7:30, "Value of Training," Dr. James William Black; 8, WGY orchestra; American trio; Arthur Bleau, baritone; Leo Kliwen, vocalist; Giovanni Trombini, cellist; 9, Brunswick hour of music; 11:15, organ recital, Stephen E. Boisclair.

WHN, New York, N. Y. (360), 12:30-1 p. m., Chas. Strickland's Palais D'Or orchestra; 2:15-3:15, program, Loew's State theater; 6:30-7, Strand Roof orchestra; 7-7:15, "Personal Chats of Stage and Screen," E. S. Colling; 7:15-7:25, welfare talk, Wm. J. Stuart; 7:25-7:30, cross word period; 7:30-7:35, health talk, Dr. Landis; 9-9:30, dance music, Cinderella orchestra; 9:30-9:35, "Spring Styles," Haas Bros. Fabric corporation; 10-10:15, Loew's vaudeville headliner; 10:30-11, The New Rockwell Terrace revue; 11-11:30, Everglades revue; 11:30-12, Club Alabam orchestra; 12-12:30 a. m., Ted Lewis and his Parody club orchestra.

WIP, Philadelphia, Pa. (508.5), 4 p. m., Frank B. Appecker, violinist; 6:05, songs, Mark Fisher and Joe Burke; 6:15, Harvey Marburger and his vaudeville dance orchestra; 8, Elliott Lester, dramatic critic; 8:15, Malia quartet; Philadelphia police band; 10:05, "Emo'a Weekly Broadcast," Eli M. Orowitz; 10:30, Harvey Marburger and his vaudeville dance orchestra.

WJAR, Providence, R. I. (305.9), 9 p. m., The eveready hour; 10, Goodrich Silvertown Cord orchestra.

WJY, New York, N. Y. (405.2), 10:15-10:30 p. m., Mable Lee Stonor, soprano.

WJZ, New York, N. Y. (455), 4-4:20 p. m., Fay Milbar, pianist; Lillian Wood, violinist; 4:30-5:30, Bernhard Levitow's Hotel Commodore Tea orchestra; 7-7:15, "Dogs," Frank Dole; 7:15-8, Joseph Strissof's Hotel Vanderbilt orchestra; 8-8:10, Wall Street Journal review; 8:10-8:20, N. Y. U. Air college; 8:25-8:40, Beatrice Anthony, pianist; 9-10, Brunswick hour; 10-10:20, talk, Professor Emory Holloway.

WKAQ, San Juan, P. R. (340.7), 8-9:30 p. m., Euterpe jazz band.

WLIT, Philadelphia, Pa. (394.5), 2:30 p. m., Martha Harley Krips, soprano; Lola Harley Weber, mezzo soprano; 4:30, Andrew M. Strang, violinist; 7:30, Dream Daddy's bedtime stories.

WNYC, New York, N. Y. (526), 7:35-10 p. m., Reisenfeld's Rialto program; 10:10-10:30, lecture service, Board of Education.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt.

WRC, Washington, D. C. (468.5), 6:45 p. m., children's hour, Peggy Albion; 7, dinner music, New Willard Meyer Davis orchestra; 8, "Show Shopping," Leonard Hall; 8:10, music; 8:30, "The Political Situation in Washington Tonight," Frederic William Wile; 9, Brunswick hour of music; 10, concert, De Moss family; 10:30, Meyer Davis' Le Paradis band.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, concert from WEAF, New York.

Central Time Stations

KFDM, Beaumont, Tex. (315.6), 8 p. m., musicale.

KFKX, Hastings, Nebr. (288.3), 10-12 midnight, KDKA program.

KFQM, Fayetteville, Ark. ((299.8), 9 p. m., Little Orchestra of the university, H. D. Tovey, director.

KSAC, Manhattan, Kans. (340.7), 7:20 p. m., college quartet; 7:30, "Insects Injurious to Alfalfa," R. C. Smith; 7:40, College quartet; 7:50, "Purposes and Advantages of Good Poultry Houses," J. H. McAdams.

KSD, St. Louis, Mo. (545.1), 6 p. m., Benjamin Rader's orchestra; 9, program to be announced.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., versatility concert, Charles L. Fischer's Eastman hotel ensemble, with vocal numbers.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., Berachah Home band, Prof. Hurwood, director; 9:30-10:45, concert, Mrs. Pearl Calhoun Davis.

WBCN, Chicago, Ill. (266), 7-8 p. m., classical program; 8-8:30, popular program, Marie Wright, soprano; Midway Gardens orchestra; 8:30-9, Walton School of Commerce, "Encyclopedia of the Air"; 9-12, Marie Wright, soprano; Midway Gardens orchestra; Robert Benquist, reader; Tom Owen's barn dance trio; Finney Briggs, humorist; Anna Fleming, soprano; F. H. McDonald; Famous Four, harmony singers; Les Cameron, tenor; George Forsyth, boy tenor; Ann Williams, soprano; 12-1, Pirate Ship.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 5:30 p. m., children's hour, Gold Medal Lady; 7-9, national program, New York.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Duo Art; Radio piano lesson, Maudellen Littlefield; Trianon ensemble; 11:45-1, Nightbawk frolic, Newman theater talent.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Dan Russo, violinist; Ted Florito, celeste soloist; Riviera theater; 9-10, Oriole orchestra; Dennis sisters; Dean Remick, pianist; songs, Kay Ronayne; 11-12, Oriole orchestra; Loos brothers; Nick Lucas; Jack Penewell, guitarist; Frank Magini.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, Wood Brothers quartet; Kathleen Morris, pianist; 10-11, Don Bestor Drake dance orchestra.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Carl Zoeller's Melodists; chapter of the "Billy and Jane" stories, James Speed.

WLW, Cincinnati, Ohio (422.3), 6 p. m., dinner hour concert, Selinsky instrumental quintet; 10, program from St. Mary's, Ohio, auspices of St. Mary's Chamber of commerce; 11:20, Higginbottom's orchestra De Luxe, Wilson Higginbottom, director and manager.

WMAQ, Chicago, Ill. (447.5), 4 p. m., American Red Cross talk, Dr. H. W. Gentles; 4:30, pupils, Knupfer studios; 6, Chicago theater organ; 6:25, Hotel LaSalle orchestra; 6:50, "Daddy;" 8, Harry Hansen, literary editor; 8:30, Clara E. Laughlin, travel talk; 8:50, lecture, University of Chicago; 9:15, Oscar Heather, tenor; Anna Schuenamann, pianist.

WMC, Memphis, Tenn. (499.7), 8 p. m., lecture, Goodwyn institute, Charles Howard Plattenberg; 11, midnight frolic, Reinhardt's symphony orchestra.

WOAI, San Antonio, Texas (394.5), 8:30 p. m., Warren Hull, baritone; Charles Stone, tenor; Walter Dunham, pianist; instrumental music, WOAI trio.

WOAW, Omaha, Nebr. (526), 6 p. m., "Advice to Lovelorn," Cynthia Grey; 6:25, dinner program, May Seed and Nursery company; 9, Blackstonian orchestra; soloists, Hannan-Van Brunt; 10:30, Frank W. Hodek, Jr., and his Nightingale orchestra.

WOC, Davenport, Ia. (483.6), 9 p. m., artists program.

WOR, Newark, N. J. (405), 3-3:15 p. m., book review, Mea Jacobus Flemming; 6:15-6:30, Halsey Miller's Hotel Berwick orchestra.

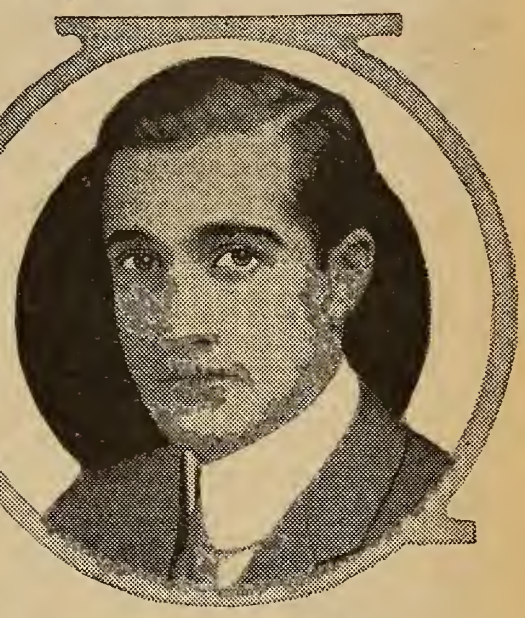
WORD, Batavia, Ill. (275), 8 p. m., Florence Hoover, contralto; 8:20, Jane Miller, violinist; 8:25, Bible lecture; M. E. Woodley; 8:50, Mrs. Louise Nelson and Mrs. Frederick Burke, duets.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; Dorothy Davie Dillow, soprano; Robert Betzler, Parisian pianist; 10-1, Ralph Williams and his Rainbo Skylarks; Ned and Ches; Will Rossiter; Mack Sisters; Rick Whalen and Gardner; 1-2, Hotsy Totsy hour, Ralph Williams, Ginger Man, Skylarks.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., Bonnie Barnhardt's songs and bedtime story; 8-9, Vick Myers melody artists; 10:45, the Griffith Aeolian string quintet.

WTAY, Oak Park, Ill. (250), 6:10-6:30 p. m., Parthenon organ concert; 6:30-7:30, studio popular concert, Originators orchestra; Sandy Meek, Scotch baritone; Ruth Timme, pianist; Raynor Timme, baritone; George Klopf, pianist.

Nellie Torgler is one of the favorite pianists of KGW. Her solos are in such demand that she appears regularly at this studio. May Singhi Breen (below) is a popular New York entertainer, who may be heard with her "Uke" at a different New York station every night. Max Garver Miranda (right) is the head of the music department and is the official organist of Beloit college. He may be heard this week during the vesper services Sunday at WEBW.



Pacific Time Stations

KFI, Los Angeles, Calif. (467), 6:45-7 p. m., editorial talk; 7-8, Hill Bros., dinner dance orchestra, Starr Russell, blues singer; 8-9, Examiner, program by Phi Sigma Pi fraternity; 9-10, instrumental and vocal program; 10-11, Packard Ballad hour, Leonard Van Berg, Billy Hall, Tommy Dace in trio numbers, Bess Rudisill and Rhue Gill, Jeanette Dace, pianist.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra; 6:45-8:15, Rhodes' Department store program; 8:30-10, Seattle Times dance music; 10:05-11, Olympic Hotel dance music.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Sunshine hour program; 3:30-4:30 p. m., afternoon organ recital of Esther Fricke Green, with assisting artists; 6:30-7:30, children's hour arranged by Harry James Beardsley (Cousin Jim) and associates.

KGO, Oakland, Calif. (361), 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, program, KGO Little Symphony orchestra; 10-1, dance music, Henry Halstead's orchestra.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., Major and his Forum roof orchestra; 2:30-3:30, matinee musicale, Pacific States Electric company; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history, weekly visit of Queen Titania and Sandman from Fairyland, Uncle John, Louis F. Klein, Charles Leslie Hill, reader; 8-10, program, Mullen and Bluett, arranged by the Radio Philosopher, G. Allison Phelps; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KJS, Los Angeles, Calif. (293), 8-9:30 p. m., vocal and instrumental program, direction of Prof. J. B. Trowbridge.

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., musical half hour from Wurlitzer studio; 6:30-7:30, dinner hour program presented by R. C. "Cliff" Durant; 7:30-8, Siegel-Myers style talk; 8-10, program, Pasadena Realty board; 10-12, movie night at the Ambassador hotel's Cocoanut Grove, Abe Lyman's dance orchestra.

KPO, San Francisco, Calif. (429.5), 4:30-5:30 p. m., Rudy Seiger's Fairmont hotel orchestra; 5:30-6:30, Big Brother of KPO; A playlette, "Jenny's Secret," Sadio Hooper, Henry Kuttner, Jr.; 6:30, "What is playing at the Local Theaters"; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-10, Josephine Wilson Jones, soprano; 10-11, Gene James' Rose Room Bowl orchestra.

Wednesday, March 4

Eastern Time Stations

Wednesday, silent night for: AT9, CFAC, CKAC, CHNC, CKY, KFDM, KFKU, KFKX, KFMQ, KGO, KJS, KSD, WBAV, WCBD, WDWF, WEBW, WFAA, WFI, WGBS, WGY, WGST, WHAZ, WJY, WLBL, WMAK, WMC, WOAW, WOAI, WOI, WORD, WREO, WSAI, WSUI.

KDKA, East Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Pittsburgh Athletic association orchestra; 7:30, children's period; 8:15, address, University of Pittsburgh studio; 8:30, concert.

PWX, Havana, Cuba (400), 8:30 p. m., navy band.

WAHG, Richmond Hill, N. Y. (315.6), 12-1 p. m., talks on cooking and etiquette, the Veteran Reporter; 7:30-12, program, Brooklyn Eagle.

WBBR, New York, N. Y. (272.6), 8 p. m., Watchtower orchestra; 8:20, "Earth's Last Funeral Song," L. W. Pelle; 8:40, Watchtower orchestra.

WCAE, Pittsburgh, Pa. (461.3), 12 m., Inauguration ceremonies of President Calvin Coolidge, direct from Washington, D. C.; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8:30, Keystone Male chorus.

WCAU, Philadelphia, Pa. (278), 6 p. m., Meyer Davis Hotel Pennsylvania concert orchestra; 8, investment talk; 8:10, recital; 8:45, N. B. T. Boys' concert; 9:10, Lady Duz and her Sunny Screaders; 10:05, the Voice of Paris; 10:15, Radio talk; 10:30, Paul Specht's dance orchestra.

WCX, Detroit, Mich. (516), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel.

WEAF, New York, N. Y. (491.5), 12-12:30 p. m., chapel services, Columbia university; 4 [illegible] Gretchen

(Continued on page [illegible])

PRESIDENTIAL INAUGURATION BROA

Index to Talks, Lectures and Addresses

TABULATED below is a time table of the stations giving talks, lectures and addresses this week. These range from the instructive and serious to the humorous and frivolous. The stations listed are divided into the four different kinds of time 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.

Eastern Time Stations

Saturday: February 28: 7:15, WBZ; 8, WCAE, WJZ, WRC; 8:20, WBBR; 8:45, WJZ; 8:50, WBBR; 9:30, WOR; 10:10, WNYC.

Sunday, March 1: 8, WCAU; 9:30, WBBR.

Monday, March 2: 7:15, WHN; 7:30, WGY; 7:35, WNYC; 8, KDKA, WIP, WJZ, WNYC; 8:15, KDKA; 9, WIP; 9:10, WJZ.

Tuesday, March 3: 7, WHN, WJZ; 7:30, WGY, WHN; 7:45, KDKA; 8, WEAF, WGY, WIP, WJZ, WRC; 8:10, WJZ; 8:15, WCAU; 8:30, WRC; 9, WGBS; 10, WJZ; 10:10, WNYC; 10:40, WNYC.

Wednesday, March 4: 6:45, WGY; 7:30, WHN; 8, WEAO, WJZ, WNYC, WRC; 8:10, WCAU, WJZ; 8:15, KDKA; 8:30, WNYC; 10:10, WNYC; 10:15, WCAU.

Thursday, March 5: 7:30, WEAF, WGY, WHN; 7:55, WJZ; 8, WGBS, WEAF; 8:25, WJZ; 8:45, WIP; 9:30, WHN; 10, WCAU; 10:30, WJZ.

Friday, March 6: 7:30, WGY, WHN; 7:45, WGY; 8, WDWF, WLIT, WJZ; 9:40, WCAU; 10, WHN.

Central Time Stations

Saturday, February 28: 6, WDAF, WOAW; 7, WOC; 8, WCCO; 8:15, WCCO; 8:30, WMAQ.

Monday, March 2: 6, WDAF; 7:15, KFKU; 7:30, WSAC, KFKU, WHA; 7:45, KFKU.

Tuesday, March 3: 6, WDAF, WOAW; 6:50, WOC; 7:30, KSAC; 8, WMAQ, WMC; 8:20, KYW; 8:30, WMAQ; 8:50, WMAQ; 11:05, KYW.

Wednesday, March 4: 6, WDAF; 7:30, KSAC; 8, WMAQ, KYW.

Thursday, March 5: 6, WDAF; 7:30, KFKU, KFMQ, KSAC; 7:45, KFKU; 8, WGN; 8:15, WMAQ; 8:50, WMAQ; 9:15, KYW.

Friday, March 6: 6, WDAF; 6:50, WOC; 7:30, KSAC, WCCO; 8, WMAQ; 8:30, WMAQ; 9, WMAQ; 9:45, WEMC.

Mountain Time Stations

Monday, March 2: 7:30, KOB.

Tuesday, March 3: 7:30, KOB.

Wednesday, March 4: 7:30, KOB.

Friday, March 6: 6:40, KOA.

Pacific Time Stations

Saturday, February 28: 6:30, KHJ; 6:45, KFI; 7:30, KHJ; 7:45, KFI, KHJ; 8, KHJ.

Monday, March 2: 8, KLX.

Tuesday, March 3: 6:30, KHJ; 7:30, KNX; 8, KGO, KGW.

Wednesday, March 4: 6:30; KHJ; 7, KFI; 8, KHJ.

Thursday, March 5: 6:30, KHJ; 7:20, KFI; 7:30, KHJ; 7:45, KHJ; 8, KJS.

Friday, March 6: 6:30, KHJ; 10, KGW.

Mrs. David Elliott Martin is the chairman of the committee for the California State Department of Education, which has created a new way to teach geography by Radio. Lessons are broadcast every Monday morning by KGO, Oakland. Michael Lamberti (right) is the well-known concert cellist who will play Saturday night at WAHG.

Wednesday, March 4

(Continued from page 11)

Altpeten, soprano; 4:20-4:40, Tessie Bloom, pianist; 4:40-5, children's stories; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, services, United Synagogue of America; 7:30-7:50, Erna Korn, contralto; 7:50-8:20, Colonial male quartette; 8:20-10, Philharmonic concert, Carnegie hall; 10-10:20, Robert Maitland, baritone; 10:20-10:35, Magdeleine Brard, pianist; 11-12, Meyer Davis Lido Venice orchestra.

WEAO, Columbus, Ohio (293.9), 7-10 p. m., faculty lecture; program, Columbus Civic club.

WEBJ, New York, N. Y. (233), 7-9 p. m., special novelty program.

WEEI, Boston, Mass. (475.9), 7:15 p. m., sport talk, Stanley Woodward; 7:30, Radio interview; 7:45, Harry Einstein, the bad boy from the good home; 8, Traveler Shoe orchestra; 8:30, M. B. Cohan's half hour musical; 9, Gillette Safety Razor concert orchestra.

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

WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Loretta Kerk, pianist; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim.

WGBS, New York, N. Y. (315.6), 1:30-2:30 p. m., Armand Veesey's orchestra from Ritz-Carlton hotel; 3:10-3:20, interview, Dorothy Herzog of the Daily Mirror; 3:30-3:40, Arturo de Manierre, tenor; 3:20-3:30, book review, John Cutting; 3:30-3:40, Arturo de Manierre; 3:40-3:50, interview, Astri Spelda; 3:50-4, Arturo de Manierre; 8-6:30, Uncle Geebee.

WGY, Schenectady, N. Y. (379.5), 7 p. m., program, Strand theater orchestra.

WHN, New York, N. Y. (360), 8:30-7 p. m., Olcott Vail; 7-7:30, Harry Richman and his entertainers; 7:30-7:35, health talk, Dr. Landis; 12:30-1 a. m., Strand Roof orchestra.

WIP, Philadelphia, Pa. (508.5), 1 p. m., Gimbel tea room orchestra; 3, Jane Butterworth, soprano; Flora Ripka, accompanist; 5:05, Benjamin Franklin hotel concert orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 7:30 p. m., studio program.

WJZ, New York, N. Y. (455), 11:30-12:30 p. m., inauguration ceremonies of President and Vice-President; 4-4:30, piano duets and songs; 4:30-5:30, Hotel Belmont tea music; 7-8, Cafe Boulevard orchestra; 8-8:10, Wall Street Journal review; 8:10-8:20, NYU air college; 9-9:20, song recital, Adele Bliss; 10:15-10:30, Florence Duryea, violinist.

WKAQ, San Juan, P. R. (340.7), 7-9 p. m., Municipal band.

WLIT, Philadelphia, Pa. (394.5), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; Lenten services; 2, Arcadia cafe concert orchestra; 2:30, Eleanor Eisenhardt, soprano; 7:30, Dream Daddy's bedtime stories; 8, Artisans' glee club; 9:05, play; 9:30, Cotton Pickers' dance orchestra; 10:03, Arcadia cafe dance orchestra.

WNYC, New York, N. Y. (526), 8-8:15 p. m., "Timely Topics," F. P. Bent; 8:15-8:30, song recital; 8:30-9, course in appreciation of music; 9:45-10, song recital; 10:10-10:30, "Books That Everyone Should Know," Professor Carter Troop.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's ensemble from Hotel Adelphia; 8, program for WEAF; 9, concert from WEAF; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo's dance orchestra.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., Jean Eckert, dramatic reader; 6:15-6:45, Harry Cox Hotel Robert Treat orchestra; 8-8:15, Trinity church choir; 9:45-10, Parnassus trio.

WRC, Washington, D. C. (468.5), 12 m., inauguration of the President of the United States; 8:45 p. m., children's hour, Peggy Albion; 7, dinner music, Sidney Seidenman's Shoreham hotel orchestra; 8, talk, auspices Smithsonian institution; 10:45, dance music, Jacques Green and his Club Deauville orchestra; Clark's Hawaiians.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, Detroit News orchestra; Three Knights of Harmony; 10, Jean Goldkette's Victor Recording orchestra.

Central Time Stations

KFNF, Shenandoah, Ia. (286), 8:30 p. m., concert, Brown's Insurance agency.

KSAC, Manhattan, Kans. (340.7), 7:20 p. m., instrumental trio; 7:30, "Relation of Local Road to State System," C. H. Scholer; 7:40, instrumental trio; 7:50, "Essentials for a Ferm Tractor," W. H. Sanders; 8-9, classical musical program.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., concert, Meyer Davis New Arlington hotel orchestra, Jack Renard, director; 10, dance frolic, Chas. L. Fischer's Eastman hotel orchestra.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., musical program; 9:30-10:45, Jim Riley's Texas hotel orchestra.

WBCN, Chicago, Ill. (266), 7-8 p. m., classical program, Sears-Roebuck Y. M. C. A., Fred Grieve, baritone; Albert Bernstein, boy violinist; Mrs. Mina Taylor Bonney, soprano; Ed Bonney, boy soprano; Englewood Salvation Army band; 8-9, Amber Furniture company; Berger Wedberg, tenor; Harry Davie, baritone; Midway Gardens orchestra; George Dell, baritone; Harold Johnson, xylophonist; Florence Tenney, blues singer; 9-10, Englewood Overland company; Southtown Harmonizers; Englewood string quintet; Lee Cameron, tenor; Jack Parker, tenor; Harry J. Wolff; Midway Gardens orchestra; 10-10:15, Midway Gardens orchestra.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 4 p. m., The MacPhail players, Maude Moore, director; 5:30, children's hour, Alpha Stalson; 7, midweek church service, First Presbyterian church, Rev. John T. Bergen, pastor; 8, Minneapolis studio opening, Nicollet hotel.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., address, speaker, auspices Health Conservation association; address, speaker, Meat Council of Greater Kansas City; The Tell-Me-a-Story Lady; Trianon ensemble; 8-9:15, Star's Radio orchestra.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; books of the day, Lewellyn Jones; Riviera theater; 9-10, Oriole orchestra; talk, M. S. Szymaczk; Langdon Brothers; Marie Kelly, reader; Frederick Agard, tenor; Bob Cougle, accompanist; 11-12, Oriole orchestra; Edna Solomon; Marie Kelly, reader; songs, Nick Lucas; Langdon Brothers.

WEMC, Berrien Springs, Mich. (285.5), 8:15 p. m., program, Ladies of Birch hall.

WGN, Chicago, Ill. (370.2), 8 p. m., organ recital; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert; 10-11, Don Bestor Drake dance orchestra.

WHA, Madison, Wis. (535.4), 9 p. m., L. L. Iltis, pianist; Prof. Cecil Burleigh, violinist.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Tropical Hawaiian sextet; chapter of "Billy and Jane" stories, James Speed.

WHO, Des Moines, Ia. (526), 8:30-7:30 p. m., Reese-Hughes orchestra; 7:30-8:30, program, Dean Holmes Cowper; 8:30-9:30, Des Moines theater symphonic orchestra, Prof. Leon Dashoff, director; 9:45-11, Bankers Life Radio orchestra, William L. Marsh, director.

WLW, Cincinnati, Ohio (422.3), 6 p. m., dinner hour concert, Selinsky instrumental quintet; 8, Minor instrumental trio; Clifford Lang, pianist; 8:30, concert, Boathouse Coffee company, instrumental trio; five-minute talk, "National Thrift," Harry J. Plogstedt; 9, concert program, Formical Insulation company; Walter Esberger, pianist, and instrumental quartet; Lyric male quartet.

WMAQ, Chicago, Ill. (447.5), 11 a. m., inaugural exercises; 4 p. m., Child Life stories; 4:30, pupils, Miss Lyons; 6, Chicago theater organ recital; 6:30, stories for children, Georgene Faulkner; 6, weekly lecture, Northwestern university; 8:30, music; 9, WMAQ players.

WOC, Davenport, Ia. (483.6), 8:30 p. m., sandman's visit, Val McLaughlin; 6:50, "Some Facts and Figures about Davenport and Vicinity," H. L. Gaddis; 9, Erwin Swindell, organist; Frank Webster, tenor.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; John W. McMahill, Jr., reader; Carolyn Schuyler, pianist; Joseph McManus, baritone; 10-1, Ralph Williams and his Rainbo Skylarks; Merrie Boyd Mitchell, soprano; James Mitchell, baritone; Rev. Karl Shworoweki, pianist; Alfred Tweed, harmonica soloist; Melodians, Laurie, Eddie, Bennie; Clarence Theders, tenor; George A. Little, Larry Shay; 1-2, Hotsy Totsy hour, Ralph Williams, Ginger Man, Little Skylarks.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., the Georgian orchestra; Bonnie Barnhardt's songs and bedtime story; 10:45, concert, the Woman's Division of the Atlanta Chamber of Commerce.

WTAY, Oak Park, Ill. (250), 8:30-7:30 p. m., classical program, Nina Joslyn, soprano; Richard Joslyn, tenor; F. E. Hathaway, baritone; Addie Mae Hathaway, violinist; Gladys Gale Denielson, pianist; 9-10, Harmony Kings, F. Ziramba, concertina soloist; Radio Age talk; A. R. Buckner, memory expert; Cook Sisters; Melody Girls; 12-12:30, Parthenon organ concert.

Mountain Time Stations

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, studio concert, Denver Conservatory of Music, Paul Clarke Stauffer, director; Mrs. Edwin G. Ege, Erle E. Faber, Thomas King, Paul Clarke Stauffer, Ethel Worth Divett; Jane Binkley, pianist.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., International Code course, Lesson No. 9, Dean R. W. Goddard.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 8:45-7 p. m., editorial talk; 7-7:30, Nick Harris, detective stories of true life; 7:30-8, program, Goodwin, Klinger and Mackay; 8-9, Evening Herald dance orchestra; 9-10, Examiner, semi-monthly Wampus Club movie program; 10-11, Patrick-Marsh dance orchestra, Betty Patrick, blues singer.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra; 6:45-8:15, Hopper-Kelly company studio program; 8:30-10, Seattle Times studio program.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Sunshine hour program; 2:30-4:30 p. m., auditorium service and sermon on Divine Healing, Aimee Semple McPherson, pastor; 8:30-7:30, children's hour, presenting little Mary Elizabeth and Helen Edwina Hughes, Mrs. Rose, pianist.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., Santa Monica Athletic club orchestra; 2:30-3:30, matinee musicale, Pacific States Electric company; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history; Dick Winslow, juvenile reporter, Uncle John; 7:30-8, University of Southern California glee club; 8-8:30, Dr. Mars Bumgardt, scientific lecturer; 8:30-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KLX, Oakland, Calif. (509.9), 6-7 p. m., organ recital; 8-10, American theater orchestra; 10-11:30, Sweet's ballroom.

KNX, Hollywood, Calif. (337), 5:45-8:15 p. m., musical program from Wurlitzer studio; 6:15-7, dinner hour music; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-9, program, Pacific Automotive service, broadcast from Ambassador hotel; 9-10, KNX feature program; 10-12, Hollywoodland dance orchestra.

KPO, San Francisco, Calif. (429.5), 4:30-5:30 p. m., Rudy Seiger's Fairmont hotel orchestra; 5:30-6:30, Big Brother of KPO; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 7:30-8, Conn. Band Instrument company program, Reg Code, director; 8-10, Gilda Beaufeld, pianist; old ballads, Amelia Kenyon Kenne, soprano; "Romance of Gold," Prof. Frank T. Green; program, management of Ruth May Friend.

Thursday, March 5

Thursday, silent night for: **CHNC, KFAE, KFDM, KFMX, KFOA, KLX, KOA, KOB, PWX, WAHG, WBAV, WEAO, WEBJ, WEMC, WHA, WHAZ, WLBL, WOO, WOR, WOS, WSUI.**

Eastern Time Stations

AT9, Fort Bragg, N. C. (435), 8 p. m., instrumental and vocal music; address, Brigadier-General Albert J. Bowley, U. S. A.

CFCA, Toronto, Can. (356), 11:30 p. m., popular dance music, Burton E. Till and his orchestra.

CKAC, Montreal, Can. (425), 4:45 p. m., Windsor hotel dance orchestra; 8:30 p. m., concert, Canadian National Railway (CNRM).

KDKA, East Pittsburgh, Pa. (309.1), 8:15 p. m., dinner concert, Groudy's orchestra; 7:30, children's period; 8, program, National Stockman and Farmer studio; 8:30, concert; 11, concert, Pittsburgh Post studio.

WBBR, New York, N. Y. (272.6), 9:10 p. m., Richard Franklin, pianist; 9:25, Hawaiian quintet; 9:35, Sunday school lesson, S. M. Van Sipma; 9:55, Hawaiian quintet; 10:10, piano solos.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8, Moores' Cafeteria Weekly Radio review, E. T. Moores, manager; 9, concert, Atwater Kent Radio artists.

WCAU, Philadelphia, Pa. (278), 7:30 p. m., concert; Snellenburg symphony orchestra; 8:10, talk; 8:15, recital; 8:40, "What We See and Hear in Music," Maude Hanson Pettit; 9, Paul Specht and his dance orchestra; 10, talk on the new psychology; 10:20, Paul Specht and his dance orchestra.

WCX, Detroit, Mich. (516), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Helen Dherman Gue, contralto; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, services, Federation of Churches; 7:30-7:45, art talk; 7:45-7:55, Jemee E. Phillips, basso; 8-8:20, lecture course, Columbia university; 8:30-9, Packard Motor company; 9-10, Atwater Kent Manufacturing company; 10-10:15, Vitali Koretsky, Russian tenor; 10:15-11, Russian ensemble; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Vincent H. Percey, organist; 8-10, WEAF program.

WEEI, Boston, Mass. (475.9), 7:15 p. m., sport talk, William E. Mullins; 7:25, program, Greater Boston Federation of churches; 7:55, Pathe News flashes; 8, New York program; 8:30, musicale; 9, Atwater Kent musicale; 10, musicale.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Housewives' Radio exchange, direction Mabel Swint Ewer; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim; 9, Atwater Kent concert from WEAF.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview, Vincent Rubards, tennis star; 3:10-3:20, Fannie Coalfrohn, soprano; 3:20-3:40, talk on Graphology, Louise Rue; 3:40-3:50, "Salesmanship for Women," Ben J. Sweetland; 3:50-4, Fannie Coalfrohn; 6-6:30, Uncle Geebee; 7:30-8:30, Armand Veesey's orchestra from Ritz-Carlton hotel; 8:30-9, play and book reviews, "Footlight and Lamplight," Oliver Sayler; 9:30-11, program, Picadilly theater; 11-11:30, "The Radio Ace"; 11:30-1 a. m., program, Russian Eagle restaurant.

WGY, Schenectady, N. Y. (379.5), 6:30 p. m., dinner music, Hotel Ten Eyck orchestra; 7:30, talk on new books, William F. Jacob; 7:45, WGY orchestra; American trio; Edward A. Rice, violinist; 8:15, drama, "The Turning Point," WGY players; 11:15, Stephen E. Boisclair, organist.

WHN, New York, N. Y. (360), 12:30-1 p. m., Chas. Strickland's Palais D'Or orchestra; 6:30-7, violin solos, Olcott Vail; 7-7:30, Harry Rose and his Silver Slipper entertainers; 7:30-7:35, health talk, Dr. Landis; 8:30-9, Everglades revue; 9:30-9:35, "Spring Styles," Haas Bros. Fabric corporation; 9:35-10:55, O'Meara Gardens ballroom orchestra; 11-11:30, Connie's Inn revue; 11:30-12, Lou Holtz and his Wigwam Club entertainers.

WIP, Philadelphia, Pa. (508.5), 4 p. m., income tax talk; 6:15, W. Irving Oppenheim concert orchestra; 7, Uncle Wip's bedtime stories; talk, auspices Board of Education; Philadelphia Police band; 8:45, Boy Scout talk; play by play, Dartmouth-Penn basketball game; 11, Harvey Marburger and his Vaudeville dance orchestra.

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

WJY, New York, N. Y. (405.2), 9:45-10 p. m., Robert Craik, baritone; B. King, accompanist.

WJZ, New York, N. Y. (455), 4:15-4:30 p. m., Henry Pedreira, pianist; 4:30-5:30, Bernhard Levitow's Hotel Commodore tea orchestra; 7-7:55, Bernhard Levitow's Hotel Commodore orchestra; 7:55-8:25, "Making a Magazine," John B. Kennedy of Colliers; 8:25-8:45, "Negro Spirituals," Marshall Bartholomew; 9-9:20, inspirational talk, Clyde Monroe; 10:30-10:50, Emma Burkhardt, contralto; 11:45-12, Olga Steck, songs.

WKAQ, San Juan, P. R. (340.7), 7:30-9 p. m., concert, La Cafeteria.

WLIT, Philadelphia, Pa. (394.5), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; Lenten services; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, pianist; 7:30, Dream Daddy's bedtime stories.

WMAK, Lockport, N. Y. (265.5), 12 midnight, Murray Whiteman's midnight serenaders.

WNYC, New York, N. Y. (526), 7:35-8:30 p. m., dance program, Irving Bloom and Club Tokio orchestra; 8:30-9, vocal and instrumental program.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt.

WOR, Newark, N. J. (405.2), 8:15-7:15, Jimmy Lent's Society orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, concert from WEAF.

Central Time Stations

KFKU, Lawrence, Kans. (275), 6:50 p. m., piano tuning-in number; 7, music; 7:15, "Our Beet Shrubs for Artistic Effects," Prof. W. C. Stevens; 7:30, "Winning of Metals from Their Ores—Lead," Prof. Edward D. Kinney; 7:45, Educational Psychology, Lesson IX, Dean R. A. Schwegler.

KFKX, Hastings, Nebr. (288.3), 9:30-11:30 p. m., program, Dean Charles H. Amadeon, director.

KFMQ, Fayetteville, Ark. (299.5), 7:30 p. m., "How Arkansas Horses Eat Their Heads Off," A. D. McNair; "The Student Y. W. C. A. in 1925," Helen Battrick; "Every Dairyman a Bacteriologist," W. L. Bleecker; "What Students of Mechanical Engineering Learn at College," P. A. Cushman.

KFNF, Shenandoah, Ia. (266), 6:30 p. m., concert, Earl Loomis and Melody Boys.

CAST WEDNESDAY FOR FIRST TIME

The four happy looking gentlemen at the top of the page are prominent members of the Lake Merritt Ducks, which will meet this Monday evening at **KLX, Oakland.** Eleanor Freemantel (at the piano) is the catch-as-catch-can accompanist of **WCCO.**

Jules Klein is the leader of the Hotel Statler orchestra, which entertains at lunch time listeners in of **WWJ, Detroit.**

KSD, St. Louis, Mo. (545.1), 8 p. m., recital, James R. Keyes, tenor; 10, request program, Vin James, pianist.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., concert, Department of Arkansas, American Legion.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., concert, Texas Christian university, Prof. H. D. Guelich, director; 9:30-10:45, artists, Thorpe Spring Christian college.

WBCN, Chicago, Ill. (266), 7-8 p. m., Chicago mixed quartet; Helen Irwin, pianist; J. Forbes, tenor; Evelyn Krutson, soprano; 9-12, Elmer Jordan & company jamboree; Midway Gardens orchestra; talk, Elmer Jorden; Larry Loser, tenor; Ann Williams, soprano; Florence Eastman, soprano; Al Phillips, tenor; Alvin Fry, tenor; Louis Clark, tenor; Lindsay McPhail, pianist; Ralph Norris, pianist; Hill, Hirsch, & Gorny; The Three Musketeers; Cambridge Sisters; Casey & Gervais; Mollie LeVelle, soprano; Eddie Shepard, concertino soloist; Dorothy Litchfield, whistler; 12-1, Ann Williams, soprano; Alvin Fry, tenor; Eddie Shepard, concertina soloist; Mollie LaVelle, soprano; Ralph Norris, pianist; "Big Boy" Yegle.

WCBD, Zion, Ill. (344.6), 8 p. m., Mrs. H. E. Meyfield, soprano; Mrs. Mayfield, Mrs. Faassen, soprano, contralto; Miss Windle, Mr. Reid, contralto and baritone; Alexander DePew, flutist; musical glasses; Ruth Petrie, pianist; Ruth Beem, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 5:30 p. m., children's hour, Mrs. Walter Stevens; 7-10, national program, New York.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Duo-Art; Cecile Burton, reader; book talk, Louis Mecker; The Tell-Me-a-Story Lady; Trianon ensemble; 11:45-1, Nighthawk frolic, Plantation players; Eddie Kubn's Kansas City Athletic club orchestra.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Florence Flintfield Riviera theater; 9:10, Oriole orchestre; Belle Forbes Cutter, soprano; Howard Neumiller, accompanist; John Stamford, tenor; 11-12, Oriole orchestra: songs, Benks Kennedy, Deen Remick, pianist; Loce brothers.

WEBW, Beloit, Wis. (268), 8-9 p. m., band concert, quartet, vocal solos, Fairbanks, Morse company.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, "Line Night," RHL; 10-11, Don Bestor Drake dance orchestra.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, auspices Mrs. Robert K. Van Pelt.

WHD, Des Moines, Ia. (526), 11-12 midnight, Al Levich and his Serenaders.

WLW, Cincinnati, Ohio (422.3), 4 p. m., French lesson, Madame Ida Tcimpidis; piano solos, Adelaide Apfel; 6, dinner hour concert, Selinsky instrumental quintet; 8, The Passion Play; 10, three-minute message, Civil Service Department of United States Government; 10:03, concert program, Cooper corporation; Cooper orchestra, male quartet; Larry Grueter, piano-accordian; the Doherty Melody Boys.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:25, Hotel LaSalle orchestra; 6:50, Daddy; 8, garden talk, James H. Burdett; 8:15, Boy Scout program; 8:30, F. J. Brideman; 8:50, University of Chicago lecture; 9:15, Scotch program, Sam Galbraith.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., organ recital, Harry O. Nichols.

WOAI, San Antonio, Texas (394.5), 9:30 p. m., dance music, Jimmie Joy's Hotel St. Anthony orchestra.

WOAW, Omaha, Nebr. (526), 6 p. m., every child's story hour, Grace Sorenson; 6:20, to be announced; 6:45, Randall's Royal Fontenelle orchestra; 9, program, May Seed and Nursery company; 10:30, Frank W. Hodok, Jr., and his Nightingale orchestra.

WOC, Davenport, Ia. (483.8), 7 p. m., musical program, WEAF; 11, Louis Connor and his LeClairo hotel orchestra; Peter MacArthur, baritone.

WORD, Batavia, Ill. (275), 8 p. m., Aurora College stringed trio; 8:10, Grace Everett, reader; 8:20, Mrs. Ralph Espy, soprano; 8:30, Sunday school lesson, B. J. Hollister; 8:55 Evelyn Nelson, pianist; 9, Aurora college stringed trio.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., Vick Myers' melody artists; Bonnie Barnherdt's bedtime story; 8-9, Ritz Harmony Boys' orchestra; 10:45, Dr. Charles A. Sheldon, organist.

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

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; Mrs. Lydia Lochner, contralto; Edith Buckmester, accompanist; Blanche E. Robinson, pianist; 10-1, Ralph Williams and his Rainbo Skylarks; Verdi trio, Chicago's Versatile trio, Louis Sabella, director; June Lee, contralto and comedienne; Lew Butler; Ned and Ches; Marie Wright, soprano; James J. Whalen, tenor; 1-2, Hotsy Totsy bour, Ralph Williams, Ginger Man, Little Skylarks.

WSAC, Manhattan, Kans. (340.7), 7:20 p. m., music; 7:30, "Use of Paints and Enamel in the Home," Harriet W. Allard; 7:40, music, L. R. Putnam, director; 7:50, "What to Eat When Under Weight," Pearle E. Ruby; 8-9, Scotch program, Prof. P. P. Brainard, director.

WTAY, Oak Park, Ill. (250), 6:30-7:30 p. m., classical program; Lois Sanford, reader; Dorotby Moline, pianist; Margaret Hartly, soprano.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6, Examiner's musical half hour; 6:45-7:20, Carlyle Stevenson's Bon Ton orchestra; 7:20-7:30, Y. M. C. A. speaker; 7:30-8, Foothill Four male quartet; 8-9, program, Standard Oil company of California presenting play with music; 9-10, Los Gatos instrumental trio, Carol Blaine, contralto; 10-11, Examiner popular song program, Madelyn Hardy, pianist.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Radio Bible school; 3:30-4:30 p. m., afternoon organ recital, Roy Reld Brignall; 7:30-9:15, water baptism and Temple service broadcast, Aimee Semple McPherson, evangelist-pastor, Temple choir; 9:15-10, program, Butts Music company, Carl Edward Hatch, violinist and baritone, Mora Leonard Hatch, pianist; 10-11, organ recital, Esther Fricke Green.

KGO, Oakland, Calif. (361), 8 p. m., Arion trio; Winifred Hanlon, soprano; C. A. Harwell, whistler; Mrs. Cyril Roche, soprano; Hawaiian Novelty Three; Waldemar Engberg, bass; piano duets, William P. and Bonita Keasbey; "Music and Shirts," Rev. George W. Phillips; Joyce Holloway Barthelson, pianist; Josephine Holub, pianist; 10-1, dance music, Henry Halstead's orchestra.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., Loew's State Theater program; 2:30-3:30, matinee musicale, Pacific States Electric company; 8-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history, Dickie Brendon, Jene Hughes, screen starlets, Uncle John; 7:30, Harold Swartz, talk on "Art;" 7:45, Dr. Philip M. Lovell, "Care of Body;" 8-10, program by Silverwood's, arranged by J. Howard Johnson; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KJS, Los Angeles, Calif. (293), 8-9:30 p. m., Bible lecture and musical program of sacred and classical neture.

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., musicel half hour from Wurlitzer studio; 6:30-7:30, dinner hour music; 8-10, KNX feature program; 10-11, Abe Lyman's Cocoanut Grove dance orchestra from Amhassador hotel.

KPO, San Francisco, Calif. (429.5), 4:30-5:30 p. m., Rudy Seiger's Fairmont hotel orchestra; 5:30-6:30, Big Brother of KPO; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; John Hartegan, baritone soloist; 9-10, program, Mr. Bartlett, tenor, director; 10-11, Gene James' Rose Room Bowl orchestra.

Friday, March 6

Friday, silent night for: AT9, CFCA, CKAC, CHNC, KFKU, KFKX, KFMQ, KFMX, KGO, KJS, KSD, PWX, WBBR, WBZ, WCBD, WDWF, WEAD, WEBJ, WEBW, WFI, WGST, WHAZ, WIP, WKAQ, WLBL, WLW, WOAI, WMAK, WOI, WORD, WSUI

Eastern Time Stations

KDKA, East Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Charlie Gaylord's orchestra; 8:15, address, University of Pittsburgh studio; 8:30, concert.

WAHG, Richmond Hill, N. Y. (315.6), 12-1 p. m., program, Brooklyn Federation of churches; 8-8:30, violin ensemble; 8:30-8:45, Helen Kreutzlin, soprano; 8:45-9, Harris and Evans; 9-9:15, Fred Ehrenberg, musical saw; 9:15-10, Michael Lamberti, cellist; 10-10:15, Radio Question Box, Wm. F. Diehl; 10:15-10:30, Helen Kreutzlin; 10:30-10:45, Fred Ehrenberg; 10:45-11:45, dance music.

WBAV, Columbus, Ohio (293.9), 8 p. m., Dispetch concert, Alma Borneman's Chittenden hotel orchestra.

(Continued on page 14)

Index to Popular and Classical Concerts

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

Popular

Eastern Time Stations

Saturday, February 28: 6:35, WNYC; 7:30, WHN, WNYC; 8, WFI; 8:30, CKAC, WHN; 10, WOR; 11:15, WHN.

Sunday, March 1: 7:20, WEEI; 7:30, WCAE; 8:15, WEAF; 9, WNYC; 11:30, WHN; 12, WHN.

Monday, March 2: 6:45, WGY; 7:15, WAHG, WEAF; 7:30, WGY, WHN; 8, WBAV, WEEI, WLIT, WMAK, WOO; 8:30, WAHG, WEAF; 9, WEEI; 9:45, WAHG, WHN, WOR; 10, WEAF; 12, WHN.

Tuesday, March 3: 7:30, WEBJ; 7:35, WNYC; 7:45, WEBJ; 8, WCAU, WKAQ; 8:30, WCAE; WEAF, WEEI, WFI; 9, WCAE, WEAF; 9:30, WGBS; 10, WHN; 11, WHN; 11:15, WGY.

Wednesday, March 4: 7, WEBJ, WGY, WHN; 8, WLIT, WOO, WWJ; 10, WWJ.

Thursday, March 5: 6:30, WGY; 7, WHN; 7:30, WKAQ; 7:45, WGY; 8, WBBR; 8:30, WEAF, WHN; 9:30, WHN; 10, WEEI; 11, WHN; 11:30, WHN; 11:45, WJZ; 12, WMAK.

Friday, March 6: 7, WEBJ, WGY; 7:45, WEBJ; 8, WEAF, WGY; 8:30, WEBJ; 9, WAHG, WCAU, WEAF, WGY; 9:30, WLIT; 10:20, WEAF; 10:30, WAHG, WGY; 11, WHN; 12, WHN.

Central Time Stations

Saturday, February 28: 6, WMAQ; 7, WBCN; 7:20, WLS; 8, KYW, WBCN, WMAQ, WOS; 9, WEBH; 9:15, WSAI; 10, WBCN; 10:30, WQJ; 10:45, WSB; 11, WBCN, WEBH, WQJ; 11:30, WQJ; 11:45, WDAF; 12, KYW, WBCN, WQJ; 1, WQJ.

Sunday, March 1: 7, WEBH; 8, WBCN; 9, WBCN; 9:30, WFAA; 11, WBAP.

Monday, March 2: 8, WSB; 8:10, WORD; 9:30, WBAP; 10, WOI; 10:45, WSB; 11:45, WDAF.

Tuesday, March 3: 6:30, WTAY; 8, WHB, WSB; 9, WBCN, WEBH, WOAW; 10, WBCN, WQJ; 10:40, WQJ; 10:45, WSB; 11:45, WDAF; 12, WBCN, WQJ; 1, WQJ.

Wednesday, March 4: 7:30, WBAP, WHO; 8, WBCN; 9, WBCN, WEBH, WTAY; 9:30, WTAY; 10, WQJ; 10:30, KYW; 11, WEBH; 12, WQJ; 12:30, KYW; 1, WQJ.

Thursday, March 5: 6:30, WTAY; 7, KSD, WHB; 8, WORD; 8:20, KYW; 8:30, WFAA; 9, WEBH; 10, KYW, WGN, WQJ; 10:30, WBCN; 11, WEBH, WQJ; 11:45, WDAF; 12, WBCN, WQJ; 1, WQJ.

Friday, March 6: 6:30, WTAY; 7, WBCN; 8, WBCN, WCCO, WDAF; 8:30, WFAA; 9, WCCO, WEBH, WOAW; 10, WQJ; 11, KYW, WEBH, WMC, WQJ; 11:45, WDAF; 12, KYW; 12:20, WQJ; 1, KYW, WQJ.

Mountain Time Stations

Monday, March 2: 8, CFAC.

Tuesday, March 3: 7:45, CFAC.

Wednesday, March 4: 8, KOA.

Friday, March 6, 8, KOA; 8:10, KOA.

Pacific Time Stations

Saturday, February 28: 8, KNX; 10, KFI; 11, KNX; 12, KHJ.

Sunday, March 1: 7, KFI; 9, KNX.

Monday, March 2: 8, KHJ, KNX; 9, KFI, KHJ, KNX; 10, KHJ; 11, KHJ.

Tuesday, March 3: 8, KFI, KNX, KHJ; 10, KFI, KNX.

Wednesday, March 4: 7:30, KFI; 8, KNX; 8:30, KHJ; 9, KFI, KNX; 10, KPO.

Thursday, March 5: 7:30, KFI; 8, KFI, KHJ, KNX; 9, KFI, KNX; 10, KFI.

Friday, March 6: 7:45, KLX; 8, KHJ, KNX; 9, KNX, KHJ; 10, KFI, KNX, KPO; 10:30, KGW.

Classical

Eastern Time Stations

Saturday, February 28: 6, WBZ, WCAU, WEAF, WGR, WOR; 6:30, WCAE, WFI, WHN; 7, WEAF, WRC; 7:05, WJAR; 7:30, CKAC, WBZ; 8, WBBR, WBZ, WEAF, WOR; 8:15, WBZ, WIP, WJZ, WRC; 8:30, KDKA, PWX, WBZ, WCAE, WWJ; 8:50, WEAF; 9, WEAF, WPG, WRC; 9:15, WIP; 9:45, WGBS; 10, WBZ, WEAF, WHN, WJZ; 10:30, WBZ, WEAF; 11:15, WIP, WRC; 12, WAHG.

Sunday, March 1: 6:30, KDKA; 8:30, WCAE, WJZ; 8:45, WGY; 9, WCAE; 9:10, WBBR; 9:15, WEEI; 9:20, WNYC; 10, WHN; 10:05, WBBR.

Monday, March 2: 6, WEAF, WWJ; 6:30, WHN; 7, WEAF, WJZ; 7:30, WOO; 8, WAHG, WBBR, WGY, WWJ; 8:30, CHNC, KDKA; 8:40, WBBR, WJZ; 8:45, WCAE, WHAZ; 9, WCAE, WGY; 10, WAHG; 10:03, WOO; 11, WCAE; 11:15, WGY.

Tuesday, March 3: 6, WEAF, WWJ; 6:15, WOR; 6:30, WGY, WHN; 7, WEAF; 7:30, WBAP, WCAU; 8, KDKA, WEEI, WFI, WWJ; 8:15, WEAF, WIP; 8:20, WCAU; 8:25, WJZ; 8:40, WCAU; 9, KDKA WGY, WHN, WRC; 10, WCAE, WGBS, WGY, WRC; 10:15, WJY; 11, KDKA; 11:15, WGY.

Wednesday, March 4: 6, WCAU, WWJ; 6:15, WOR; 6:30, WCAE, WHN; 7, WKAQ, WRC; 7:30, WAHG, WCAP, WEAF, WOO; 8:10, WCAU; 8:15, WEAF, WNYC; 8:20, WEAF; 8:30, KDKA, PWX, WCAE, WEEI, WEAO; 8:45, WCAU; 9, WJZ; 10:05, WCAU; 10:15, WJZ.

Thursday, March 5: 6, WWJ; 6:30, WHN; 7:30, WCAU; 7:45, WEAF; 8, AT9, KDKA, WEEI, WWJ; 8:15, WCAU, WJY; 8:30, CKAC, KDKA, WNYC; 9, WCAE, WEAF, WFI; 9:45, WJY; 10:15, WNYC; 11, KDKA; 11:15, WGY.

Friday, March 6: 6, WEAF, WWJ; 6:30, WCAE, WFI, WHN; 7, WGY, WJZ; 7:45, WEAF; 8, WAHG, WBAV, WEEI, WWJ; 8:30, KDKA, WAHG, WCAE, WJY, WNYC; 9:30, WCAE, WEEI; 9:45, WJY; 10:03, WOO.

Central Time Stations

Saturday, February 28: 6, WBCN, WGN, WLW; 6:15, WTAY; 6:30, KFNF, WGN, WTAY; 6:45, WOAW; 7, KYW, KEBH; 7:30, WHAS; 8, KSD, WGN, WSAI, WSB; 8:30, WCCO, WMC, WLW; 9, WMAQ, WOO, WOC; 9:35, KYW; 11:30, KYW; 12, WCAL.

Sunday, March 1: 6:30, WLS; 7, KYW, WBCN, WLS; 7:30, WBAP; 7:50, WORD; 8, WCBD; 8:30, KTHS, WLW, WOAI; 9, WGN, WOAW, WQJ; 9:15, WCCO; 9:30, KTHS, WEMC.

Monday, March 2: 6, WGN, WMAQ, WOAW; 6:30, KFNF, WFAA, WGN, WMAQ, WOAW; 7, KSD; 7:30, WBAP, WHO; 7:45, WHA; 8, WCBD, WEBW, WLW; 8:15, WEMC; 8:30, WFAA, WMC; 11:15, WHO.

Tuesday, March 3: 6, KSD, WGN, WLW, WMAQ; 6:15, WTAY; 6:25, WOAW; 6:30, WFAA, WGN; 7, KYW, WBCN, WCCO, WEBH, WQJ; 7:30, WHAS; 8, KFDM, KYW, WGN, WORD; 8:30, KYW, KTHS, WOAI; 8:45; KYW; 8:50, WORD; 9, KSD, WOC, WOAW; 9:15, WMAQ; 9:30, WBAP; 10, WLW; 11, WFAA.

Wednesday, March 4: 6, WGN, WLW, WMAQ; 6:30, KFNF, WGN, WTAY; 7, KYW, WBCN, WEBH, WQJ; 7:30, WHAS; 8, KSAC, KYW, WCCO, WDAF, WGN; 8:15, WEMC; 8:30, WHO; 9, WOC, KTHS, WHA, WLW; 9:30, WBAP; 10:45, WSB; 12, WTAY.

Thursday, March 5: 6, WGN, WLW, WMAQ; 6:15, WTAY; 6:30, KFNF, WFAA, WGN; 6:45, WOAW; 7, WCCO, WEBH, WOC, WQJ; 7:30, WHAS; 8, KSAC, WCBD, WEBW, WOC; 8:15, WOI; 8:30, KTHS, WFAA, WMC; 9, KSD, WLW, WOAW; 9:15, WMAQ; 9:30, KFKX, WBAP; 10:03, WLW; 10:30, KTHS, WLW; 10:45, WSB; 11, WFAA.

Friday, March 6: 6, WGN, WLW, WMAQ; 6:15, WTAY; 6:30, KFNF, WCCO, WFAA, WGN, WOAW; 7, WEBH, WQJ; 7:30, WBAP, WHAS; 7:45, WHA; 8, KFDM, WGN, WHO, WSB; 8:30, WMC; 9, WEMC; 9:15, WMAQ; 9:30, WBAP; 10:45, WSB.

Mountain Time Stations

Wednesday, March 4: 8, KOA.

Thursday, March 5: 9, CFAC.

Friday, March 6: 7, CFAC.

Pacific Time Stations

Saturday, February 28: 6, KHJ; 6:15, KNX; 7, KGW; 8, KGO; 8:30, KHJ; 9, KFI; 10, KHJ; 11, KHJ.

Sunday, March 1: 6, KJS; 6:30, KHJ; 7, KFSG, KHJ, KNX; 7:15, KJS; 8, KFI, KHJ, KNX; 10, KFSG; 10:30, KPO.

Monday, March 2: 6, KLX; 6:30, KNX; 8, KFI; 10, KPO; 11, KPO.

Tuesday, March 3: 6, KHJ; 6:30, KNX; 8, KJS; 8:30, KGW; 9, KFI; 10, KPO.

Wednesday, March 4: 6, KHJ, KLX; 6:15, KNX; 7, KNX; 7:30, KHJ; 8, KGW, KLX.

Thursday, March 5: 6, KHJ; 6:30, KNX; 8, KGW; 8:30, KJS; 9:15, KFSG; 10, KFSG, KPO; 11, KPO.

Friday, March 6: 6, KHJ, KLX; 6:30, KNX; 7, KFI; 8, KFI; 9:15, KFSG; 10, KFSG.

PRESIDENTIAL INAUGURATION BROADCAST WEDNESDAY FOR FIRST TIME

Index to Talks, Lectures and Addresses

TABULATED below is a time table of the stations giving talks, lectures and addresses this week. These range from the instructive and serious to the humorous and frivolous. The stations listed are divided into the four different kinds of time 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.

Eastern Time Stations

Saturday, February 28: 7:15, WBZ; 8, WCAE, WJZ, WRC; 8:00, WBRR; 8:45, WJZ; 8:50, WBBR; 8:30, WOR; 10:10, WNYC.

Sunday, March 1: 8, WCAU; 8:30, WBRR.

Monday, March 2: 7:15, WHN; 7:30, WGY; 7:35, WNYC; 8, KDKA, WIP, WJZ, WNYC; 8:15, KDKA; 8, WIP; 8:10, WJZ.

Tuesday, March 3: 7, WHN, WJZ; 7:30, WGY, WHN; 7:45, KDKA; 8, WEAF, WGY, WIP, WJZ, WRC; 8:10, WJZ; 8:10, WCAU; 8:30, WRC; 8, WOBS; 10, WJZ; 10:10, WNYC; 10:40, WNYC.

Wednesday, March 4: 6:45, WGY; 7:30, WHN; 8, WEAO, WJZ, WNYC, WRC; 8:10, WCAU, WJZ; 8:10, KDKA; 8:30, WNYC; 10:10, WNYC; 10:15, WCAU.

Thursday, March 5: 7:30, WEAF, WGY, WHN; 7:55, WJZ; 8, WGBS, WEAF; 8:05, WJZ; 8:45, WIP; 8:30, WHN; 10, WCAU; 10:30, WJZ.

Friday, March 6: 7:30, WGY, WHN; 7:45, WGY; 8, WDWF, WLIT, WJZ; 8:40, WCAU; 10, WHN.

Central Time Stations

Saturday, February 28: 6, WDAF, WOAW; 7, WOC; 8, WCCO; 8:15, WCCO; 8:30, WMAQ.

Monday, March 2: 6, WDAF; 7:15, KFKU; 7:30, WSAC, KFKU, WHA; 7:45, KFKU.

Tuesday, March 3: 6, WDAF, WOAW; 6:50, WOC; 7:30, KSAC; 8, WMAQ, WMC; 8:20, KYW; 8:30, WMAQ; 8:50, WMAQ; 11:05, KYW.

Wednesday, March 4: 8, WDAF; 7:30, KSAC; 8, WMAQ, KYW.

Thursday, March 5: 6, WDAF; 7:30, KFKU, KFMQ, KSAC; 7:45, KFKU; 8, WGN; 8:15, WMAQ; 8:50, WMAQ; 9:15, KYW.

Friday, March 6: 8, WDAF; 8:50, WOC; 7:30, KSAC, WCCO; 8, WMAQ; 8:30, WMAQ; 9, WMAQ; 8:45, WEMC.

Mountain Time Stations

Monday, March 2: 7:30, KOB.

Tuesday, March 3: 7:30, KOB.

Wednesday, March 4: 7:30, KOB.

Friday, March 6: 8:40, KOA.

Pacific Time Stations

Saturday, February 28: 6:30, KHJ; 6:45, KFI; 7:30, KHJ; 7:40, KFI, KHJ; 8, KHJ.

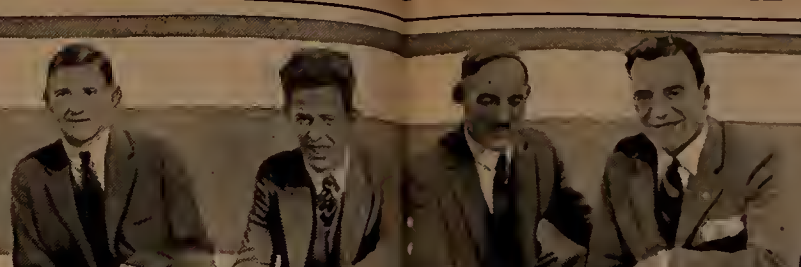
Monday, March 2: 8, KLX.

Tuesday, March 3: 6:30, KHJ; 7:30, KNX; 8, KGO, KGW.

Wednesday, March 4: 6:30; KHJ; 7, KFI; 8, KHJ.

Thursday, March 5: 6:30, KHJ; 7:20, KFI; 7:30, KHJ; 7:45, KHJ; 8, KJS.

Friday, March 6: 6:30, KHJ; 10, KGW.



Mrs. David Elliott Martin is the chairman of the committee for the California State Department of Education, which has created a new way to teach geography by Radio. Lessons are broadcast every Monday morning by KGO, Oakland. Michael Lamberti (right) is the well-known concert cellist who will play Saturday night at WAHG.

The four happy looking gentlemen at the top of the page are prominent members of the Lake Merritt Ducks, which will meet this Monday evening at KLX, Oakland. Eleanor Freemantel (at the piano) is the catch-as-catch-can accompanist of WCCO.

Jules Klein is the leader of the Hotel Statler orchestra, which entertains at lunch time listeners in of WWJ, Detroit.

Wednesday, March 4

(Continued from page 11)

Altpeten, soprano; 4:30-4:40, Tessie Bloom, pianist; 4:40-5, children's stories; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, services, United Synagogue of America; 7:30-7:50, Irma Korn, contralto; 7:50-8:20, Colonial male quartette; 8:20-10, Philharmonic concert, Carnegie hall; 10-10:20, Robert Maitland, baritone; 10:20-10:30, Magdeleine Brard, pianist; 11-12, Meyer Davis Lido Venice orchestra.

WEAO, Columbus, Ohio (293.0), 7-10 p. m., faculty concert; 8:15, Girls' Glee club.

WEBJ, New York, N. Y. (283), 7-9 p. m., special novelty program.

WEEI, Boston, Mass. (476.9), 7:15 p. m., sport talk, Stanley Woodward; 7:30, Radio interview; 7:45, Harry Einstein, the bad boy from the good home; 8, Traveler Shoe orchestra; 8:30, M. H. Cohan's half hour musical; 9, Gillette Safety Razor concert orchestra.

WEAR, Cleveland, Ohio (389.4), 7-9 p. m., Hotel Cleveland orchestra.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Loretta Kerk, pianist; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim.

WGBS, New York, N. Y. (316.6), 1:50-9:30 p. m., Armand Vecsey's orchestra from Ritz-Carlton hotel; 3-3:10, interview, Dorothy Herzog of the Daily Mirror; 3:10-3:20, Arturo de Manlerre, tenor; 3:20-3:30, book review, John Cutting; 3:30-3:40, Arturo de Manlerre; 3:40-3:50, interview, Astri Spelin; 3:50-4, Arturo de Manlerre; 6-6:30, Uncle Geebee.

WGY, Schenectady, N. Y. (379.5), 7 p. m., program, Strand theater orchestra.

WNN, New York, N. Y. (360), 6:30-7 p. m., Olcott Vail; 7-1:50, Harry Richman and his entertainers; 7:30-7:35, health talk, Dr. Landis; 12:30-1 a. m., Strand Roof orchestra.

WIP, Philadelphia, Pa. (508.5), 1 p. m., Gimbel tea room orchestra; 3, Jane Butterworth, soprano; Flora Hipke, accompanist; 6:05, Benjamin Franklin hotel concert orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 1:30 p. m., studio program.

WJZ, New York, N. Y. (455), 11:30-12:30 p. m., inauguration ceremonies of President and Vice-President; 4-4:30, piano duets and songs; 4:30-5:30, Hotel Belmont tea music; 7-8, Cafe Boulevard orchestra; 8-8:10, Wall Street Journal review; 8:10-8:30, NYU air college; 9-9:20, song recital, Adele Miles; 10:15-10:30, Florence Duryea, violinist.

WKAQ, San Juan, P. R. (340.7), 7-9 p. m., Municipal band.

WLIT, Philadelphia, Pa. (395.5), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; Lenten services; 2, Arcadia cafe concert orchestra; 2:30, Eleanor Eisenhardt, soprano; 7:30, Dream Daddy's bedtime stories; 8, Artisans' glee club; 9:05, play; 9:30, Cotton Pickers' dance orchestra; 10:03, Arcadia cafe dance orchestra.

WNYC, New York, N. Y. (526), 8-8:15 p. m., "Timely Topics," F. V. Dent; 8:15-8:30, song recital; 8:30-9, course in appreciation of music; 9:45-10, song recital; 10:10-10:30, "Books That Everyone Should Know," Professor Carter Troop.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A Candelori's ensemble from Hotel Adelphia; 8, program for WEAF; 9, concert from WEAF; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo's dance orchestra.

WOR, Newark, N. J. (405.2), 6:45-6 p. m., Jean Eckert, dramatic reader; 6:15-8:15, Harry Cox Hotel Robert Treat orchestra; 8-8:15, Trinity church choir; 9:15-10, Parnassus trio.

WRC, Washington, D. C. (468.5), 12 m., inauguration of the President of the United States; 6:15 p. m., children's hour, Peggy Albion; 7, dinner music, Sidney Seidenman's Shoreham hotel orchestra; 8, talk, auspices Smithsonian Institution; 10:15, dance music, Jacques Green and his Club Deauville orchestra; Clark's Dawalians.

WWJ, Detroit, Mich. (352.7), 8 p. m., dinner concert; 8, Detroit News orchestra; Three Knights of Harmony; 10, Jean Goldkette's Victor Recording orchestra.

Central Time Stations

KFNF, Shenandoah, Ia. (266), 6:30 p. m., concert, Brown's Insurance agency.

KSAC, Manhattan, Kans. (340.7), 7:20 p. m., instrumental trio; 7:30, "Relation of Local Need to State Schools," C. H. Scholer; 7:40, instrumental trio; 7:50, "Essentials for a Farm Tractor," W. H. Sanders; 8-9, classical musical program.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., concert, Meyer Davis New Arlington hotel orchestra, Jack Renard, director; 10, dance frolic, Chas. L. Fischer's Eastman hotel orchestra.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., musical program; 9:30-10:45, Jim Riley's Texas hotel orchestra.

WBCN, Chicago, Ill. (266), 7-8 p. m., classical program, Sears-Roebuck Y. M. C. A., Fred Grieve, baritone; Albert Bernstein, boy violinist; Mrs. Mina Taylor Bonney, soprano; Ed Bonney, boy soprano; Englewood Salvation Army band; 8-9, Amber Furniture company; Berger Wedberg, tenor; Harry Davis, baritone; Midway Gardens orchestra; George Doll, baritone; Harold Johnson, xylophonist; Florence Tenney, blues singer; 9-10, Englewood Overland company; Southtown Harmonizers; Englewood string quintet; Les Cameron, tenor; Jack Parker, tenor; Harry J. Wolff; Midway Gardens orchestra; 10-10:15, Midway Gardens orchestra.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 4 p. m., The MacPhail players, Maude Moore, director; 5:30, children's hour, Aloha Station; 7, midweek church service, First Presbyterian church, Rev. John T. Betzen, pastor; 8, Minneapolis studio opening, Nicollet hotel.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., address, speaker, auspices Health Conservation association; address, speaker, Meat Council of Greater Kansas City; The Tell-Me-a-Story Lady; Trianon ensemble; 8-9:15, Star's Radio orchestra.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; books of the day, Lewellyn Jones; Riviera theater; 9-10, Oriole orchestra; talk, M. H. Szymczek; Langdon Brothers; Marie Kelly, reader; Frederick Agard, tenor; Bob Cousle, accompanist; 11-12, Oriole orchestra; Edna Solomon; Marie Kelly, reader; songs, Nick Lucas; Langdon Brothers.

WEMC, Berrien Springs, Mich. (286.5), 8:15 p. m., program, Ladies of Birch hall.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert; 10-11, Don Bestor Drake dance orchestra.

WHA, Madison, Wis. (535.4), 9 p. m., L. L. Iltis, pianist; Prof. Cecil Burleigh, violinist.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Tropical Hawaiian sextet; chapter of "Billy and Jane" stories, James Speed.

WHO, Des Moines, Ia. (526), 6:30-7:30 p. m., Reese-Hughes orchestra; 7:30-8:30, program, Dean Delmes Cowper; 8:30-9:30, Des Moines theater symphonic orchestra, Prof. Leon Daiboff, director; 9:45-11, Bankers Life Radio orchestra, William L. Marsh, director.

WLW, Cincinnati, Ohio (422.3), 6 p. m., dinner hour concert, Selinsky instrumental quintet; 8, Milnor instrumental trio; Clifford Lang, pianist; 8:30, concert, Hosthouse Coffee company, instrumental trio; 6-minute talk, "National Thrift," Harry J. Plogstedt; 9, concert program, Farmland Insulation company; Walter Esberger, pianist, and instrumental quartet; Lyric male quartet.

WMAQ, Chicago, Ill. (447.5), 11 a. m., inaugural exercises; 4 p. m., Child Life stories; 4:30, pupils, Miss Lyons; 6, Chicago theater organ recital; 6:30, stories for children, Georgene Faulkner; 8, weekly lecture, Northwestern university; 8:30, music; 9, WMAQ players.

WOC, Davenport, Ia. (483.6), 6:30 p. m., sandman's visit, Val McLaughlin; 6:50, "Some Facts and Figures about Davenport and Vicinity," H. L. Geddis; 9, Erwin Swindell, organist; Frank Webster, tenor.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; John W. McMahill, Jr., reader; Carolyn Schuyler, pianist; Joseph McManus, baritone; 10-1, Ralph Williams and his Rainbo Skylarks; Merrie Boyd Mitchell, soprano; James Mitchell, baritone; Dec. Karl Shwocowski, pianist; Alfred Tweed, harmonica soloist; Melodians, Laurie, Eddie, Dennis; Clarence Theders, tenor; George A. Little, Larry Shay; 1-2, Hoist Toisy hour, Ralph Williams, Ginger Man, Little Skylarks.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., the Georgian orchestra; Bonnie Barnhardt's songs and bedtime story; 10:45, concert, the Woman's Division of the Atlanta Chamber of Commerce.

WTAY, Oak Park, Ill. (250), 6:30-7:30 p. m., classical program, Nina Joslyn, soprano; Richard Joslyn, tenor; F. E. Hathaway, baritone; Addie Mae Hathaway, violinist; Gladys Gale Danielson, pianist; 9-10, Harmony Kings, F. Zisamba, concertina soloist; Radio Age talk; A. D. Duckner, memory expert; Cook Sisters; Melody Girls; 12-12:50, Parthenon organ concert.

Mountain Time Stations

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, studio concert, Denver Conservatory of Music, Paul Clarke Stauffer, director; Mrs. Edwin G. Ege, Erla E. Faber, Thomas Kling, Paul Clarke Stauffer, Ethel Worth Divett; Jane Binkley, pianist.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., International Code course, Lesson No. 9, Dean R. W. Goddard.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 6:45-7 p. m., editorial talk; 7-7:30, Nick Harris, detective stories of true life; 7:30-8, program, Goodwin, Klinger and Mackay; 8-9, Evening Herald dance orchestra; 9-10, Examiner, semi-monthly Wampus Club movie program; 10-11, Patrick-Marsh dance orchestra, Unity Patrick, blues singer.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra; 6:45-8:15, Hopper-Kelly company studio program; 8:30-10, Seattle Times studio program.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Sunshine hour program; 2:30-4:30 p. m., auditorium service and sermon on Divine Healing, Aimee Semple McPherson, pastor; 6:30-7:30, children's hour, presenting little Mary Elizabeth and Helen Edwina Hughes, Mrs. Rose, pianist.

KHJ, Los Angeles, Calif. (404.2), 12:30-1:30 p. m., Santa Monica Athletic club orchestra; 2:30-3:30, matinee musicale, Pacific States Electric company; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history; Dick Winslow, juvenile reporter, Uncle John; 7:30-8, University of Southern California glee club; 8-8:30, Dr. Mars Rumgardt, scientific lecturer; 8:30-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KLX, Oakland, Calif. (509.9), 6-7 p. m., organ recital; 8-10, American theater orchestra; 10-11:30, Sweet's ballroom.

KNX, Hollywood, Calif. (337), 5:45-8:15 p. m., musical program from Wurlitzer studio; 6:15-7, dinner hour music; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-9, program, Pacific Automotive service, broadcast from Ambassador hotel; 9-10, KNX feature program; 10-12, Hollywoodland dance orchestra.

KPO, San Francisco, Calif. (429.3), 4:30-5:30 p. m., Rudy Seiger's Fairmont hotel orchestra; 5:30-6:30, Big Brother of KPO; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 7:30-8, Conn. Band Instrument company program, Reg Code, director; 6-10, Gilda Beaufeld, pianist; old ballads, Amelia Kenyon Kenne, soprano; "Romance of Gold," Prof. Frank T. Green; program, management of Ruth May Friend.

Thursday, March 5

Thursday, silent night for: CNNC, KFAE, KFDM, KFMX, KFOA, KLX, KSA, KOB, PWX, WAHO, WBAV, WEAO, WEBI, WEMC, WNA, WNAZ, WLBL, WSO, WOR, WOS, WSUI.

Eastern Time Stations

AT9, Fort Bragg, N. C. (435), 8 p. m., instrumental and vocal music; address, Brigadier-General Albert J. Bowley, U. S. A.

CFCA, Toronto, Can. (356), 11:30 p. m., popular dance music, Burton E. Till and his orchestra.

CKAO, Montreal, Can. (425), 4:45 p. m., Windsor hotel dance orchestra; 8:30 p. m., concert, Canadian National Railway (CNRM).

KDKA, East Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Groudy's orchestra; 7:30, children's period; 8, program, National Stockman and Farmer studio; 8:30, concert; 11, concert, Pittsburgh Post studio.

WGBR, New York, N. Y. (272.6), 9:10 p. m., Richard Franklin, pianist; 9:25, Hawaiian quintet; 9:35, Sunday school lesson, S. M. Van Sipma; 9:55, Hawaiian quintet; 10:10, piano solos.

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8, Moores' Cafeteria Weekly Radio review, E. T. Moores, manager; 9, concert, Atwater Kent Radio artists.

WCAU, Philadelphia, Pa. (278), 7:30 p. m., concert; Snellenburg symphony orchestra; 8:10, talk; 8:15, recital; 8:10, "What We See and Hear in Music," Maude Hanson Pettit; 9, Paul Specht and his dance orchestra; 10, talk on the new psychology; 10:20, Paul Specht and his dance orchestra.

WCX, Detroit, Mich. (518), 4:15 p. m., musical program; 6, dinner concert, Book-Cadillac hotel.

WEAF, New York, N. Y. (491.5), 4-4:15 p. m., Helen Sherman Gue, contralto; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, services, Federation of Churches; 7:30-7:45, art talk; 7:15-7:55, James E. Phillips, basso; 8-9:20, lecture course, Columbia university; 8:30-9, Packard Motor company; 9-10, Atwater Kent Manufacturing company; 10-10:15, Vitall Koratsky, Russian tenor; 10:15-11, Russian ensemble; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Vincent H. Percey, organist; 8-10, WEAF program.

WEEI, Boston, Mass. (475.9), 7:15 p. m., sport talk, William E. Mullins; 7:25, program, Greater Boston Federation of churches; 7:45, Pathe News flashes; 8, New York program; 8:30, musicale; 9, Atwater Kent musicale; 10, musicale.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Housewives' Radio exchange, direction Mabel Seiwt Ewer; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim; 9, Atwater Kent concert from WEAF.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview, Vincent Richards, tennis star; 3:10-3:20, Fannie Coaltrohn, soprano; 3:20-3:40, talk on Graphology, Louise Rice; 3:40-3:50, "Salesmanship for Women," Don J. Sweetland; 3:50-4, Fannie Coaltrohn; 6-6:30, Uncle Geebee; 7:30-8:30, Armand Vecsey's orchestra from Ritz-Carlton hotel; 8:30-9, play and book reviews, "Footlight and Lamplight," Oliver Sayler; 9:30-11, program, Piccadilly theater; 11-11:30, "The Radio Ace"; 11:30-1 a. m., program, Russian Eagle restaurant.

WGY, Schenectady, N. Y. (379.5), 6:30 p. m., dinner music, Hotel Ten Eyck orchestra; 7:30, talk on new books, William F. Jacob; 7:45, WGY orchestra; American trio; Edward A. Rice, violinist; 8:15, drama, "The Turning Point," WGY players; 11:15, Stephen E. Boisclair, organist.

WNN, New York, N. Y. (360), 12:30-1 p. m., Chas. Strickland's Palais D'Or orchestra; 6:30-7, violin solos, Olcott Vail; 7-7:30, Harry Ross and his Silver Slipper entertainers; 7:30-7:35, health talk, Dr. Landis; 8:30-9, Everglades revue; 9:30-9:35, "Spring Styles," Hans Bros. Fabric corporation; 9:35-10:55, O'Meara Dardens ballroom orchestra; 11-11:30, Connie's Inn revue; 11:30-12, Lou Holtz and his Wigwam Club entertainers.

WIP, Philadelphia, Pa. (508.5), 4 p. m., income tax talk; 6:15, W. Irving Oppenheim concert orchestra; 7, Uncle Wip's bedtime stories; talk, auspices Board of Education; Philadelphia Police band; 8:45, Boy Scout talk; play by play, Dartmouth-Penn basketball game; 11, Harvey Marburger and his Vaudeville dance orchestra.

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

WJY, New York, N. Y. (405.2), 9:45-10 p. m., Robert Craik, baritone; B. King, accompanist.

WJZ, New York, N. Y. (455), 4:15-4:30 p. m., Henry Pedreira, pianist; 4:30-5:30, Bernhard Levitow's Hotel Commodore tea orchestra; 7-7:55, Bernhard Levitow's Hotel Commodore orchestra; 7:55-8:25, "Making a Magazine," John B. Kennedy of Colliers; 8:35-8:45, "Negro Spirituals," Marshall Bartholomew; 9-9:20, inspirational talk, Clyde Monroe; 10:30-10:50, Emma Burkhardt, contralto; 11:45-12, Olga Steck, songs.

WKAQ, San Juan, P. R. (340.7), 7:30-9 p. m., concert, La Cafeteria.

WLIT, Philadelphia, Pa. (394.5), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; Lenten services; 2, Arcadia cafe concert orchestra; 4:30, Marcella North, pianist; 7:30, Dream Daddy's bedtime stories.

WMAK, Lockport, N. Y. (265.5), 12 midnight, Murray Whiteman's midnight serenaders.

WNYC, New York, N. Y. (526), 7:35-8:30 p. m., dance program, Irving Bloom and Club Tokio orchestra; 8:30-9, vocal and instrumental program.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt.

WOR, Newark, N. J. (405.2), 6:15-7:15, Jimmy Tent's Society orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, concert from WEAF.

Central Time Stations

KFKU, Lawrence, Kans. (275), 6:50 p. m., piano tuning-in number; 7, music; 7:15, "Our Best Shrubs for Artistic Effects," Prof. W. C. Stevens; 7:30, "Winning of Metals from Their Ores—Lead," Prof. Edward D. Kinney; 7:45, Educational Psychology, Lesson IX, Dean R. A. Schwegler.

KFKX, Hastings, Nebr. (288.3), 9:30-11:30 p. m., program, Dean Charles H. Amadron, director.

KFMQ, Fayetteville, Ark. (299.3), 7:30 p. m., "How Arkansas Horses Eat Their Heads Off," A. H. McNair; "The Student Y. W. C. A. in 1925," Helen Baltrick; "Every Dairyman a Bacteriologist," W. L. Bleecker; "What Students of Mechanical Engineering Learn at College," P. A. Cushman.

KFNF, Shenandoah, Ia. (266), 8:20 p. m., concert, Earl Loomis and Melody Boys.

DANCING

(Central Time)

Saturday, February 28: 6:10, Whn; 6:30, Wgy; 9, Ckac, Kfa, Wbcn, Wrbh; 9:30, Cfca, Wja; 10, Kgo, Kgw, Kfa, Wbcn, Wcco, Weaf, Wbcn, Wgn, Wqj; 10:15, Whn; 10:30, Whn; 11, Kfa, Woaw, Woc; 11:45, Wcco; 12, Khj, Knx, Kyw, Wmaq; 1, Kyw.

Monday, March 2: 8, Wraf, Weaf; 9, Kpo; 9:30, Kfa, Klx, Wahg, Weaf; 11, Wsac, Kgo, Kths, Wrva, Wqj; 10:30, Woaw; 11, Webg; 12, Kpo.

Tuesday, March 3: 8:30, Wdwf, Whn; 9, Kpo, Webh, Weaf, Whn, Woaw; 9:30, Ckac; 10, Wbcn, Wgn, Wqj; 10:30, Woaw; 11, Webh, Whn; 11:30, Whn; 12, Kgw, Khj, Knx, Kpo, Wbap; 1, Knx.

Wednesday, March 4: 8, Weel; 4:30, Wbcn; 9, Kfmq, Kpo, Webh, Wwj; 9:30, Whn; 9:45, Who; 10, Kfa, Weaf, Wgn, Wha, Wqj; 10:30, Ckac, Whn; 11, Webh, Whn; 12, Kgw, Khj, Knx.

Thursday, March 5: 6, Wsb; 8:30, Whn; 9, Kpo, Wbcn, Webh, Weel; 9:30, Wbap, Weaf; 10, Wraf, Wgn, Whn, Wqj; 10:30, Wghs, Whn, Woaw; 11, Webh, Whn, Wmak; 12, Kgw, Khj, Knx, Kpo.

Friday, March 6: 8, Weel; 8, Webh; 9:30, Whn; 9:45, Klx, Wahg; 10, Wgn, Whn; 10:30, Wha, Weaf; 11, Wcco, Wha, Webh; 12, Khj, Knx.

KSO, St. Louis, Mo. (545.1), 8 p. m., recital, James R. Keyes, tenor; 10, request program, Vin James, pianist.

KTHS, Hot Springs National Park, Ark. (374.8), 8:30 p. m., concert, Department of Arkansas, American Legion.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., concert, Texas Christian university, Prof. H. D. Guelick, director; 9:30-10:45, artists, Thorpe Spring Christian college.

WBCN, Chicago, Ill. (266), 7-8 p. m., Chicago mixed quartet; Helen Irwin, pianist; J. Forbes, tenor; Evelyn Krutson, soprano; 9-12, Elmer Jordan & company jamboree; Midway Gardens orchestra; talk, Elmer Jordan; Larry Loser, tenor; Ann Williams, soprano; Florence Eselmon, soprano; Al Phillips, tenor; Alvin Fry, tenor; Louis Clark, tenor; Lindsay McPhail, pianist; Ralph Norris, pianist; Hill, Hirsch & Gorny; The Three Musketeers; Cambridge Sisters; Casey & Gervais; Mollie LaVelle, soprano; Eddie Shepard, concertina soloist; Dorothy Litchfield, whistler; 12-1, Ann Williams, soprano; Alvin Fry, tenor; Eddie Shepard, concertina soloist; Mollie LaVelle, soprano; Ralph Norris, pianist; "Big Boy" Yagle.

WCBD, Zion, Ill. (344.6), 6 p. m., Mrs. H. E. Mayfield, soprano; Mrs. Mayfield, Mrs. Faassan, soprano, contralto; Miss Windle, Mr. Reid, contralto and baritone; Alexander Dolew, duetist; musical glasses; Ruth Petrie, pianist; Ruth Beem, reader.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 5:30 p. m., children's hour, Mrs. Walter Stevens; 7-10, national program, New York.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Duo-Art; Cecile Burton, reader; book talk, Louis Mecker; The Tell-Me-a-Story Lady; Trianon ensemble; 11:15-1, Nighthawk frolic, Plantation players; Eddie Kuhn's Kansas City Athletic club orchestra.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Florence Flintfield Riviera theater; 9-10, Oriole orchestra; Belle Forbes Cutter, soprano; Howard Neumiller, accompanist; John Stamford, tenor; 11-12, Oriole orchestra; songs, Banks Kennedy, Dean Remick, pianist; Loos brothers.

WEBW, Beloit, Wis. (268), 8-9 p. m., band concert, quartet, vocal solos, Fairbanks Morse company.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, "Line Night," RHL; 10-11, Don Bestor Drake dance orchestra.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, auspices Mrs. Hobert K. Van Pelt.

WHO, Des Moines, Ia. (526), 11-12 midnight, Al Levich and his Serenaders.

WLW, Cincinnati, Ohio (422.3), 4 p. m., French lesson, Madame Ida Tcimpidis; piano solos, Adelaide Apfel; 6, dinner hour concert, Selinsky instrumental quintet; 8, The Passion Play; 10, three-minute message, "Toll Service Department of United States Government"; 10:03, concert program, Cooper corporation; Cooper orchestra, male quartet; Larry Orester, piano-accordion; the Doherty Melody Boys.

WMAQ, Chicago, Ill. (447.5), 6 p. m., Chicago theater organ recital; 6:25, Hotel LaSalle orchestra; 6:50, Haddy; 8, garden talk, James H. Burdett; 8:15, Boy Scout program; 6:30, F. J. Brideman; 8:50, University of Chicago lecture; 9:15, Scotch program, Sam Galbraith.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., organ recital, Harry O. Nichols.

WOAI, San Antonio, Texas (394.5), 9:30 p. m., dance music, Jimmie Joy's Hotel St. Anthony orchestra.

WOAW, Omaha, Nebr. (526), 6 p. m., every child's story hour, Grace Sorenson; 6:20, to be announced; 6:45, Randall's Royal Fontenelle orchestra; 9, program, May Seed and Nursery company; 10:30, Frank W. Hodek, Jr., and his Nightingale orchestra.

WOC, Davenport, Ia. (483.6), 7 p. m., musical program, WEAF; 11, Louis Connor and his LeClaire hotel orchestra; Peter MacArthur, baritone.

WORD, Batavia, Ill. (275), 9 p. m., Aurora College stringed trio; 9:10, Grace Everett, reader; 9:20, Mrs. Ralph Espy, soprano; 9:30, Sunday school lesson, B. J. Hollister; 9:55 Evelyn Nelson, pianist; 8, Aurora college stringed trio.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; Mrs. Lydia Lochner, contralto; Edith Buckmaster, accompanist; Blanche E. Robinson, pianist; 10-1, Ralph Williams and his Rainbo Skylarks; Verdi trio, Chicago's Versatile trio, Louis Sabella, director; June Lee, contralto and comedienne; Lew Butler; Neil and Chee; Marie Wright, soprano; James J. Whalen, tenor; 1-2, Hoist Toisy hour, Ralph Williams, Ginger Man, Little Skylarks.

WSAC, Manhattan, Kans. (340.1), 7:00 p. m., music; 7:30, "Use of Paints and Enamel in the Home," Harriet W. Allard; 7:40, music, ... director; 7:50, "What to Eat When Under Weight," Pearle E. Roby; 8-9, Scotch program, Prof. P. P. Brainard, director.

WTAY, Oak Park, Ill. (250), 6:30-7:30 p. m., classical program; Lois Sanford, reader; Dorothy Moline, pianist; Margaret Hartly, soprano.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 5:30-6, Examiner's musical half hour; 6:45-7:30, Carlyle Stevenson's Bon Ton orchestra; 7:20-7:30, Y. M. C. A. speaker; 7:30-8, Foothill Four male quartet; 8-9, program, Standard Oil company of California presenting play with music; 9-10, Los Gatos instrumental trio, Carol Blaine, contralto; 10-11, Examiner popular song program, Madalyn Hardy, pianist.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Radio Bible school; 3:30-4:30 p. m., afternoon organ recital, Roy Reid Brignall; 7:30-9:15, water baptism and Temple service broadcast, Aimee Semple McPherson, evangelist-pastor, Temple choir; 9:15-10, program, Butts Music company, Carl Edward Hatch, violinist and baritone, Mora Leonard Hatch, pianist; 10-11, organ recital, Esther Fricke Green.

KGO, Oakland, Calif. (361), 8 p. m., Arion trio; Winifred Hanlon, soprano; C. A. Harwell, whistler; Mrs. Cyril Roche, soprano; Hawaiian Novelty Three; Waldemar Engberg, bass; piano duets, William P. and Bonita Keathey; "Music and Shirts," Rev. George W. Phillips; Joyce Holloway Barthelson, pianist; Josephine Holub, pianist; 10-1, dance music, Henry Halstead's orchestra.

KHJ, Los Angeles, Calif. (404.2), 12:30-1:30 p. m., Loew's State Theater program; 2:30-3:30, matinee musicale, Pacific States Electric company; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history, Dickie Brandon, Jane Dughes, screen starlets, Uncle John; 7:30, Harold Swartz, talk on "Art"; 7:45, Dr. Philip M. Lovell, "Care of Body"; 8-10, program by Silverwood's, arranged by J. Howard Johnson; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KJS, Los Angeles, Calif. (281), 8-9:30 p. m., Bible lecture and musical program of sacred and classical nature.

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., musical half hour from Wurlitzer studio; 6:30-7:30, dinner hour music; 8-10, KNX feature program; 10-11, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (429.3), 4:30-5:30 p. m., Rudy Seiger's Fairmont hotel orchestra; 5:30-6:30, Big Brother of KPO; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; John Hartegan, baritone soloist; 9-10, program, Mr. Bartlett, tenor, director; 10-11, Orma James' Rose Room Bowl orchestra.

Friday, March 6

Friday, silent night for: AT9, CFCA, CKAC, CHNC, KFKU, KFKX, KFMQ, KGO, KJS, KSD, PWX, WBBR, WBZ, WCBD, WOWF, WIAO, WEBI, WEBW, WFI, WGST, WHAZ, WIP, WKAQ, WLBL, WLW, WOAI, WMAK, WOI, WORD, WSUI.

Eastern Time Stations

KDKA, East Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Charlie Gaylord's orchestra; 6:15, address, University of Pittsburgh studio; 8:30, concert.

WAHG, Richmond Hill, N. Y. (315.6), 12-1 p. m., program, Brooklyn Federation of churches; 6:30, ... ensemble; 4:30-6:45, Helen Kreutzlin, soprano; 6:45-9, Harris and Evans; 8-9:15, Fred Ehrenberg, musical saw; 9:15-10, Michael Lamberti, cellist; 10-10:15, Radio Question Box, Wm. F. Steal; 10:15-10:30, Reten Kreutzlin; 10:30-10:15, Fred Ehrenberg; 10:45-11:45, dance music.

WBAV, Columbus, Ohio (293.0), 8 p. m., Dispatch concert, Alma Borneman's Chittenden hotel orchestra.

(Continued on page 14)

Index to Popular and Classical Concerts

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

Popular

Eastern Time Stations

Saturday, February 28: 6:35, WNYC; 7:30, WHN, WNYC, 8, WFI, 8:30, CKAC, WHN, 15, WOR, 11:15, WHN.

Sunday, March 1: 7:25, WEEI, 7:30, WCAE, 8:15, WEAF; 6, WNYC; 11:30, WHN, 16, WHN.

Monday, March 2: 6:45, WGY; 7:15, WAHG, WEAF; 7:30, WGY, WHN, 8, WBAV, WEEI, WLIT, WMAK, WOO; 8:30, WAHG, WEAF; 9, WEEI, 9:45, WAHG, WHN, WOR; 10, WEAF, 12, WHN.

Tuesday, March 3: 7:30, WEBJ; 7:35, WNYC, 7:45, WEBJ; 8, WCAU, WKAQ; 8:30, WCAE, WEAF, WEEI, WFI, 5, WCAE, WEAF; 9:30, WGBS; 10, WHN; 11, WHN; 11:15, WGY.

Wednesday, March 4: 7, WEBJ, WGY, WHN, 8, WLIT, WOO, WWJ; 10, WWJ.

Thursday, March 5: 6:30, WGY; 7, WHN; 7:30, WKAQ; 7:45, WGY; 8, WBBR; 8:30, WEAF, WHN; 9:30, WHN; 10, WEEI; 11, WHN; 11:30, WHN; 11:45, WJZ; 16, WMAK.

Friday, March 6: 7, WEBJ, WGY; 7:45, WEBJ; 8, WEAF, WGY, 6:30, WEBJ; 8, WAHG, WCAU, WEAF, WGY; 9:30, WLIT; 10:20, WEAF; 10:30, WAHG, WGY; 11, WHN; 10, WHN.

Central Time Stations

Saturday, February 28: 6, WMAQ; 7, WBCN; 7:50, WLS; 8, KYW, WBCN, WMAQ, WOS; 6, WEBH; 8:15, WSAI; 10, WBCN, 10:30, WQJ; 10:45, WSB, 11, WBCN, WEBH, WQJ; 11:30, WQJ; 11:45, WDAF; 10, KYW, WBCN, WQJ; 1, WQJ.

Sunday, March 1: 7, WEBH; 8, WBCN, 9, WBCN; 9:30, WFAA; 11, WBAP.

Monday, March 2: 6, WSB; 8:10, WORD; 9:30, WBAP; 10, WOI; 10:45, WSB; 11:45, WDAF.

Tuesday, March 3: 6:30, WTAY, 8, WHB, WSB, 9, WBCN, WEBH, WOAW, 10, WBCN, WQJ, 10:40, WQJ, 10:45, WSB, 11:45, WDAF, 10, WBCN, WQJ, 1, WQJ.

Wednesday, March 4: 7:30, WBAP, WHO; 8, WBCN, 6, WBCN, WEBH, WTAY; 6:30, WTAY, 10, WQJ, 10:30, KYW; 11, WEBH, 10, WQJ, 12:35, KYW; 1, WQJ.

Thursday, March 5: 6:30, WTAY, 7, KSD, WHB, 8, WORD; 8:30, KYW, 8:30, WFAA, 9, WEBH, 10, KYW, WGN, WQJ, 10:30, WBCN, 11, WEBH, WQJ; 11:45, WDAF, 10, WBCN, WQJ; 1, WQJ.

Friday, March 6: 6:30, WTAY, 7, WBCN, 8, WBCN, WCCO, WDAF, 6:30, WFAA, 6, WCCO, WEBH, WOAW, 10, WQJ, 11, KYW, WEBH, WMC, WQJ; 11:45, WDAF; 10, KYW, 12:30, WQJ; 1, KYW, WQJ.

Mountain Time Stations

Monday, March 2: 6, CFAC.

Tuesday, March 3: 7:45, CFAC.

Wednesday, March 4: 6, KOA.

Friday, March 6: 6, KOA, 8:10, KOA.

Pacific Time Stations

Saturday, February 28: 6, KNX; 10, KFI, 11, KNX, 10, KHJ.

Sunday, March 1: 7, KFI, 9, KNX.

Monday, March 2: 6, KHJ, KNX, 9, KFI, KHJ, KNX, 10, KHJ, 11, KHJ.

Tuesday, March 3: 6, KFI, KNX, KHJ, 10, KFI, KNX.

Wednesday, March 4: 7:30, KFI, 9, KNX, 6:30, KHJ, 6, KFI, KNX; 10, KPO.

Thursday, March 5: 7:30, KFI, 9, KFI, KHJ, KNX, 9, KFI, KNX, 10, KFI.

Friday, March 6: 7:45, KLX, 8, KHJ, KNX, 9, KNX, KHJ, 10, KFI, KNX, KPO; 15:30, KGW.

Classical

Eastern Time Stations

Saturday, February 28: 6, WBZ, WCAU, WEAF, WGB, WOR; 6:30, WCAE, WFI, WHN; 7, WEAF, WRC; 7:05, WJAR; 7:30, CKAC, WBZ; 8, WBBR, WBZ, WEAF, WOR; 8:15, WBZ, WIP, WJZ, WRC; 8:30, KDKA, PWX, WBZ, WCAE, WWJ; 8:50, WEAF; 6, WEAF, WPG, WRC; 6:15, WIP; 6:45, WGBS; 10, WBZ, WEAF, WHN, WJZ; 10:30, WBZ, WEAF; 11:15, WIP, WRC; 12, WAHG.

Sunday, March 1: 6:30, KDKA; 8:30, WCAE, WJZ, 8:45, WGY; 6, WCAE; 8:10, WBBR; 6:15, WEEI; 8:00, WNYC; 10, WHN; 10:05, WBBR.

Monday, March 2: 6, WEAF, WWJ, 8:30, WHN; 7, WEAF, WJZ; 7:30, WOO; 8, WAHG, WBBR, WGY, WWJ; 8:30, CHNC, KDKA; 6:40, WBBR, WJZ; 8:45, WCAE, WHAZ; 8, WCAE, WGY; 10, WAHG; 10:03, WOO; 11, WCAE; 11:15, WGY.

Tuesday, March 3: 6, WEAF, WWJ, 8:15, WOR; 6:30, WGY, WHN; 7, WEAF; 7:30, WBAP, WCAU; 8, KDKA, WEEI, WFI, WWJ, 8:15, WEAF, WIP, 8:20, WCAU; 8:25, WJZ; 8:40, WCAU; 9, KDKA, WGY, WHN, WRC; 10, WCAE, WGBS, WGY, WRC; 10:15, WJY; 11, KDKA; 11:15, WGY.

Wednesday, March 4: 6, WCAU, WWJ; 6:15, WOR, 6:30, WCAE, WHN; 7, WKAQ, WRC; 7:30, WAHG, WCAE, WEAF, WOO; 6:10, WCAU, 8:15, WEAF, WNYC; 6:20, WEAF, 8:30, KDKA, PWX, WCAE, WEEI, WEAO; 6:45, WCAU; 9, WJZ; 15:05, WCAU; 10:15, WJZ.

Thursday, March 5: 6, WWJ; 6:30, WHN; 7:30, WCAU; 7:45, WEAF; 8, AT9, KDKA, WEEI, WWJ; 6:15, WCAU, WJY; 8:30, CKAC, KDKA, WNYC, 9, WCAE, WEAF, WFI, 6:45, WJY; 10:15, WNYC; 11, KDKA; 11:15, WGY.

Friday, March 6: 6, WEAF, WWJ; 6:30, WCAE, WFI, WHN; 7, WGY, WJZ, 7:45, WEAF; 8, WAHG, WBAV, WEEI, WWJ; 8:30, KDKA, WAHG, WCAE, WJY, WNYC; 8:30, WCAE, WEEI, 9:45, WJY; 10:03, WOO.

Central Time Stations

Saturday, February 28: 6, WBCN, WGN, WLW, 6:15, WTAY, 6:30, KFNF, WGN, WTAY, 6:45, WOAW, 7, KYW, WEBH, 7:30, WHAS, 8, KSD, WGN, WSAI, WSB, 8:30, WCCO, WMC, WLW; 9, WMAQ, WOO, WOC, 6:35, KYW, 11:30, KYW, 12, WCAL.

Sunday, March 1: 6:30, WLS, 7, KYW, WBCN, WLS, 7:30, WBAP; 7:50, WORD, 8, WCBD, 6:30, KTHS, WLW, WOAI, 9, WGN, WOAW, WQJ; 6:15, WCCO; 6:35, KTHS, WEMC.

Monday, March 2: 6, WGN, WMAQ, WOAW, 6:30, KFNF, WFAA, WGN, WMAQ, WOAW, 7, KTHS, 7:30, WBAP, WHO; 7:45, WHA, 8, WCBD, WEBW, WLW, 6:15, WEMC, 6:30, WFAA, WMC, 11:15, WHO.

Tuesday, March 3: 6, KSD, WGN, WLW, WMAQ, 6:15, WTAY, 6:30, WOAW; 6:30, WFAA, WGN, 7, KYW, WHCN, WCCO, WLBH, WQJ, 7:35, WHAS, 8, KFMQ, KYW, WGN, WORD; 8:30, KYW, KTHS, WSAI, 6:45, KYW, 6:50, WORD, 9, KSD, WOC, WOAW; 6:15, WMAQ, 6:30, WBAP, 10, WLW, 11, WFAA.

Wednesday, March 4: 6, WGN, WLW, WMAQ; 6:30, KFNF, WGN, WTAY; 7, KYW, WBCN, WEBH, WQJ; 7:30, WHAS, 8, KSAC, KYW, WCCO, WDAF, 8:15, WEMC; 6:30, WHO, 8, WOC, KTHS, WHA, WLW, 6:30, WBAP; 15:45, WSB, 10, WTAY.

Thursday, March 5: 6, WGN, WLW, WMAQ, 6:15, WTAY, 6:30, KFNF, WFAA, WGN, 6:45, WOAW, 7, WCCO, WEBH, WOC, WQJ, 7:30, WHAS; 8, KSAC, WCBD, WEBW, WOC, 8:15, WOI, 6:20, KTHS, WFAA, WMC; 6, KSD, WLW, WOAW, 6:15, WMAQ; 6:30, KFNF, WBAP, 10:03, WLW, 10:30, KTHS, WLW, 10:45, WSB, 11, WFAA.

Friday, March 6: 6, WGN, WLW, WMAQ, 6:15, WTAY, 6:30, KFNF, WCCO, WFAA, WGN, WOAW, 7, WEBH, WQJ; 7:30, WBAP, WHAS; 7:45, WHA, 8, KFDM, WGN, WHO, WSB; 6:30, WMC, 9, WEMC, 9:15, WMAQ; 6:30, WBAP; 10:45, WSB.

Mountain Time Stations

Wednesday, March 4: 8, KOA.

Thursday, March 5: 9, CFAC.

Friday, March 6: 7, CFAC.

Pacific Time Stations

Saturday, February 28: 6, KHJ; 6:15, KNX, 7, KGW, 9, KGO, 6:30, KHJ, 6, KFI, 10, KHJ, 11, KHJ.

Sunday, March 1: 6, KJS, 6:30, KHJ, 7, KFI, KHJ, KNX, 7:15, KJS, 8, KFI, KHJ, KNX, 10, KFI, 10:30, KPO.

Monday, March 2: 6, KLX, 6:30, KNX, 8, KFI, 10, KPO; 11, KPO.

Tuesday, March 3: 6, KHJ, 6:30, KNX, 8, KJS, 6:30, KGW; 6, KHJ, 10, KPO.

Wednesday, March 4: 6, KHJ, KLX, 6:15, KNX, 7, KNX, 7:30, KHJ, 8, KGW, KLX.

Thursday, March 5: 6, KHJ, 6:30, KNX, 8, KGW, 6:30, KHJ, 9:15, KFI, 10, KGO, KPO, 11, KPO.

Friday, March 6: 6, KHJ, KLX, 6:30, KNX, 7, KFI, 8, KHJ, 6:15, KFSG, 10, KFSG.

CAST WEDNESDAY FOR FIRST TIME

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WOAW, Omaha, Nebr. (526), 6 p. m., every child's story hour, Grace Sorenson; 6:20, to be announced; 6:45, Randall's Royal Fontenelle orchestra; 9, program, May Seed and Nursery company; 10:30, Frank W. Hodek, Jr., and his Nightingale orchestra.

WOC, Davenport, Ia. (483.6), 7 p. m., musical program, WEAF; 11, Louis Connor and his LeClaire hotel orchestra; Peter MacArthur, baritone.

WORD, Batavia, Ill. (275), 8 p. m., Aurora College stringed trio; 8:10, Grace Everett, reader; 8:20, Mrs. Ralph Espy, soprano; 8:30, Sunday school lesson, B. J. Hollister; 8:55 Evelyn Nelson, pianist; 9, Aurora college stringed trio.

concert, Charlie Gaylord's orchestra; 8:10, address, University of Pittsburgh studio; 8:30, concert.

WAHG, Richmond Hill, N. Y. (315.6), 12-1 p. m., program, Brooklyn Federation of churches; 8-8:30, violin ensemble; 8:30-8:45, Helen Kreutzlin, soprano; 8:45-9, Harris and Evans; 9-9:15, Fred Ehrenberg, musical ssw; 9:15-10, Michael Lamberti, cellist; 10-10:15, Radio Question Box, Wm. F. Diehl; 10:15-10:30, Helen Kreutzlin; 10:30-10:45, Fred Ehrenberg; 10:45-11:45, dance music.

WBAV, Columbus, Ohio (293.9), 8 p. m., Dispatch concert, Alma Borneman's Chittenden hotel orchestra.

(Continued on page 14)

7, KYW, KDKA; 7:30, WHAS; 8, KSD, WGN, WSAI, WSB; 8:30, WCCO, WMC, WLW; 9, WMAQ, WOO, WOC; 9:35, KYW; 11:30, KYW; 12, WCAL.

Sunday, March 1: 6:30, WLS; 7, KYW, WBCN, WLS; 7:30, WBAP; 7:50, WORD; 8, WCBD; 8:30, KTHS, WLW, WOAI; 9, WGN, WOAW,

Wednesday, March 4: 6, KHJ, KLX; 6:15, KNX; 7, KNX; 7:30, KHJ; 8, KGW, KLX.

Thursday, March 5: 6, KHJ; 6:30, KNX; 8, KGW; 8:30, KJS; 9:15, KFSG; 10, KFSG, KPO; 11, KPO.

Friday, March 6: 6, KHJ, KLX; 6:30, KNX; 7, KFI; 8, KFI; 9:15, KFSG; 10, KFSG.

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.

Friday, March 6

(Continued from page 13)

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 8:30, concert, Apollo, Pa., male quartet; 9:30, concert, Hampton S. Lundenstadt, baritone.

WCAU, Philadelphia, Pa. (278), 7, Hotel Pennsylvania dance orchestra; 8:10, recital; 9:30, Musical Chefs; 9:40, Helper International Sunday school lesson notes.

WCX, Detroit, Mich. (516), 4:15 p. m., musical program; 6 p. m., dinner concert, Book-Cadillac hotel; 7, musical program; 10, dance music.

WDWF, Providence, R. I. (441), 8 p. m., lectures and talks of interest, Faculty of Brown university.

WEAF, New York, N. Y. (491.5), 3:55-4:10 p. m., Matilda Lindsay, soprano; 4:10-4:25, French lesson, Columbia university; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:20, Charles Mertens, tenor; 7:30-7:45, children's stories; 7:45-8, Estelle Burns Roure, soprano; 8-8:30, Happiness Candy Boys; 9-10, Spear and company, home entertainers; 10-10:20, Elsie May Gordon, impersonator; 10:20-10:45, Joscha Gurewich, saxophonist; 10:45-10:55, Eleanor Sterkey, soprano; 11-12, Meyer Davis Lido Venice orchestra.

WEEI, Boston, Mass. (475.9), 7:15 p. m., concert, U. S. army band; 8, program, Neapolitan Ice Cream company; 8:30, Gilchrist quartet; 9, Grindell's Colonial club orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Austin J. Wylie orchestra; 8-11, studio, Youngstown, Ohio, Rotary club.

WEBJ, New York, N. Y. (233), 7-7:45 p. m., Traub trio; 7:45-8:15, Keil Harmonica band; 8:30-9, G. Botsford's quartet club.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Kesh-ke-kosk in an Indian concert; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim.

WGBS, New York, N. Y. (315.6), 3-3:10 p. m., interview, Mary Wall, Terese Rose Nagel; 3:10-3:20, Frances Kersik, soprano; 3:20-3:30, Alfred Kappler of China Rose company; 3:30-3:40, Frances Kersik; 3:40-3:50, harmony and theory lesson, Dr. Alfred L. Robyn; 3:50-4, Frances Kersik; 6-6:30, Uncle Geebee; 6:30-7:30, Larry Fleeck's orchestra.

WGY, Schenectady, N. Y. (379.5), 7 p. m., program, Strand theater; 7:30, health talk; 7:35, American trio; Merlon Brewer, soprano; Giovanni Trombini; Edward A. Rice, violinist; WGY orchestra; 10:30, "Manners of New York," Ernest C. Brown; 10:40, Abram J. Moore, violinist; Elsie Schillers, Elsie Firestone, pianist; Edward E. St. Louis, baritone.

WHN, New York, N. Y. (360), 6:30-7 p. m., violin eolos, Olcott Vail; 7-7:20, Harry Richman and his enterteiners; 7:25-7:30, cross word period; 7:30-7:35, health talk, Dr. Landis; 9:30-10, Dan Gregory and his Crystal Palace orchestra; 10-10:15, fashion chats, Mme. Belle; 10:25-10:30, "Storage Batteries," H. B. Shontz; 10:30-11, Roseland Dance orchestra; 11-11:30, Everglades revue; 11:30-12, Club Alabam orchestra; 12-12:30, Ted Lewis and his Parody club revue.

WIP, Philadelphia, Pa. (508.5), 1 p. m., Gimbel tea room orchestra; 4, talk, auspices, University of Pennsylvania; 6:05, songs, Merk Fisher, Joe Burke; 6:15, Harvey Marburger and his Vaudeville dance orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. I. (305.9), 8 p. m., studio program; 9, Astor Coffee orchestre; 11, Providence Baltimore hotel orchestra.

WJY, New York, N. Y. (405.2), 8:30-9:30 p. m., concert, Middleburg glee club; 9:45-10, Prince Baelle Swiatopolk Mirski, songs.

WJZ, New York, N. Y. (455), 4-4:15 p. m., Julia Edick, soprano; 4:15-4:30, Madlyn Goldman, pianist; 7-7:30, Savarin ensemble; 8-8:10, Wall Street Journal review; 8:10-8:20, N. Y. U. Air college; 8:40-9, Marguerite Werncke, contralto; 10:30-11:30, Duke Yellman and his Irene Castle orchestra.

WLIT, Philadelphia, Pa. (394.5), 11:45 a. m., daily almanac; 12:02, Stanley theater organ recital; Lenten services; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Marcella North pianist; 7:30, Dream Daddy's bedtime stories; 8, book review, Arnold Abbott; 8:10, humor talk, Sam Wingfield; 9:30, Stanley theater symphony orchestra; 10:03, Arcadia cafe dance orchestra; Morning Glory club concert.

WNYC, New York, N. Y. (526), 7:35-7:50 p. m., resume of meeting of Board of Estimate; 8:30-9:30, concert program.

WOO, Philadelphia, Pa. (508.5), 4:45 p. m., organ recital, Mary E. Vogt; 7:30, A. Candelori's ensemble from Hotel Adelphia; 8, Astor orchestra from WEAF; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo's Hotel Sylvania dance orchestra.

WWJ, Detroit, Mich. (352.7), 6 p. m., dinner concert; 8, program, WEAF.

Central Time Stations

KFDM, Beaumont, Tex. (315.6), 8 p. m., Refinery band concert.

KFNF, Shenandoah, Ia. (266), 6:30 p. m., high school orchestra, Mary Ruth Cherry, director.

WBCN, Chicago, Ill. (266), 7-9 p. m., Becker, Ryan and company program; Ray Zender, baritone; Will Rossiter, tenor; Dorothy Ferguson, xylophonist; Roy Miller, tenor; Lee Darnelle, banjoist; Midway Gardens orchestra; Edna McGuffin, pianist; 9-10, W. G. Tegtmeier and company; 10-10:30, Midway Gardens orchestre.

WEMC, Berrien Springs, Mich. (285.5), 9 p. m., Radio Lighthouse choir, Martha Hutchinson, soprano; Mrs. Lela Bouchell, contralto; Prescott Fairchild, violinist; 9:45, "Why I Am a Fundamentalist," Pastor W. H. Wakeham.

WGN, Chicago, Ill. (370.2), 6 p. m., organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, Helen Du Fresne; 10-11, Don Bestor Drake dance orchestra.

WHA, Madison, Wis. (535.4), 7:45 p. m., Wisconsin high school band; address on square boards from round trees, Aldo Leopold.

WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., Barney Rapp's orchestra.

WHO, Des Moines, Ia. (526), 7:30-9 p. m., Bessie Wolf, pianist; Ada Jones, cornetist; Hugh Irwin, pianist; Argonne Post American Legion Banjo club; Mary Baugh Watson, violinist; Myrtle Williams, soprano; Earl Williams, violinist; Helen Birmingham, accompanist.

WOAW, Omaha, Nebr. (526), 6 p. m., story hour, Doris Claire Secord; 6:20, to be announced; 6:30, Harry Brader, violinist; Frank Strawn, pianist; 7, to be announced; 7:15, current sport events, Ivan L. Gaddis; 9, program, auspices Burlington & Quincy Railroad company; "Seeing by Radio Territory Covered by the Burlington Route," Dr. G. E. Condra; 10:30, orchestra, Brandeis Store restaurants.

WOR, Newark, N. J. (405.2), 8:15-6:30 p. m., Bluebird orchestra; 6:30-6:45, Man in Moon stories; 7-7:15, Bluebird orchestra.

WQJ, Chicago, Ill. (447.5), 7-8 p. m., dinner concert, Ralph Williams and his Rainbo Garden orchestra; Herman Techentine, baritone; Edith Phillips Heller, pianist; 10-12, Ralph Williams and his Rainbo Skylarks; Rogers Boys, Larry, Billy; West Brothers; Zeigler Sisters; Lawretta Giles, soprano; Nate Coldwell, pianologuist; 1-2, Hotsy Totsy hour, Ralph Williams, Ginger Man, Little Skylorks.

KSAC, Manhattan, Kans. (340.7), 7:20 p. m., college quartet; 7:30, "Canned Goods and Health," L. D. Bushnell; 7:40, college quartet; 7:50, "First Claimont," J. E. Kammeyers.

KTHS, Hot Springs National Perk, Ark. (374.8), 8:30 p. m., organ recital, Lawson Reid, of Princess theater; 9:15, concert, Meyer Davis New Arlington hotel orchestra, Jacques Renard, director.

WBAP, Fort Worth, Tex. (475.9), 7:30-8:30 p. m., Breckenridge high school band, R. E. Frazier, director; 9:30-10:45, concert, "Artists' Colony," Mrs. Harry Fugate, director.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 5:30 p. m., children's hour, Court of Gold Medal; 6:30, dinner concert, Minneapolis Athletic club orchestra; Thelma Halvorsen, soprano; Eleonor Freemantel, accompanist.

WDAF, Kansas City, Mo. (365.6), 6-7 p. m., piano tuning-in number on the Duo-Art; speaker, Kansas City Children's bureau; the Tell-Me-a-Story Lady; Trianon ensemble; 8-10, popular program; 11:45-1, e. m., Nighthawk frolic.

WEBH, Chicage, Ill. (370.2), 7-8 p. m., Oriole orchestra; Cambridge sisters; Dean Remick, pianist; 9-10, Oriole orchestra; Rita McFawn, soprano; Jack Penewell, guitarist; Sandy Meek, tenor; 11-12, Oriole orchestra; Three Musketeers; Jack Penewell, guitarist; Nick Lucas.

WMAQ, Chicago, Ill. (447.5), 6 p. m., organ recital, Chicago theater; 6:30, Hotel LaSalle orchestra; 8, weekly Wide-Awake club, Mrs. Frances M. Ford; 8:30, musical geography, Mr. and Mrs. Marx E. Oberndorfer; 9:15, musical program, Mae Graves Atkines.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., concert, Britling's Novelty orchestra, Frank Bracciante, director; 11, midnight frolic, Ross and Evans.

WOC, Davenport, Ia. (483.6), 6:30 p. m., sandman's visit, Val McLaughlin; 6:50, "Benefits of a Fair," M. H. Calderwood; 8, Swedish program, Olga E. Edlen, director; speeches, Major C. W. Sandstrom, O. R. Jules G. Mauritzon.

WSB, Atlanta, Ga. (428.3), 5-6 p. m., Bonnie Barnhardt's bedtime story, songs; 8-9, program, Old Time Gospel, Rev. Andrew Jenkins family; 10:45, program, "Reminiscence," Sergeant George J. Ryan and Fort McPherson soldier trio.

WTAY, Oak Park, Ill. (250), 6:10-6:30 p. m., Parthenon organ concert; 6:30-7:30, studio popular concert; Black Cat orchestra, Art Melich, director.

Mountain Time Stations

KOA, Denver, Colo. (322.4), 8 p. m., Fred Schmitt and his Rialto theater orchestra; 8:10, Tuesday musical club, John C. Kendel, director; "Patience, or Bunthorne's Bride," comic opera.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., Popular Science course, Lesson No. 7, member of engineering faculty; "National Forests of New Mexico," J. C. Kircher, Forest Service, U. S. D. A.

Pacific Time Stations

KFI, Los Angeles, Calif. (467), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner's musical half hour; 6:45-7, editorial talk; 7-8, Examiner's hour of chamber music; 8-9, Aeolian residence pipe organ recital, Dan McFarland, organist; 9-10, Evening Herald dance orchestra; 10-11, all vocal program, Hollywood Girls' quartet.

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra; 6:45-8:15, Sherman Clay and company program; 8:30-10, Seattle Times studio program; 10:05-11, Olympic hotel dance music.

KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m., Sunshine hour; 3:30-4:30, organ recital, Roy Reid Brignall, organist; 7:30-9:15, auditorium service of Angelus Temple broadcast from pulpit; 9:15-10, Gray studio musical program; 10-11, organ recital, Esther Fricke Green, organist.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., news and music; 2:30-3:30, matinee musicale, Pacific States Electric company; 6-6:30, Art Hickman's Biltmore hotel concert orchestra; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American history, Richard Headrick, screen juvenile, and Uncle John; 8-9, program, Piggly Wiggly Girls' trio, Cauldron Club double quartet; 9-10, program, Rotary club of Las Vegas, Nevada; 10-11, Earl Burtnett's Biltmore hotel dance orchestra.

KLX, Oakland, Calif. (509.9), 6-7 p. m., organ; 7:45-9:45, studio program; 9:45-10:30, Sweet's ballroom.

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., Wurlitzer pipe organ musical half hour; 6:30-7:30, dinner hour music; 8-10, KNX feature program; 10-11, Pasadena Radio Realers' Radio Show program; 11-12, Abe Lyman's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (429.5), 4:30-5:30 p. m., Rudy Selger's Fairmont hotel orchestra; 6:30, "What is playing at the local theaters"; 8-10, Wurlitzer night.

DEVICE "SMELLS" LEAKY GAS PIPES

Principles of Radio Applied in Electric Devining Rod Now in Use

NEW YORK.—Tearing up roadways and sidewalks in an attempt to locate leaking gas mains, and stealers of gas, will soon be almost a thing of the past as the result of a new invention which applies the principles of the Radio to this work.

Mains and pipes are found by what may be called an electric "divining rod." Lines of force produce a current of electricity in a coil of wire through which they pass. Lines passing upward through the coil will cause a current in one direction. Those going downward will set up a current in reverse direction. If the current in the original conductor is interrupted, the current in the coil will be similarly interrupted.

If the current is given free play it will produce a buzzing sound in the head receiver. As the operator approaches near to a pipe the buzzing sound in the phones becomes very intense. Once directly over the pipe the sound stops entirely.

JACK BARKER GIVES KYW CLEVER TUNES

Jack Barker

JACK Barker, who plays the leading role in "No, No Nanette," now at the Harris theater, Chicago, has become a steady broadcaster at Westinghouse Station KYW.

Beside being a headliner of the legitimate stage he has now become a headliner of the ether. Mr. Barker, whose home is in Kansas, is a member of Sigma Chi fraternity at Northwestern university, and although not a native of Chicago, his many thousand friends claim him as a "bit o' the windy city."

Without mentioning other of his theatrical associations, it is recalled that Mr. Barker was formerly in "Sally" with Marilyn Miller, in which their prestige with the public grew in leaps and bounds. But now comes the more modern means of entertaining—Radio reaches countless numbers—entertains the helpless, relieves the boredom of invalids, is the very elixir of life to those in remote and inaccessible regions, and Mr. Barker has now joined the ranks of those who will voice that cheer to the invisible world.

The Hearst Square studio of Station KYW will find him on its programs on every Tuesday's and Thursday's frolics, during the hours of 2:30 and 4 p. m., and on Wednesday and Friday nights on the revue program which starts at 10 p. m., central standard time. Mr. Barker has a repertoire all his own, all novel and witty selections, the very type of snap that makes Radio listening in a keen delight.

Fine Southern Amateur for Maliciously Interfering

WASHINGTON, D. C.—Word has just been received here by the Radio section of the department of commerce of the imposition of a fine by the court at Knoxville, Tenn., for the use of an unlicensed transmitter by an amateur in that city.

Morning Broadcast Nearly Starts Riot

Honolulu Gets Oakland So Loud It Wakes Neighbors

OAKLAND, Calif.—Such is the power of Radio that while entertaining Japanese listeners, Radiophans in Australia, New Zealand and Tasmania, a recent early morning broadcast from KGO nearly started a neighborhood row in Honolulu, 2,000 miles from the station.

The report of O. L. Rodgers, warrant officer in the United States army, stationed in Honolulu, shows that only the prompt arrival of the native police saved the situation of peace bordering on riot.

"Your special program was received so loudly," wrote Rodgers, "that it disturbed the slumbers of my neighbors. Somebody telephoned the police. Then things began to happen. I thought for a while that we would spend the rest of the night in the police station."

KFNF Makes Additions to Studio Broadcast Service

SHENANDOAH, Iowa.—Owing to the increase in telegrams received at Station KFNF, the local Western Union manager has installed an operator at the station throughout the day to handle the traffic. During the evening broadcast, an extra operator is always on duty.

To help improve the wedding business a little, Station KFNF is offering the services of the Radio chaplain to anyone who wants to get married at the Henry Field Seed company studio. This is a chance for anyone who wants to get married very cheap. Go to Shenandoah.

Claims Toy Electric Train Creates Radio Disturbance

GRAND JUNCTION, Colo.—Is the toy electric train making life miserable for the Radiophans in this city?

Lawrence Bothwell, president of the Mesa County Radio association, claims much of the noise which is bothering the fans in this city is caused by the toy electric trains.

After numerous tests had been conducted it was established that electric trains of the toy variety cause an electrical disturbance which can be heard several hundred feet through a sensitive Radio receiver.

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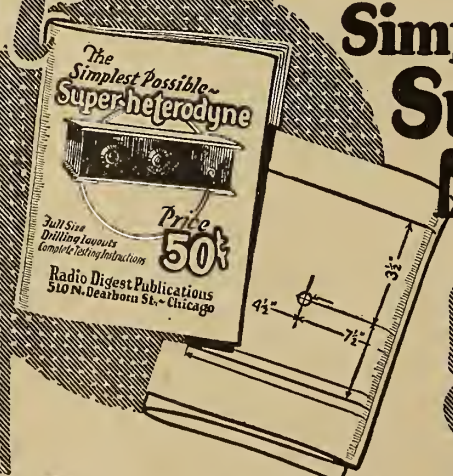

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Inductance and Capacity Combinations

Their Values for Broadcast Wave Lengths

By David B. Arnold

THERE is considerable doubt in the mind of the average Radiophan on the subject of proper condenser values to be used in conjunction with air core transformers. It must be borne in mind that the wave length range of tuned Radio frequency transformers is determined by the inductance value of the secondary winding and the capacity range of the variable condenser used with it. It is also well to remember that highly efficient inductances and capacities, that is, those of the low loss type, always cover a greater wave length range than the units in ordinary use.

The Formulas Used

The wave length of any oscillating circuit, made up of a coil and condenser, is determined by means of the following formula:

$$\lambda = 59.6\sqrt{LC}$$

in which λ = wave length in meters, L = inductance in milhenries, C = capacity in micro-microfarads. If we know the capacity and wave length, but not the inductance, the formula becomes:

$$L = \frac{\lambda^2}{3552C}$$

With known inductance and wave length the formula is:

$$C = \frac{\lambda^2}{3552L}$$

The inductance is, of course, a mixed value determined by the diameter of the coil form used, the gauge and insulation of the wire, and the number of turns. This does not change. The condenser, on the other hand, has a varying capacity and it is this factor which must be considered in the application of the above formula. The minimum capacity of the condenser determines the lowest, and the maximum capacity the highest, wave length covered by the combination.

CHART No 1

WAVE LENGTH RANGE 190 TO 600 METERS

C = 250 mmfd. = .00025 mfd. L = .40 mh.

DIA. OF TUBING	3 INCHES		3½ INCHES		4 INCHES	
GUAGE OF WIRE B&S D C.C.	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS
20	4.4	100	3.6	83	3.0	69
22	3.4	99	2.8	81	2.3	64
24	2.4	82	2.1	71	1.8	59
26	1.8	75	1.6	66	1.5	58
28	1.6	73	1.4	64	1.2	54
30	1.3	70	1.1	59	.9	50

Condenser Design

While condenser design is constantly improving, the average maximum to minimum capacity ratio of 10 to 1 can be safely assumed. Since the square root of the capacity is a factor of wave length then the wave length ratio is determined by the formula,

$$\frac{1}{\sqrt{10}} = 3.16$$

which is the minimum to maximum wave length ratio. If then the combination of inductance and maximum capacity is designed for the wave length of 600 meters, the low wave length value reached will be approximately 190 meters.

Ordinarily, the experimenter's mind is made up as to the condensers he wishes to use, but he is undecided as to the size of the proper coils to cover a given wave length band. Or, as occasionally happens, he has some coils, but does not know what value condenser to use in conjunction with them. No attention will be paid to the primary windings in this article, as in most cases this can be determined by using one-eighth as many turns as are used in the secondary.

Factors in the Value "L"

As previously stated, the inductance value of any coil is determined by the diameter of the coil form; the number of turns of wire and the length of the winding, the length depending on the gauge of the wire and the kind of insulation. The following formula is used for determining the inductance of single layer coils wound on cardboard, fiber, bakelite or hard rubber tubing:

$$L = \frac{.0002\ A^2\ N^2}{3A + 9B + 10C} = \text{induct. in milhen.}$$

in which N = number of turns, A = diameter of coil, B = length of winding, C = depth of winding. In determining the inductance of a single layer coil the element C can be neglected, as the depth of the winding being so small it is negligible, but in determining the values of multi-layer coils it becomes a very important factor.

The maximum values for the average variable condensers are as follows: 11-plate = .00025 mfd. or 250 mmfd., 13-plate = .00025 mfd. or 250 mmfd., 17-plate = .00035 mfd. or 350 mmfd., 21-plate = .0005 mfd. or 500 mmfd., 23-plate = .0005 or 500 mmfd.

Use Table 1 for .00025 Mfd.

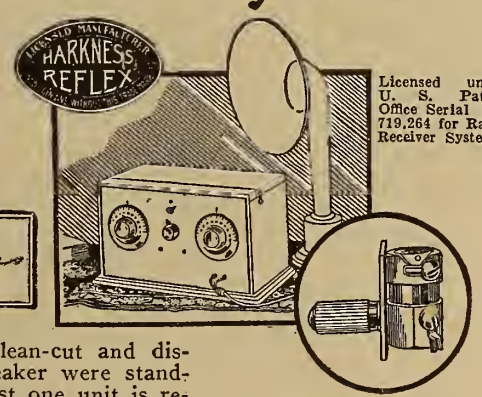
Using a condenser of .00025 mfd. capacity, and applying the two formulas given, it will be found that an inductance value of .40 milhenries is required. The table worked out for this capacity allows the choice of six different sizes of wire and three sizes of tubing, thus giving the experimenter considerable latitude. The three tables have been based on the use of double cotton covered wire, as this is the most easily obtainable. All three charts cover the same approximate wave length range of 190 to 600 meters, this being the present broadcast band.

As the diameter of the tubing increases, the required number of turns decreases, likewise, as smaller gauge wire is used the number of turns required is less, the smaller gauges of wire permitting a more concentrated inductive field.

In table number 2 the use of a condenser of .00035 mfd. maximum capacity is assumed, which capacity requires an

(Continued on page 18)

Every word as clear as crystal



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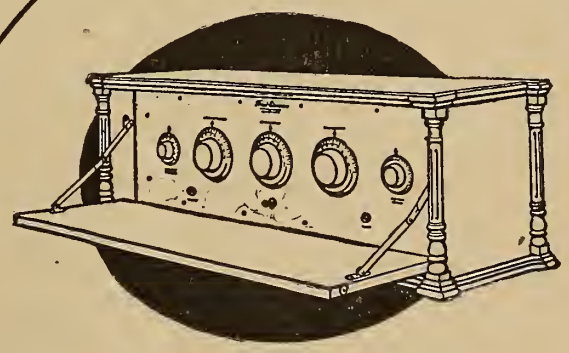

AFTER ALL

Here is the answer:

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NEUTRODYNE

Radio Digest Illustrated PROGRAMS

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Less Stations and Better Radio

THERE are many complaints coming to us about the close proximity of station wave lengths. In order to make room for additional stations meter wave lengths have been arranged so that there is but a fractional difference between many of them.

The result has been that two or more stations very frequently come in together, blurring and spoiling the reception. Very selective receiving sets are needed in order to catch a variety of programs.

Not so many broadcasters and more widely separated wave lengths would be much better. If a Radio listener were to tune in on one hundred programs a night he would have time for catching nothing but the announcements. There is no need for more than twenty-five programs nightly. With that number and a more widely diverging wave length than is being used at this time, programs would come in loud and clear on the inexpensive as well as the expensive sets. Radio is a blessing in many homes. It keeps the young folks home at night, provides endless entertainment for countless married people who cannot get away from home because of small children and it cheers the aged and infirm. It should not become solely a rich man's diversion.

Radio Locality a Real Estate Asset

RECENTLY a prospective customer for a lot on which to build his home completed every detail for the purchase even to the Radio quality of the vicinity. A receiving set was placed on the lot and an aerial set up. After proving to his satisfaction that the locality was good for Radio the deal was completed and the house built.

Times do change. Once it was a good spring or a cold well that gave particular value to a dwelling site, while shelter from the winds was highly praised. A well-graded and fairly kept road was among the things especially desired, and nearness to school and church. Good neighbors were, of course, among the great essentials. Provided with these good comforts and graces, the home-seeker thought little and cared less about what was going on in the air, if it was not mosquitoes or excess of dust. But as we swing into the second quarter of the changeful twentieth century, behold how the heavens figure in real estate deals. How desirable the earth beneath, or the waters under the earth, if the sky be not favorable for listening in, the site is uninteresting to your Radio devotee. Thus discovery and invention, together with the human penchant for things different, make history and well nigh unmake nature.

Radiophone Supplants Letters

PRIVATE conversation has been carried on between father and son over Radio for some time, the distance being seventy-five miles. These communications are passed daily and in broad daylight with the same reliability of a private telephone, which necessitates no toll charges. Both father and son are licensed amateurs using respectively the calls 8BEI and 8DGS. The son says the daily chat has never been missed so far. Other members of the family use the microphone and letter writing is a thing of the past.

A log has been kept and this has given the information that during rain storms, when the antenna and counterpoise are wet, best reception is had. These amateur stations have also given effective service in emergencies when wire communication was interrupted.

Increased Use of Radio on Farm

FROM a survey made by the department of agriculture the use of Radio on the farm has had a rapid increase during the past year. It is estimated that there are now more than a quarter of a million receiving sets used in farm homes.

The Radio market news developed by the department has grown so rapidly during the past three years that it is now possible for farmers to receive the daily market quotations and reports on agricultural conditions, both of which are a great aid to the farmer.

RADIO INDI-GEST

"The Land of a Million Smiles 'Way Down in Arkansaw"

Dedicated to Geo. D. Hay

Say Jedge, you are a daisy,
You've got us nearly crazy,
Us ladies all fall for yer style;
And Ma and Aunt Mandy
Say you've got the candy
And all other lads beat a mile.
Stop! and look and listen that's the latest law,
At every railroad crossing, way down in Arkansaw.

Chorus:

When we hear your old train tootin'
As sure as you are born,
The hogs all go to rootin'
Out in the yaller corn.
Then throw off yer trunk at our house,
The corn pone's good and hot,
And the mountain dew is tricklin'
Down in the old wood lot.

Now please don't think me silly
For writin' you this note.
I'm jest a plain Hill-Billy,
You've surely got my goat.
And Ma says you're the whiskers
That growed out on the cat,
And Pap says you're the yammer-yams
And lets it go at that.

Oft times in the stilly night
We hear the old train thumpin',
And we seem to see the old headlight
And the rear end jest a-bumpin',
And then the bell goes ting-a-ling,
We know there's something hummin'.
Turn on the steam and everything
For joy is in the coming.

Last night the frogs were singing,
Down by the Old Mill Stream,
And the Bungle bugs were dinging,
On a play for the silver screen.
And the shadows, soft and teasin',
Played 'round our cabin door.
And the old train kept a-weezin',
Just as it did of yore.

And when you're sailing in the blue,
My soul for you is pining.
The roughest hearts are sometimes true,
Pure gold needs no refining.
And when the old wheels cease to move
And the steam refuses to rise,
May all your joys and sorrows,
Be wafted to the skies.

Old Dear, I fain would leave you,
Don't think I'm getting raw.
But a corn-fed fan now loves you,
Way down in Arkansaw.
When your old train goes a-tootin'
Out in the Ozark wilds,
Please don't forget your "snookem"
In the "Land of a Million Smiles."

HARRY A. RHOADES.

Radio Degeneration

A SHORT STORY
By Raymond Martin

His new Radio set was working fine. Simply wonderful! The new stations continued to come in, and loud enough to be heard for a block. Now Denver, Chicago, Pittsburgh, New York. And then—yes, it was KZUY, Manila, P. I. A broad smile of satisfaction covered his face as he turned up the amplification and settled himself more comfortably in his chair. There was no doubt of it; his set was the berries.

But suddenly something happened. KZUY "faded" completely out. "Strange," he said softly as he began an awkward turning of the dials, (he was a new fan), "they were plain as day." He continued his manipulation for some time, but all was quiet—except, perhaps, the man. He examined the set; he tuned; he examined again; but no sound. Then he went to bed.

A little later the man in the apartment above, sighed, smiled and turned over to go to sleep. All was quiet in the apartment below. His idea of "grounding" his neighbor's aerial lead to the radiator in his room had been great as a promoter of restful and undisturbed sleep.

Walla Walla Expedition

Great fear and consternation reigns throughout the country. The far famed expedition to Walla Walla, which sailed a few weeks ago, has not been heard from. Friends of the crew are frantic, and at a loss to understand the meaning of such a thing.

From advices received tonight, it was learned that the "Kanoofis" had reported to several stations to be on the lookout for signals from any pirate craft. Emergency measures will be taken to rush immediate relief to the stricken ship if it can be located.

Any reader hearing word of the "Kanoofis" should communicate with us, and we will present them with a quart of "leaks" from a well known grid leak.

Yes, Altogether

Q.—I have a 35-tube super unflexed regenerative complexed de luxe superhetroneutroplioultradyne. My trouble is that I get too much static. Can this be eliminated on my set?

A.—Sure, very easy. All you have to do is to disconnect your A battery leads from your A battery and connect them to your 110-volt light socket, and the static will disappear altogether. N. O. A. LOT.

Did It Strike You D-U-M-B?

Dear Indi:—One evening during last summer I was listening in when a terrible thunder storm came on, and suddenly I got D-E-A-F. How's that?

C. A. MAROHALL

Mr. Kaltenborn's Prophecy

Condensed

By DIELECTRIC

There is no question as to the importance of WOAW to a large number of the regular Radio listeners and it is to be hoped that the changes in wave length of some stations will increase the number who may tune in the Woodmen station. I confess to infrequent visits but am not guilty of intentional slight.

WCCO engages a program director who hustles after the interesting features. Each time I have tuned in this station there was something attractive in the air. One of many humorous offerings Radiocast, and about as good as the best, was that musical classic "Johnny My Boy." Repeated until the phrase erased everything else from mind, but varied in expression each time, you couldn't help but open that grin to a laugh.

The Drake Ensemble selected a particularly choice group of numbers to play the other evening, which is not always true of this or any other musical organization. Following their offering was the usual classical concert, in this case consisting of Brahms' songs. While these are not so transparent as some, few could listen without experiencing some joy and WGN is to be complimented on arranging these features.

When WCAP was tuned in to listen to the Wardman Park hotel all that was heard for some time was the steady chatter of men and women unmindful of "us millions." After the opening strains of the orchestra the tardiness was forgiven. Before that there was chatter at home, as well as abroad.

In listening to the songs with piano accompaniment you will notice how "hoarse" many of these pianos have become with use. Even in the studios of several of our largest stations room is given to these diseased instruments and their rough tones are set before us without any intimation of apology. WEAR could have ruined (but didn't) the playing of a Chopin nocturne and scherzo had they possessed such a piano. Especially in that composer's music must one have a good instrument.

Not only has Cleveland a splendid organ in the public auditorium but an excellent artist in the person of Mr. Craft, whose playing recently was broadcast through Station WTAM. Very fine indeed.

There really are quite a good many first class features appearing at several stations and one has the advantage of choice—if he is in search of classical productions. It is a wonderful privilege to have the New York Philharmonic concerts delivered to your loud speakers. The Chicago Civic Opera company has no superior in this country. The Victor and Brunswick concerts are unique. KDKA added much to our pleasure when it broadcast the Minneapolis symphony orchestra concert.

WHAZ ordinarily introduces to its audiences talent of standing and programs of merit. That they should slip once in a while is no more than should be expected. Perhaps we should be willing to make some allowance for the Rennselaer high school orchestra. We do; but why not wait for a little further drilling before addressing Mike?

Have you ever been annoyed, in trying to recognize the station to which you listen, by the rapid succession of orchestra numbers with no announcement between them? So have I, and countless more besides. Take heed, ye mighty men of letters, and call them out more often!

Hetduogen Builders Getting Splendid Results

Range, Volume and Quality Praised

THERE is no question but that the Hetduogen requires unusual care in construction, a great deal of adjustment and patients in tuning to get the knack of bringing stations in. As a consequence there were many who tackled its construction and fell down, due either to lack of patience or a shortage of care at some stage of the work. Those who built this remarkable set as it should be done, with full appreciation of the importance of details all the way through, have been rewarded with results far beyond their expectations. There is no set that will equal the Hetduogen for selectivity on an outside antenna and few that can keep pace with it when reaching out for distance. For the encouragement of those who have not had the results hoped for, the following letters from successful builders are printed, that they may know it can be done, in some cases by those very new to Radio.

Discards a 240-Station Set

Dear Sirs: The Hetduogen is a knock-out with me. My son-in-law and I had one built before all of the issues on it were out. First we just put it up haphazard; now one is built permanently and I wish to state with all truthfulness that I am getting stations I have never been able to get before. Pulling them in from coast to coast and Canada to the Gulf. Before building the Hetduogen I had a double feedback regenerative set with three transformers so this hit me pretty good and I had only to buy a 3 plate and a 7 plate.

Up to date I have 240 stations logged including England, France, Italy, Honolulu, Mexico and Canada. Ten new stations have been heard over the Hetduogen. What a blessing it is to know that the squeaks, howls, rat, tat, tat and what not that keep messing up a fine program are eliminated. I am only an amateur and I am tickled pink to know that I made a go of it the first time.

Wish to thank you for publishing a unique hook-up like this Hetduogen. My house is full of Digests and in a short while I intend to subscribe to your wonderful magazine.—J. J. Goar, 3955 Nokomis avenue, Minneapolis, Minn.

8-Tube Super Now on Shelf

Mr. John G. Ryan: Thank you for your reply to my previous questions on Hetduogen. Am now receiving and the tone and volume are great, no static, howls or interference. My heterodyne 8 tube is on the shelf collecting dust, the Hetduogen is so much better.—C. R. Handy, 134 Summit street, East Providence, R. I.

Radio Digest Publishing company: Having constructed the Hetduogen as outlined in the December 27 to January 31 issues, wish to state that I believe Mr. Brush has a remarkable set. To date, using 2 stages of audio frequency amplification with a model R ——— —— loud speaker I have received WREO at Lansing, Mich., WFAV at Lincoln, Nebr., KSAC at Manhattan, Kans., KOA at Denver, KFSG and KNX at Los Angeles, KGO at Oakland. WREO is approximately 2,000 miles which, when it comes in on a loud speaker, distortionless and with plenty of volume, is pretty good; but getting them five nights in a week is remarkable. If I had not been able to log the set accurately I would never have been able to do it.—Ralph Skaife, Colfax, Wash.

Mr. C. E. Brush: I have made a Hetduogen receiver from plans outlined in Radio Digest and have had it in operation for about a week. One night I brought in KGO at 8:50 p. m., central time while WHAS right across the river was going. This on two stages.—J. G. Landwehr, 532 Ely avenue, Jeffersonville, Ind.

WBZ and KGO Repeatedly

C. E. Brush: I am taking the liberty of writing you, expressing my appreciation of your efforts in writing so complete a description of the operation and construction of the new Hetduogen.

I am a mere amateur in Radio but have had and used many different kinds of sets from the one tube to the eight tube super. Now believe I have found my ideal in Radio for quality of tone and selectivity. Although my set is not yet finally completed, having attached a ——— two stage amplifier in place of the three stage specified, I have had wonderful results, both in separating stations that gave me trouble before and in getting distant stations. I have logged such stations as CYZ, Mexico City, WBZ, Springfield, Mass.; KGO, Oakland, Calif., and can get them repeatedly.—Fay B. Vial, Spring Valley, Minn.

Gets KFI in Virginia

Gentlemen: My hat is off to Mr. Brush and to you, Radio Digest, for publishing the articles on the construction of the six tube Hetduogen. It is truly a wonderful circuit. For the construction of my own I used the parts out of an old three-plug coil set, together with a few parts from an old ——— ——— receiver, half a dozen disc records and about ⅝ pound of dcc. magnet wire.

Nearly every part used in this particular set has its loss, but even with this makeshift hook-up I got KFI loud enough to hear out on the street, together with practically everything east of the Rockies, the first night I tried it out. (No, they were not all at the same time.) For the benefit of city fans I must add that I was testing the set in the heart of the business district, with a movie house next door, a power line down the other side of the building and a trolley line in front. What more could one ask? Hetduogenially yours, A. M. Frix, 539 Main street, Danville, Virginia.

Radio Digest, Gentlemen: I have an apology to make to your magazine. A long time ago I tried to build a set that you published and followed a series of articles with bated breath to the bitter end and wound up with about $35 worth of Radio parts and no set and very little patience. I said at that time that I did not believe Radio Digest tried to do anything but help some advertisers sell parts.

But now I have built the Hetduogen. I will say that it is about as near a complete description of a set-building operation that I ever saw in a magazine. I followed it step by step and every dimension checked (except the one as to cabinet depth, of course) and I wired it up on a rough board without a panel, used bell wire to connect up with and cut a 23-plate down to get the .00015—and it worked fine.

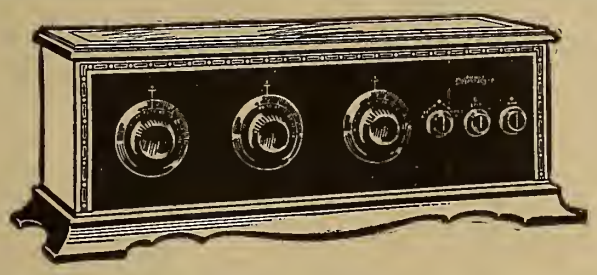
I turned the switch on about 8 p. m. last night, February 3, and logged about twenty stations from 100 watts at Fayetteville, Ark., on up to the KFI station at Los Angeles at about 11 p. m. All were tuned on the loud speaker and all the stations that I logged could have been heard for 100 feet from the set. Some volume!—Tony Peters, Clarendon, Ark.

Tunes Out 1,000-Watt Local

Dear Sirs: I have followed with interest the Hetduogen articles in the recent issues of Radio Digest and have built a set according to the plans of Mr. Brush. Being unable to secure a particular make of audio transformers which I wished to use I had to send away for them and while waiting decided to try the set out on five tubes using an old pair of unshielded transformers.

Being situated pretty far north as compared to the location of most of the U. S. broadcasting stations I thought perhaps my experiences and success with this set in the tests equipped above might be of interest. The first kick came when the set worked without further adjustment than that of the second detector and I immediately picked up Calgary CFCN with all kinds of volume on the loud speaker shortly followed by KOA at Denver with quite as much volume as a Victrola using a medium fine needle. After hearing these I decided there was no necessity of using headphones at all and have done all tuning on the loud speaker. Using the set for four nights which have been if anything below the average for reception I have heard the following stations as well, with good volume: KFKX, Hastings, KGO, Oakland, Calif., KPO, San Francisco, KGW, Portland, Ore., KFI, Los Angeles, KFAV, Boise, Idaho, WCBD, Zion, Ill., WSAI, Cincinnati, WCAL, Northfield, Minn., CKY, Winnipeg, CKCK, Regina, WOAW, Omaha, WOC, Davenport,

(Continued on page 20)



And its tone quality is unequalled

Heretofore in speaking of the Deresnadyne we have talked about selectivity. For without selectivity a radio set is practically useless.

But perhaps the most remarkable feature of the Deresnadyne is its absolute fidelity of reproduction. It is noted for the absence of undesired noises. Its mellow tone is not equalled by any set. It maintains its mellowness even when operating at full volume.

The striking thing about the Deresnadyne is that it does not sacrifice one essential quality for another. When you buy it you do not choose between tone on the one hand and power on the other. You buy a set that combines both.

The Deresnadyne is not a Neutrodyne. It is not a Heterodyne. Based on a new principle—that of Deresonation—it is unlike any other set on the market, both in principle and results. Buy it at your dealer's.

De Luxe Model $165 without accessories

DEALERS: *Order through your jobber.* JOBBERS: *Write to us.*

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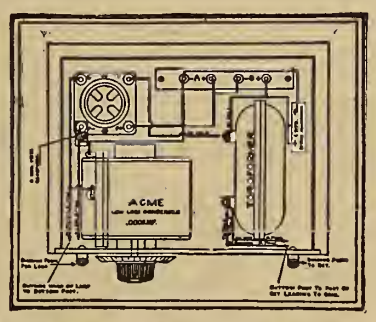

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The diagram above illustrates the **Toroformer** in use as a stage of tuned Radio frequency amplification.

Attachment furnished complete on Panel for.....$22.00
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The Toroformer

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Overcomes Local Interference
Gives Greater Distance
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Vastly improves any Reflex or Radio Frequency set, such as Acme, Murad, De Forest Reflex, Powr, Erla Loop Aerial Sets.

Does not pick up stray or unwanted signals, is unaffected by other parts of the circuit, and has no effect on other instruments.

Toroformer with printed diagrams and hook-ups.

Price $5.00

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Super-Het Builders!
"Radio" and other leading publications recommend in highest terms the Thordarson 2:1 ratio transformers for the best Super-Heterodyne. Take no others!

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Why don't you?

Thordarsons run *absolutely alike, absolutely uniform*; always "match up" perfectly; always amplify *evenly* over the *entire* musical scale. Satisfaction *unconditionally guaranteed* by the world's oldest and largest exclusive transformer makers (transformer specialists for 30 years). For the finest amplification *obtainable at any cost*, follow the lead of the leading set makers—build or replace with Thordarsons. Audio Frequency: 2-1, $5, 3½-1, $4.6-1, $4.50. Power Amplifying pair $13. Interstage Power Amp., ea., $8. Dealers everywhere. Hook-up bulletins free. Write

THORDARSON ELECTRIC MFG. CO., CHICAGO

CHART Nº 2
WAVE LENGTH RANGE 190 TO 600 METERS
C = 350 mmfd. = .00035 mfd. L = .29 mh

DIA. OF TUBING	3 INCHES		3½ INCHES		4 INCHES	
GUAGE OF WIRE B&S D.C.C.	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS
20	3.4	78	2.8	64	2.4	55
22	2.5	70	2.1	58	1.85	52
24	2.0	66	1.65	55	1.5	49
26	1.6	62	1.35	53	1.2	47
28	1.3	59	1.1	50	1.0	45
30	1.0	56	.85	48	.75	42

CHART Nº 3
WAVE LENGTH RANGE 190 TO 600 METERS
C = 500 mmfd. = .0005 mfd. L = .20 mh.

DIA. OF TUBING	3 INCHES		3½ INCHES		4 INCHES	
GUAGE OF WIRE B&S D.C.C.	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS	LENGTH OF WINDING IN INCHES	NUMBER OF TURNS
20	2.65	61	2.2	51	1.9	44
22	1.95	55	1.65	46	1.45	41
24	1.55	51	1.3	43	1.15	38
26	1.2	47	1.05	41	.95	37
28	1.0	45	.9	40	.8	36
30	.8	44	.65	36	.6	34

CONDENSER VALUES

(Continued from page 15)

inductance of .29 milhenries to cover the wave length range of 190 to 600 meters.

Though condensers of .0005 mfd. capacity are not in general use in tuned Radio frequency circuits, there are undoubtedly many experimenters who have condensers of this value, and table number 3 will permit their use in the designing of efficient circuits when the coils are to be used as tuned Radio frequency transformers, tuners for single circuit, double circuit, or three circuit sets, wave traps and wave meters.

The formulas given in the first part of this article can be used for working out the design of filter couplers, oscillator couplers and air core tuned intermediate frequency transformers.

In winding the coils the wire should be kept taut to keep all knots and snarls out of it, and should be wound tightly and evenly on the form. By using the proper care in winding the coils, there is no necessity of using shellac, collodion or other liquid binders to keep the wires in place, as the use of binders of any sort should be avoided. The use of the various binders not only increases the distributed capacity of the coil, but very often introduces leakage losses which materially broaden tuning.

The Reader's View

Believes Letters Confusing

Considerable trouble and annoyance is experienced by Radio listeners in making out the call letters of broadcasting stations on account of so many of the letters of the alphabet having a similar sound over Radio.

For instance, the letters C, B, D, E, P, T, V and Z are not easily distinguishable over Radio.

Thus, for Zion, Illinois, whose call letters are WCBD, the numerals 23-3-2-4 should be announced immediately after the call letters.

Each listener can have a consecutively numbered alphabet to which to refer and few mistakes will then be made insofar as identification of stations is concerned.

I believe this idea is original with me and should like to see the same adopted generally for the good of the art.—Carl Brown, Columbus, Ohio.

Congestion in the Air

As I have a very selective five tube neutrodyne and all storage batteries are kept fully charged I must say the trouble and annoyance with interference is not so much static as it is congestion. I have too many stations on the air at the same time. The best sets are sensitive and selective enough. What else could be expected when there is at times from two to four stations on the same wave length at the same time, and if you try to tune out one or more stations you only tune in to a bunch of other stations. And, then again, so many stations are so noisy. Such a roar and clatter some of the stations make spoils all reception. To get good reception we must stay up until about 3 or 4 o'clock in the morning when there are fewer stations on the air.—E. D. Tibbits, Nebraska City, Nebraska.

Explaining WCX Announcing Waits

(Editor's Note.—In the January 31 issue "Dielectric," writing in the "Condeneed" column on the editorial page, at nearly the end of his column, criticised WCX for its five-minute waits between numbere during the dinner concert and afternoon programs. Immediately below this criticism appeared a paragraph complimentary to WCX for the jazz numbers rendered. The following explanation comes direct from the director of WCX, "Chief" Tomy.)

"Thanks for the boost and no kick on the knock—we know it. However, we have to take these two concerts as we get them. The afternoon program is given by the Detroit Symphony trio (two of the players are internationally known), while all of the men in the group at the dinner concert are first desk symphony players. They will not play straight through. We feel that most listeners would rather have music of this class, even though they have to suffer the waits, than to have indifferent stuff."—Chief" Tomy, director of WCX, Detroit.

Give Sets to Poor

Can you advise me why it is that Radio firms are so interested in donating expensive sets to people with means when they could well afford to buy the very best there is?

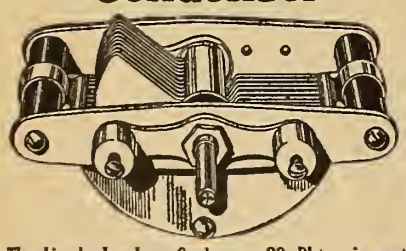
Why don't they make these donations to the poor, who would really appreciate the gift? It would not be necessary to give the poor an expensive set to make them happy, either. At least fifteen or twenty families could have been made happy for the price the expensive set, recently given one of our high federal officials, must have cost.—A Reader.

Arrangement of Binding Posts

If a Radio set is so built that the binding posts are arranged along the bottom edge of the panel it is a good idea to raise the cabinet about 1 inch above the table by means of small rubber plugs. The wire leading to the post can then be run beneath the cabinet and out from the back, thus keeping them out of sight.

Reg. U.S. Pat. Office
Lincoln RADIO PRODUCTS

Low-Loss Grounded-Rotor Condenser



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2. Rubber dielectric well out of electrostatic field.
3. Screw all the way through rubber, adding tremendous strength.
4. Dustproof shield on stator.
5. Two-hole mount with shaft hole in same line making drilling of panel easy.
6. Heavy Die-cast end plates.
7. Adjustable rotor and stator insuring perfect alignment of plates at all times.
8. Dur-aluminum plates die-cast in rotor and stator, reducing resistance to minimum.
9. Pigtail connection to rotor means perfect electrical contact.

SPECIFICATIONS

Maximum capacity mfd	.0005
Minimum capacity mfd	.000011
Series Resistance at 600 K. C. (500 meters)	.75 ohm
Series Resistance at 2300 K. C. (130 meters)	.05 ohm

If your dealer cannot supply you, order direct, giving your dealer's name.
WRITE FOR THE LINCOLN CATALOG.

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Big Reduction in Famous TRIRDYN and other Radios

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THE biggest selling high grade receiver on the market—the Crosley Trirdyn—reduced from $65 to $50. $60

The Trirdyn Special—the beautiful Model with Cabinet to house batteries—formerly $75, now $60.

The Crosley 51-P, a tremendous seller at $25, reduced to $23.50.

We unhesitatingly state that these sets, together with the other Crosley Radios represent the biggest values ever offered. Crosley Radios range in price from the one tube Model 51 at $14.50 to the Trirdyn Special at $60. There is a Crosley to suit every taste and pocketbook.

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Most Good Dealers Handle Crosley Radios
As is customary prices quoted do not include tubes, loud speaker, phones or batteries.

All Crosley Radios Are Licensed Under Armstrong U. S. Patent 1,113,149.

Prices West of Rockies—Add 10 per cent.

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Crosley Owns and Operates Broadcasting Station WLW

Prices Reduced

The "Goode" Two-o-One

A
Le Ton d'argent

Guaranteed

BY MAIL ONLY
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Postpaid

QUARTER AMPERE
AMPLIFIER—DETECTOR
RADIO TUBE

GUARANTEED SATISFACTORY

All "GOODE" Tubes Sold Direct to the Consumer—No Dealer Profits

ONE—"Goode" Detector-Amplifier $2.00
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(All postage prepaid)

The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampere, five volts, standard base silvered tube.

Send express or postal money order—New York draft—or personal check to—

The Goode Tube Corporation
Incorporated
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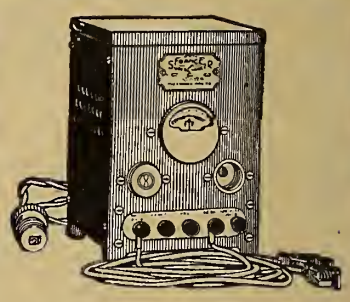
THE FRANCE SUPER-CHARGER



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10321 Berea Rd., Cleveland, O.

Broadcast Listener's Reference Library

Part IV—Tuning Your Regenerative Receiver

By Edward Thomas Jones, A. I. R. E.

SINCE there are thousands of regenerative receivers in use, and many of these are improperly operated, causing disturbance in nearby receivers and distorted reception, it is hoped that the writer can give some facts about this type of set that better results will be obtained and less interference caused. A brief explanation of regeneration will be in order so that the owner of such a set will have some idea of what occurs to the unseen electric currents when he moves the various dials.

Theory of Regeneration

The tuning of a regenerative set is done chiefly in the grid circuit of the detector tube and an inductance is placed between the grid and filament with a variable condenser in parallel. This inductance is designed so that when the condenser is at maximum capacity the circuit will respond to wave lengths of 550 to 600 meters, and when the condenser is at minimum the circuit will respond to signals around 200 meters. This grid circuit, composed of the coil and condenser, has a certain resistance to Radio frequency currents and regeneration is utilized to lower this resistance and thereby considerably increase the sensitivity of this circuit so that far weaker signals will affect it.

There are several methods of securing regeneration, but that most commonly used is the tickler feedback system. A small coil is inserted in the plate circuit of the tube and so placed that its magnetic field coincides with the magnetic field of the grid inductance. In this way energy is fed back from the plate circuit into the grid circuit, which creates what is known as negative resistance, which opposes or offsets the positive resistance of the grid circuit and gives a much lower effective resistance. The result is a far greater range and much sharper tuning.

The second most popular method of securing regeneration is that of inserting a variometer in the plate lead and varying the inductance of this variometer so that feedback is accomplished through the internal capacity of the tube when the plate circuit is brought into resonance with the grid circuit. Either of the above methods may be employed with either of two antenna coupling systems.

Single vs. Three Circuit Tuner

If the antenna is coupled to the grid coil by attaching the antenna directly to that coil, we have what is called a single circuit tuner, while if the antenna system is coupled to the grid coil by means of a separate primary placed in inductive relation to the grid coil we have what is usually called a three-circuit tuner. With any of the four possible combinations there are two dials, one on the condenser of the grid circuit and the other on either the tickler feedback or the variometer. The first is known as the wave length dial, while the second may be labeled regeneration, amplification, tickler or volume control.

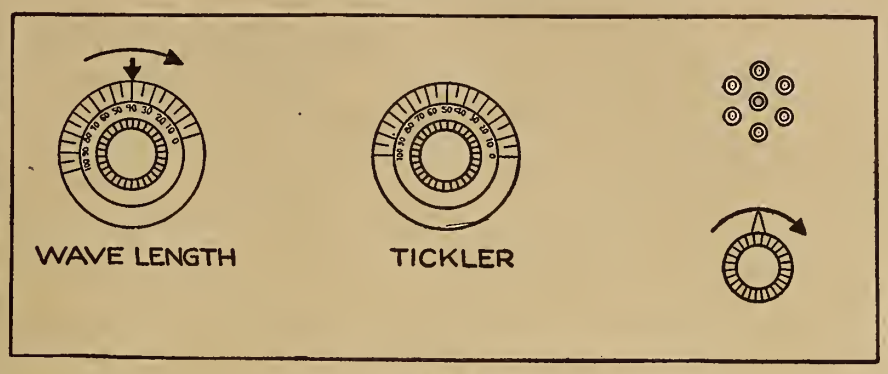

Figure 9

The most important part of tuning such a set is to remember that less regeneration is necessary on lower wave lengths than is required for the longer wave lengths. Figure 9 is a typical panel of a regenerative set and it will be found that when the wave length dial is down at 20 or 30 the tickler dial should be, let us say, around 30 or 40. If it is necessary to turn the dial to 40 to bring in a higher wave length station, the tickler will have to be advanced to about 50. As we go up the scale on the wave length dial we will have to go up the scale on the tickler. The whistling interference which is caused is largely the result of the operator not being aware of this fact and, having brought the tickler up to about 70 when the wave length dial is at 60, he neglects to reduce the tickler when the wave length dial is turned to the left to again receive a station at about 40. After a little practice the relative positions of these two dials will be learned, and one is able to operate this type of receiver in the manner outlined below.

Finding Stations

When searching for stations the wave length dial is slowly turned from zero to maximum with the left hand, while the tickler dial is, at the same time, turned with the right hand, so that regeneration is kept just below maximum throughout the scale. The practice of picking up a whistle of a broadcasting station by having the tickler dial too far to the right, getting on the beat note and then retarding the tickler coil slightly, should be stopped. Tuning can be done just as easily by the correct method described above if the operator will only study the position of the dials. The wave length dial can be logged, but the tickler dial cannot, as its position is determined by the condition of the filament battery and the plate battery. When the plate batteries are new, very little regeneration is required at a given setting of the dial, but as the batteries wear down the regeneration will have to be increased and higher setting of the tickler dial used. However, this change in tickler settings is very gradual and it is not hard for the operator to note the variation in the range on the scale which must be covered by the tickler dial.

Grid Leak Is Important

The value of the grid leak in a regenerative receiver is very important and it will be found desirable if one is using the cartridge type leak to have several sizes of cartridges and test them all thoroughly to determine which is the best for stable operation and clear tone at all wave lengths. If one of the smoothly variable grid leaks from ¼ to 10 megohms is used this should be slowly turned, while a medium strength signal is being heard, for best adjustment. The UV-200 tube requires a comparatively low resistance anywhere from ¼ to 2 megohms, the UV-201A uses from 2 to 5 megohms, while the UV-199 requires 5 to 9 megohms when used with a .00025 mfd. grid condenser.

If the proper value of grid leak is not found the set will be unstable and will be apt to "spill over" on a strong static discharge or powerful signal, and a station cannot be held for any length of time. With the proper grid leak and condenser it will be found very easy to slide the tickler into maximum regeneration without a tendency to reach a certain point and then suddenly "spill over." With the wave length dial as shown in figure 9 we will presume that Memphis is being picked up at 40; as regeneration is increased the volume of the program will increase and if it is still further advanced a slight "mushiness" or blur will mar the quality of the program. If the tickler dial is turned still further to the right a point will be reached where the voice or music will suddenly cease with a slight thud and no music will be heard at all. The point where the voice and music were clear and strong, just below that where the blur was noticed, is the correct point for the tickler and nothing is gained by increasing further. The moment the tube goes into oscillation as denoted by the

(Continued on page 20)

End 50% of your radio troubles with Ekko Clamps

The experience of set manufacturers and service stations shows that 50% of the trouble with radio sets comes from a faulty ground. It is not enough to wrap a piece of wire around a pipe. The contact must be firm and permanent. The *Ekko Clamp* insures a good ground. The half-moon shape makes it easy to attach anywhere and a turn of the screw fastens it securely. The hardened point bites through paint or rust. The connection is made tightly so corrosion cannot form and ruin it. Sold by radio dealers everywhere.

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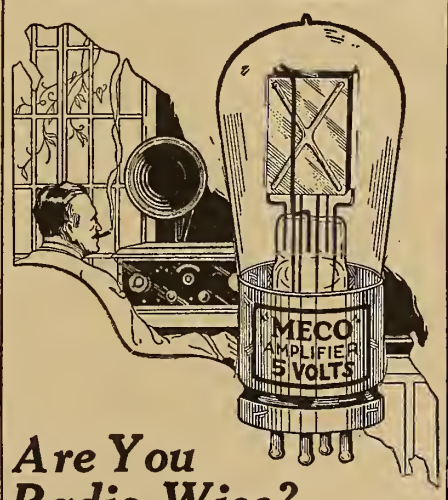

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When your radio is on "parade" before your assembled guests, then you want the greatest volume coupled with clear, distinct receptive tones. MECO Tubes are favored among those of long experience for these desired results. You can convince yourself of this fact by standardizing on MECO Tubes as so many others are doing.

MECO Tubes fit every set. Five and three volt sizes are supplied you by your dealer who can obtain them from recognized radio jobbers.

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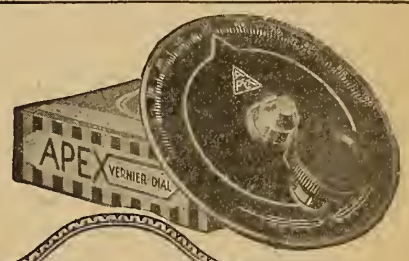

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Greater range, bigger volume, finer selectivity, less interference. Lasts forever. The one big advance yet made in tuning. Ratio 12 to 1. Quickly applied to any shaft.

For sale by all good Radio Dealers.

If unable to obtain from dealer, enclose

$2.00 for Royal Brass Finish.

$2.50 for Satin Silver Finish.

$3.50 for De Luxe Gold Plated Finish.

The Apex Super Five is a tuned radio frequency receiver of the highest type. Built into a highly finished walnut cabinet—complete with Jones Multiple Battery Cable—all settings highly gold plated. List price $95.00 complete.

7 Tube Microdyne Super-Heterodyne for $97.50

Receive the parts complete to assemble your set. Coast to coast on an 18 in. loop. Assemble this 7-tube Microdyne Super-Heterodyne on a 7 x 18 in. panel in 3 hours. Parts complete. Price of cabinet, to fit, on application. If your radio dealer cannot supply, send check or money order and name of dealer.

RADIO JOBBERS:
Some very profitable Apex Radio Territory still available. Write or wire immediately.

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Apex Radio Products have the call today. Write for profitable sales plan at once.

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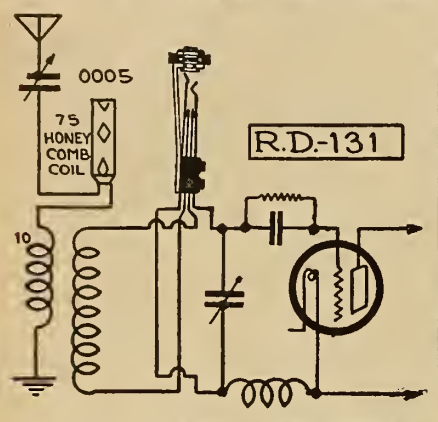
1414 West 59th St., Dept. 205-A Chicago

HOOK-UP R. D. 131

MOST of the super-heterodyne articles which have been published show this justly famous receiver laid out for loop reception only. In the majority of cases a loop will pass to the set all the energy needed for either local or long distance reception, but there are cases where the use of an outside aerial would be desirable.

It was natural that the listener would conclude he could just substitute the secondary of a variocoupler for the loop and connect his outside aerial and ground to the primary and many tried it. The result was a broadness of tuning and strength of local stations that even the sharpest filter could not take out and usually the experimenter put in his loop in a hurry.

The explanation is that the variocoupler does not permit of sufficiently loose coupling for selectivity through nearby stations. R. D. 131 shows an excellent method of coupling the antenna. A fixed coupler of the usual type containing a 10-turn primary and 50-turn secondary is used. In series with the primary is a 75-turn honeycomb coil and variable .0005 condenser.



The honeycomb adds enough inductance that the circuit may be tuned to resonance with the incoming signals, while only 10 turns coupled to the secondary permits sufficiently loose coupling to retain selectivity.

The jack is so connected that whether a loop be inserted in the jack or withdrawn, automatically connecting the secondary, the variable condenser is always used for tuning the grid circuit of the first detector. The coil in the lead from jack to filament is the pick-up coil of the oscillator. It should be needless to add that great care in placing the honeycomb should be exercised to be sure it does not interact with other parts of the set. A fixed coupler may be constructed for about $1.50 or purchased for $6.00; a coil mounting is 50 cents; a 75-turn honeycomb coil will be $1.60, and a .0005 mfd. variable condenser should cost about $5.00.

One of the most useful pliers for building receiving sets are of the small, round-nose type, with cutting jaws

HETDUOGEN BUILDERS

(Continued from page 17)

and two of the Chicago stations whose call letters I do not have before me as I write. Many of these stations have been picked up while our local, broadly tuned, 1,000-watt station, was on the air. With the filter coil set at the point where I seem to get the best results I can tune the local station out on about 5 degrees on each condenser and by changing the filter it is even finer. On the harmonic wave of the local (something about 230 meters) I can tune out on 2 degrees.

To sum up, the set is extremely selective, reaches out well and brings in good volume and I am anxiously awaiting the arrival of the shielded transformers so that I may give the set a more fair trial and also use the extra stage of audio. In addition to the stations listed above I heard several more whose call letters I could not catch. For the initial try out under such conditions who could ask more? Please convey to Mr Brush my thanks and appreciation of the complete detail of his article. Yours sincerely, Geo. D. Robarts, 9919 83rd avenue, Edmonton, Alberta, Can.

REFERENCE LIBRARY

(Continued from page 19)

slight thud the receiver becomes a small transmitter, which will cause annoyance to neighbors over a wide area.

(Increased range results from the use of Radio frequency amplification so the novice will find the next article by Mr. Jones of unusual value, as the subject is Radio frequency amplification.—Editor's Note.)

Dull Finish on Panels

Never use emery cloth to finish the surface of panels. This may leave small particles of carborundum on the panel, which is a conducting medium. Use a fine grade of sandpaper. After working the panel to a dull finish, dust it off and apply a light oil with a rag.

Variable Grid Leak

A suitable set of values for a grid leak would be 1 megohm, 2 megohms, 3 megohms, 5 megohms, and 7 megohms. A means may be provided for bringing these values in action which may be secured by wiring a tap switch so that it may be used to switch any one of a number of grid leaks into the circuit. This will provide a definite, positive value of grid resistance to suit the requirements of various groups of stations, according to their distance and power.

EQUAL TO THE BEST

No More B Batteries

Make Your Own B Current Supply Unit

and run your set from regular 60 cycle A. C. house current. Easy to hook up. Operating and replacement costs less than $2 per year.

Furnishes up to 125 volts B current.

No A. C. hum! The **Molliformer** filters it out. Does not use tubes.

Complete essential parts and instructions to make unit.....$18.50

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The Crystalstat

PRICE $2.50

The Ideal Reflex Detector but equally suitable for crystal sets

The Crystalstat embodies the following features: A super-sensitive crystal in an air tight enclosure. A brush cat whisker of gold tinsel strands. A micrometer adjustment by means of which the most delicate adjustment may be had. The multiple contacts of fine gold filaments prevent howling and give light but sure contact. The crystal is our wonderful Star-lte, the pick of the Earth's best crystal.

The Crystalstat attaches through one 5/16" hole in the panel so that only the control knob shows on the face of the panel.

Packed in one dozen lots for dealers.

Ask your dealer to supply you or you may send for one C. O. D. with your money back if not completely satisfied.

DEALERS and JOBBERS please get our catalog of crystals and detectors and our liberal distributing proposition.

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Rabat Senior Batteries

are neat, powerful, noiseless and will harmonize with any Radio Set. Separate cells and patented rubber cork prevent current leakage and clear glass tubes give vision of the condition of battery. Heavy duty plates 3-16 x 1" x 2½ with staggered ribbed grid form the backbone of this sturdy battery. Shipped completely charged ready for instant use. And you can save $6.10 by ordering now.

RABAT JUNIOR BATTERY $2.15 c. o. d.
(12 CELLS 24 VOLTS 1200 M. A. CAPACITY)

Incomparable in price and performance. Designed to satisfactorily operate sets equipped with 3 tubes or less. Constructed of the same high grade materials as used in our Senior battery. Shipped dry, uncharged. Order today and save $1.81.

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Is specially designed to satisfactorily recharge any make of storage "B" battery. Shipped complete ready to use including lamp socket, attachment plug and cord. You save $1.80 by ordering direct.

SEND NO MONEY

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The Rabat guarantee is back of all our products. DON'T WAIT ORDER TODAY and save the middleman's profit.

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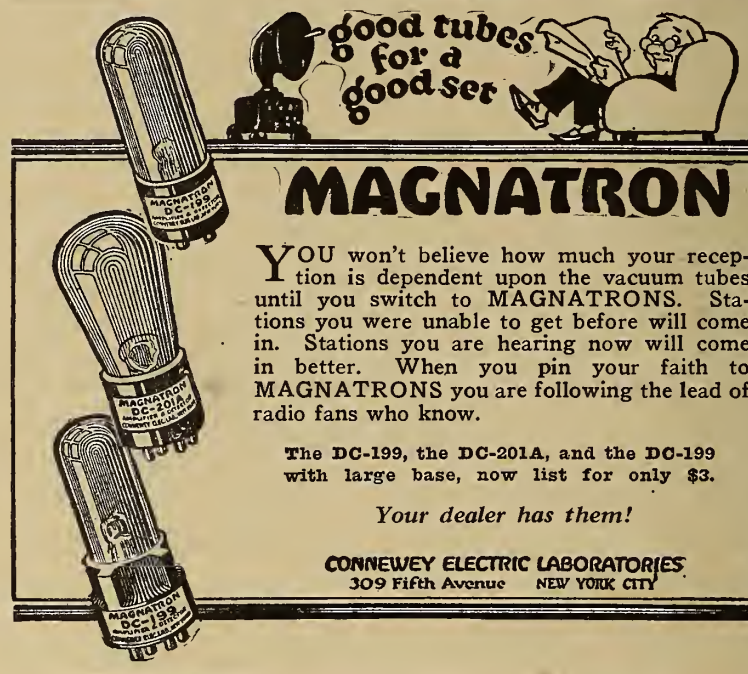

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Here is an amazingly easy way for you to have one of the popular Radio Stamp Albums. I will send you free, engraved stamps for any radio broadcasting station your set has received, up to 50. Then I will furnish you additional stamps for any station you wish at the rate of 10 stamps for 25c, 25 for 50c, 50 stamps for 75c, and 100 stamps for $1.00. This is my offer to those who send for the new Bryant Stamp Album, which is substantially bound with heavy cloth back cover attractively printed in two colors. This means an easier way for you to keep the stamp record of all stations you receive on your set, without the delay and expense of sending to each station for its stamp. And this album furnishes you a permanent record, with log, dial stations, wave lengths, dates, cities, etc. Get your album and stamps today and start your radio stamp collection. Simply give me the list of stations whose stamps you want. Send $1.75 with your name and address. Your money back if you are not more than satisfied.

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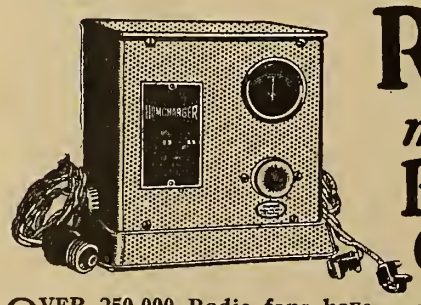

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OVER 250,000 Radio fans have found the big capacity 5 ampere GOLD SEAL HOMCHARGER ideal for keeping their Radio batteries fully charged and operating at top efficiency. Connects to any lamp socket and charges all Radio "A" and "B" and Auto Storage Batteries over night for a nickel.

Simple, reliable, fool-proof. Can be operated by any one. Contains no bulbs, acids or fast wearing carbon contacts. Only one moving part, replaceable for $1.00 after thousands of hours' use.

Absolutely safe—no danger of shock or fire. Approved by Insurance Underwriters everywhere. Beautifully finished in mahogany and gold. May be used right in the finest living room. Price, $18.50 complete for all currents.

Sold by all good Radio dealers, or shipped charges prepaid upon receipt of purchase price.

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Free *Largest Manufacturers' vibrating rectifiers in the world.* *Free*

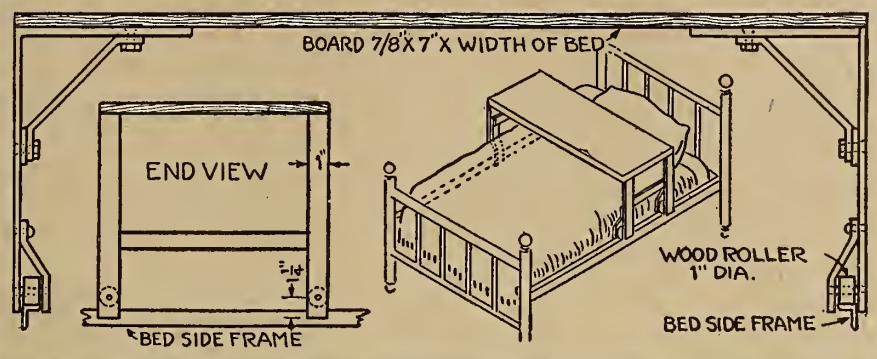
Write for booklet, "The Secret of Distance and Volume in Radio," containing information on this subject and fully describing the GOLD SEAL HOMCHARGER.

Bed Table Supports Set for Invalid

Aid for Convalescents in Hearing Programs

The illustration shows a very handy device for use in hospitals as well as the home, so that a sick person or convalescent may use a receiving set at will. It consists of a board as wide as the bed with supports that have rollers at their lower ends to run on the frame or rail of the bed. The height of the supports will be governed by the thickness of the springs and bedding. They should be of a length to raise the table top above the bed clothing and to a convenient height to be reached by the convalescent while sitting or lying in bed. Dimensions not given must be determined for each individual case.—William Schubert, Schenectady, N. Y.

RECEIVER RESTS AT ANY LOCATION



WORKSHOP KINKS EARN A DOLLAR—

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

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

The charging rate in amperes is indicated on the battery name plate. Never exceed this rate.

Life of Head Phones

Evidence of the stabilization of values in the Radio world is given by the announcement that head phones have been brought to such a high development of excellence that they can be sold on a five-year guarantee.

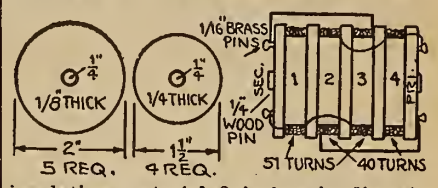
It is known to the old-time Radio "hams" that good head phones should last up to ten years with ordinary care in avoiding bumps and crashes. But in recent years, with a Radio buying public knowing little of head set facts, there has been a tremendous sale of short-life phones which give excellent results at first but rapidly fade as their magnetism vanishes.

Scientific experimentation has proved that the best phone magnet material is drop forged steel of special quality. It has been found that tungsten steel, the usual magnet material, when bent into magnet shape, is permanently injured as a retainer of magnet strength. On the other hand, drop forged steel of special quality makes a stronger and longer lasting magnet. As the magnet is the heart of the head phone, five-year service can be guaranteed if sufficient care is taken in selecting magnet material and in the magnetizing processes.

Your aerial should be taut but does not have to be level.

Making Transformers with Coils in Tandem

After doing considerable experimenting with several transformers I found the one shown to work exceedingly well. The materials required are 5 discs of panel



insulating material 2 inches in diameter and ⅛ inch thick, and 4 discs 1½ inches in diameter and ¼ inch thick, all discs having a ¼-inch hole in the center, one 1-inch dowel. The discs are placed on the dowel alternately, one large, one small, allowing the ones to come at the ends.

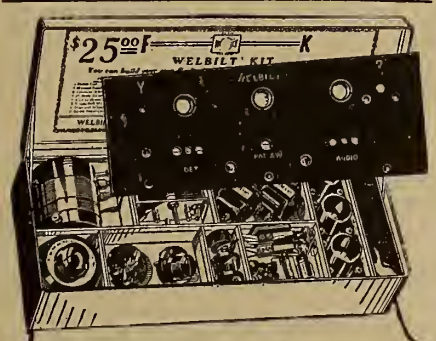
Wind in groove 1, 51 turns of number 30 dcc. wire, also 51 turns of the same wire in space 3. In spaces 2 and 4 wind 40 turns each of the same wire. A three-plate condenser is placed across the primary.—Arthur H. Phillips, Winnipeg, Manitoba, Canada.

SOLVED!

—The "B" Battery Problem

Throw away your "B" Batteries and install a Kellogg Trans-B-former. It gives you "B" Battery current direct from your electric light socket at the trifling cost of one-fifth of a cent per hour. Gives better reception—no interferences. Write for details.

KELLOGG
SWITCHBOARD & SUPPLY CO.
Trans-B-Former
1066 W. Adams St., Chicago, Ill.



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WEL-BILT
TRIPLE CIRCUIT KIT Has Only the Best Parts

Consisting of: Straight Line Low Loss Condenser, High-Grade Transformers, Litz Wire Tuner, Bakelite Sockets, Engraved and Drilled Panel, Midget Condensers, Rheostats, Dials, Jacks, etc.

Check or Money Order $25

Satisfaction or Money Refunded
WEL-BILT MFG. COMPANY
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WD-11
Radiotron
REG. U.S. PAT. OFF

Make BIG MONEY! IN RADIO
We Need Men—Can You Qualify?

Ozarka representatives make real money because they give real values and deliver a real service. For instance, there is a 4-tube Ozarka Instrument for loud speaker operation, giving wide range of reception at $39.50. Our men demonstrate Ozarka Instruments and Install.

The Instrument makes the sale easy by its performance. We train you to know radio and our methods, make you worthy to wear the Ozarka hutton as our accredited representative. Previous experience is not necessary. In fact we prefer to do our own educating. If you have a clean record, are industrious, and have saved up a little cash, here's a real opportunity, if you can qualify for an exclusive territory. We already have 2247 representatives. Territory going fast.

FREE, LARGE Illustrated BOOK
WRITE Today for illustrated book No. 101 that gives the entire Ozarka Plan. Don't fail to give the name of your county.

OZARKA, Inc.
841 Washington Blvd.
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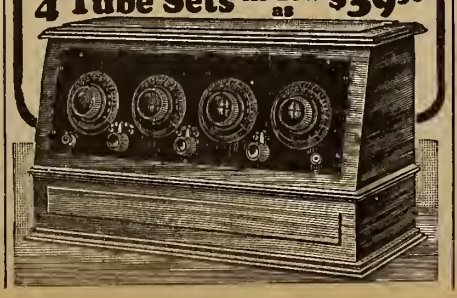
4 Tube Sets As Low as $39.50



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Wanted
CRYSTAL CRANKS—
to know that we have a new perfect 100% Rectifier, no ifs, ands or alibies. Think of it, if you find just one dead spot within 5 days you may return it and get your money back. We know you are going to look for that spot; we also know you will not find it. You will not get stung. It is a "go-get-'em" kind. Not over two to any one Crank. 50 cents each.

Genuine
Miller-B-Metal
PRODUCTS
Try the 99% Rectifier. Only one non-rectifying speck about the size of a "nit's eyebrow." We are tossing them in while they last.
Three for $1.00
The A. H. Miller Radio Co.
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Crosley
Erla
Acme
Kellogg
Bradley
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B-T
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Dubilier
and other lines.

Listen to them! You can make money if you buy right—here's the place to do it.

Standard lines—sets, parts, accessories—shipped now! Our fast service puts goods on your shelves when you want them. The scarce items, too, hard to get elsewhere, are waiting for you at Fuetterer's.

Our catalogue No. 8 shows you—tells you—sells you!

Write for it now, and note our prices

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RADIO SUPPLY CO.
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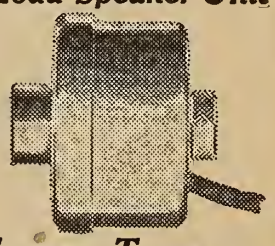
Order Phone "Bell" 3-3-3 Items from FUETTERER

Morrison
Loud Speaker Unit



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Volume—Tone
The Best In Radio

Every set reaches its maximum performance when it reproduces through a Morrison Unit. Volume on long distance work and the marvelous Morrison tone quality are unmatched. Thousands of Morrison owners from coast to coast know this.

Of all the elements in radio receiving there is one you can be certain of—buy a Morrison, and you've got the best reproducing unit you can buy. Use it indefinitely—it's built to stand long service.

Morrison is an adjustable unit.
Ask for our booklet on Loud Speaker Facts.

On sale at all good radio and phonograph dealers. Mail orders shipped promptly from factory.

Morrison Laboratories, Inc.,
343 E. Jefferson Ave. Detroit, Mich.

Questions and Answers

Tuned Radio Frequency Receiver

(12336) RDI, Memphis, Tenn.

I am operating a tuned Radio frequency receiver and have connected the negative filament circuit to the ground lead between one end of the first primary and the ground connection. The set does not seem as selective as it should be and a friend of mine says this is because I have connected the filament to the ground. Please let me know whether the selectivity will be increased if I change this.

A.—In our opinion the selectivity would be greatly increased if the antenna primary were made an entirely separate circuit from the rest of the set and the negative filament circuit disconnected from the ground lead. Connecting the negative filament in the manner you describe gives the same effect as though a long coil were tapped at the 10th or 12th turn, the tap being connected to the negative filament and one end attached to the antenna. This makes the tuner practically a single circuit one and the selectivity to be gained by loose coupling is practically lost. If the set is properly constructed and the rotor plates of the condensers connected to the negative filament there should be no body capacity.

Broadcasting on Short Waves

(11708), HAC, Milwaukee, Wis.

Can you tell me the wave bands used by the Westinghouse station, KDKA, in broadcasting on short waves to foreign countries. Also the hours at which such broadcasting takes place. Are there other stations broadcasting on extremely short waves? What length?

I have written and asked KDKA for this information, but for some reason they do not care to advise me.

A.—Station KDKA broadcasts for foreign countries on a wave length of 90, 92 or 94 meters and simultaneously for local reception on 309 meters. The short wave length is also picked up by Station KFKX at Hastings, Nebraska; these programs are fed into the transmitter at Hastings and rebroadcast.

Station WGY at Schenectady also broadcasts on the short wave length of 107 meters. There is no regular schedule for such transmission from either station as the success of picking up the transmission at Hastings depends very largely on atmospheric conditions.

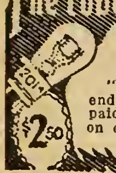
You have to experiment to get all there is out of Radio.

RADIO LOG BOOKS. Used with any set. Satisfaction guaranteed. Postpaid 25c. Dealers wanted. Roy Stacy, Rockford, Ill.

Raulf Radio Consoles. The ideal radio cabinet, built in genuine mahogany or walnut. Send for descriptive circular. Raulf Manufacturing Company, 564 Vedder St., Chicago, Ill.

It's your money and you can spend it for tubes or batteries if you want to; but I can show you how to bring distant stations in on a simple crystal set. Same plans increase range of tube sets also. Copyrighted plans $1.00. Complete parts for long distant crystal sets $5.00. Leon Lambert, 501 Kaufman Bldg., Wichita, Kansas.

The Tube that CAN'T BLOW OUT



A startling invention enables us to absolutely guarantee "Blo-Pruf" 201A tubes against all blow outs, or your money back! !

"Blo-Prufs" are also the finest detectors and amplifiers made! Sent direct, all charges paid. Send money order now, or pay postman on delivery. Dept. I

$2.50

BLO-PRUF TUBE CO. 18 STUART ST. BOSTON, MASS.

Old Tubes Made Good As New

We Re-activate 210A, 301A, 199A and 299 tubes.....$1

Thousands Re-activated and Satisfactory. Do not confuse this process with refilling. 24 hr. service

WASHINGTON RADIO SHOP

169 W. Washington St. Chicago, Ill.

Mail Orders Filled

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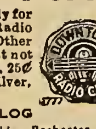


Pins shown designed especially for RADIO CLUBS. Words "Radio Club" cannot be changed. Other lettering can, only name must not exceed 8 letters. Silver plate, 25¢ ea., $2.50 doz. Sterling silver, 40¢ ea., $4.00 doz.

SEND FOR FREE CATALOG

BASTIAN BROS. CO. 603 Bastian Bldg., Rochester, N. Y.

Radio Dealers

We can make immediate delivery on Federal 141 Style Receivers.

CHURCHILL DRUG CO.

Burlington, Iowa

$10.00 IS ENOUGH

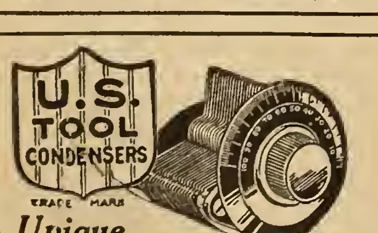
You can get programs 400 to 1,000 miles away on Lambert Crystal Sets, and you don't need tubes or batteries.

Tell your dealer "nothing else will do"

Picture of Set and Particulars Free.

LEON LAMBERT

501 Kaufman Bldg. Wichita, Kan.



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ONE PIECE STATOR

(Pat. Applied for)

The one piece stator makes for 100% efficiency. Eliminates leakage, resistance, broken contacts and soldered joints. In types 3 (plain) and 4 (all-vernier), CELORON END PLATES; types 5 (plain) and 6 (all-vernier), METAL END PLATES.

CS and CV Low Price Types Always in Stock. Ask Your Dealer!

100% Guaranteed

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Manufacturers of Special Tools, Dies, Jigs, Automatic Machinery and Sub Presses.

Salesmen calling on radio dealers wanted to handle Radio Tubes as a side line. The Thoria Tube Company, Dept. "D," Middletown, Ohio.

Men to build radio sets in spare time. Leon Lambert, 501-H Kaufman Bldg., Wichita, Kansas.

Save Your Old Tubes!

I make your 201A, 301A, 299 and 199 tubes like new if they still light. Do not confuse this with refilling. Paste this ad in your set for future reference.

All Work Guaranteed. $1.00 per tube

HAYDN A. THOMAS

4034 Lexington St. CHICAGO

MOGG'S AERIALS

Mogg's special radio aerials, inside or outside type; designed and perfected by our Radio Engineer. Send 25c for blue print of complete plan and details.

INDIANAPOLIS REFLEX RADIO CO.

1502 Fletcher Trust Bldg. Indianapolis, Ind.

Air Line Radio Map and Log With the NEW WAVE LENGTHS

Just off the press

Has a movable mile scale. Kept up to date with a supplemental service.

Order now for real radio enjoyment

Price 50 cents

At Your Dealers or Sent Prepaid.

M. M. CO., 3600 St. John, Kansas City, Mo.

FREE The very latest up-to-date radio wall map 28 by 34 inches. Shows call letters, locations, wave lengths, and kilocycles of all radio broadcasting stations, U. S., Canada, and Mexico, relay divisions and radio districts. Also a scale for measuring distance. This wonderful map postage paid, ABSOLUTELY FREE. Merely send us a list of stores in your city which handle radio apparatus. Be sure and give the street address, and if you know the manager's name, give it also. DO IT TODAY before this offer is withdrawn.

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Will help you increase sales

Send for FREE catalog giving counts and prices on thousands of classified names of your best prospective customers--National, State and Local--Individuals, Professions, Business Concerns.

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Write for my free Guide Books "How to Obtain a Patent" and "Invention and Industry" and "Record of Invention" blank before disclosing inventions. Send model or sketch of your invention for instructions. Promptness assured. No charge for above information. Clarence A. O'Brien, Registered Patent Lawyer, 2007 Security Bank Building, directly across street from Patent Office, Washington, D. C.

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We are exclusive Radio Jobbers and DO NOT RETAIL.

Howard—Crosley Liberty—Day-Fan Receiving Sets

Complete line of parts.

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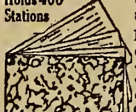
New 64 Page LOG

Holds 400 Stations



Send NO Money

Beautiful GENUINE leather cover. Gives call, city, wave lengths, etc. Spaces for 4 dial settings, remarks, etc. List by wave lengths of principal stations. List of stations alphabetical by states and cities. Valuable tuning suggestions. List of station owners. Trouble aids. Distance map. So convenient. Other valuable information. Worth many times small cost. With beautiful rippled cover 75c; genuine De Luxe leather cover, only $1.00. Order NOW.

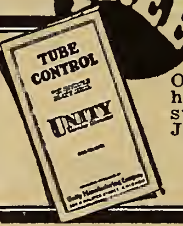
MONEY REFUNDED if Not Delighted

Don't send a cent. Pay postman after log arrives. If pay with order we pay postage. You will enjoy this log. Just what you need. Order today—NOW. Postal will do.

RADIO PRINTERS, Dept. 9912, MENDOTA, ILL.

DX "mushy"?

FREE



BOOKLET

On "Tube Control" tells how to bring in distant stations clear and loud. Just drop a post card to

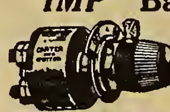
UNITY MFG. CO.

232 North Halsted Street

CHICAGO, U. S. A.

CARTER

"IMP" Battery Switch



Pat. Jan. 30, 1923

Half size

65c

Quarter turn snap switch.

Complete with "On and Off" name plate. Pointer and Knob.

Any dealer can supply

In Canada—Carter Radio Co., Limited, Toronto

Carter Radio Co. 205 S. STATE STREET CHICAGO

A REAL FIXED DETECTOR

For Crystal and Reflex Sets or Can Be Operated

As a crystal set in itself. Stands battery current, lasts indefinitely, because of readjustment feature and does away with bothersome catwhisker and hunting for Hot Spot. You can depend on it being always "Hot." Can be mounted in any position or connected without mounting. Save A and B battery and Tube life, get better detection than Vacuum Tubes. Get a RADETEC and know the joy of real reception. Packed in box with Brackets and instructions prepaid for $1.00.

Dealers Write for Discounts

TOWNER RADIO MFG. CO.

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ALL SHOT

That's the common expression of dry cell "B" batteries. Purchase the economy way and enjoy freedom from hissing and frying, clearer reception, and greater volume. Put together an everlasting "HAWLEY" rechargeable "B" storage battery. Nickel-iron alkaline type. No former experience or soldering necessary. Put up in both assembled and knock-down types. The knock-down units contain all actual material for building battery and are put up in 90 volts @ $8.95; 100 volts, $9.95; 120 volts, $11.60; 135 volts, $12.75; 150 volts, $13.90; 200 volts, $17.50. Guaranteed for 2 years with a 30-day trial offer of complete satisfaction or return of your money without any ifs nor ands. Complete sample cell 35c prepaid. 8-page illustrated folder of instructions showing simple putting together, making charger and charging free with all orders. Complete manufactured "B" battery charger $2.75. Order direct or write for my literature, guarantee, and testimonials. Same day shipments.

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Dealers—if you want the finest products, fastest shipments and best discounts write on your letterhead for catalog AC1003.

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Your Set Is Only As Good As Your Batteries!

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LONG LIFE

Eureka "B" and "C" Batteries are assembled with infinite care from first quality materials. Their LONG LIFE is GUARANTEED.

Ask Your Dealer or Write Us.

Distributors Wanted

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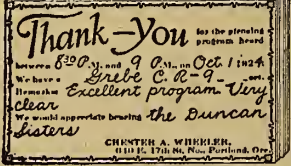
Applaud YOUR Favorites

Send No Money

Thank stations and talent which entertain you. They appreciate applause. They deserve it. Send postal applause cards. All the RAGE. Good grade cards. Quality printing. Satisfaction guaranteed. You'll be delighted.



FREE LOG for Your stations with first order. Places for call, cities, wave lengths, 4 dial settings, remarks, etc. List by wave lengths of principal stations. Other valuable information. Beautiful rippled cover.

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on each card. Be individual. Post Card backs (requires 1c stamp). 100 only $1.35; 200—$1.95; 300—$2.45; 500—$3.45 plus few cents postage. Don't send one cent. Pay postman after cards arrive. If you prefer to pay with order, we prepay postage. Money RETURNED if not DELIGHTED. You to be judge. Order today—NOW. Postal will do.

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12 Cells 24 Volts *Lasts Indefinitely—Pays for Itself*

Economy and performance unheard of before. Recharged at a negligible cost. Approved and listed as Standard by leading Radio Authorities, including Pop. Radio Laboratories, Pop. Sci. Inst. Standards, Radio News Lab., Lefax, Inc. and other important institutions. Equipped with *Solid Rubber Case*, an insurance against acid and leakage. Extra heavy glass jars. Heavy rugged plates. Order yours today!

SEND NO MONEY Just state number of batteries wanted and we will ship day order is received. Extra Offer: 4 batteries in series (96 volts), $13. Pay expressman after examining batteries. 5 per cent discount for cash with order. Mail your order now!

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Prices: 6-volt, 100 Amp. $12.50; 120 Amp. $14.50; 140 Amp. $16.00. All equipped with Solid Rubber Base.

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Radiophone Broadcasting Stations

Corrected Every Week—Part V

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Hot Springs, KTHS
Little Rock, KFMB, WCAV
Pine Bluff, KFPX

California:
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Berkeley, KRE
Burlingame, KFNZ, KFQH
Fresno, KMJ
Hanford, KFRN
Hollywood, KFQZ, KFWB, KNX
Holy City, KFQU
Long Beach, KFON
Los Angeles, KFCL, KFI, KFPG, KFPR, KFQG, KFSG, KHJ, KJS, KWH
Oakland, KFUS, KGO, KLS, KLX, KZM
Pasadena, KPPC
Paso Robles, KFNL
Redlands, KFRP
Richmond, KFOU
Sacramento, KFBK
San Diego, KDPT, KDYM, KFBC
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San Jose, KQW
San Leandro, KFUU
Santa Ana, KFAW
Santa Barbara, KFHJ
Santa Rosa, KFNV
Stanford Univ., KFGH
Stockton, KJQ, KWG
Taft, KFQC
Upland, KFWC
Whittier, KFOC

Colorado:
Boulder, KFAJ
Colorado Springs, KFQE, KFUM
Denver, KFAF, KFDL, KFEL, KFLE, KFUP, KLZ, KOA
Greeley, KFKA
Gunnison, KFHA

Connecticut:
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District of Columbia:
Washington, WCAP, WDM, WRC, WRRF

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St. Petersburg, WDBI, WSAG
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Georgia:
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Macon, WCBW, WMAZ
Savannah, WEBZ

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Moscow, KFAN
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Illinois:
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Broadlands, WSRF
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Chicago, KYW, WAAF, WBBM, WBCN, WCBZ, WDBY, WEBH, WGN, WJAZ, WLS, WMAQ, WQJ, WSAX
Chicago Heights, WCBZ
Decatur, WBAO
Elgin, WCEE, WTAS
Eureka, WFBB
Galesburg, WFBZ, WRAM
Harrisburg, WEBQ

State, City, Call

Illinois (Continued)
Joliet, WWAE
Lake Forest, WABA
La Salle, WGBN
Monmouth, WBBU
Mooseheart, WJJD
Oak Park, WTAY
Peoria, WJAN
Rockford, KFLV
Spring Valley, WGBW
Streator, WTAX
Tuscola, WDZ
Urbana, WRM
Zion, WCBD

Indiana:
Anderson, WEBD
Evansville, WGBF
Ft. Ben. Harrison, WFBY
Greencastle, WLAX
Greentown, WJAK
Indianapolis, WBBZ, WFBM
Laporte, WRAF
South Bend, WGAZ
Seymour, WFBE
Valparaiso, WRBC
West Lafayette, WBAA

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Atlantic, KFLZ
Boone, KFGQ
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Medford Hilliside, WGI
Roslindale, WEBY
South Dartmouth, WMAF
Springfield, WBZ
Taunton, WAJF
Worcester, WCBT, WCTS

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Ann Arbor, WCBC
Berrien Springs, WEMC
Dearborn, WWJ
Detroit, KOP, WCX, WWJ
East Lansing, WKAR
Flint, WEAA
Grand Rapids, WBDC, WEBK

State, City, Call

Michigan (Continued)
Houghton, KFMW, WWAO
Lansing, WREO
Menominee, KFLB
Mt. Clemens, WABX
Petoskey, WBBP
Port Huron, WBBH
Saginaw, WABM

Minnesota:
Breckenridge, KFUJ
Carver, KFRA
Collegeville, WFBJ
Minneapolis, KFDZ, KFEX, KFMT, WCCO, WHDI, WLB
Moorhead, WPAJ
Northfield, KFMX, WCAL
St. Cloud, WFAM
St. Paul, AW, KFOY
Virginia, KFUZ

Mississippi:
Coldwater, KFNG
Hattiesburg, WDBT
Oxford, WCBH
Pascagoula, WCBG

Missouri:
Butler, WNAR
Cape Girardeau, WSAB
Cartervilie, KFPW
Columbia, WAAN
Independence, KLDS
Jefferson City, WOS
Kansas City, WDAF, WHB, WOQ
Moherly, KFFP, KFOJ, KFUM
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St. Louis, KFQA, KFUO, KSD, WCK, WEW, WIL, WMAY, WRAO
Warrensburg, KFNJ

Montana:
Butte, KFKV, KFLA, KFUY
Havre, KFBB
Helena, KFCC, KFNY, KFSY

Nebraska:
Belden, KFQY
David City, KFOR
Harrington, KFRZ
Hastings, KFKX
Lincoln, KFAB, WFAV, WJAB, WMAH
Norfolk, WJAG
Oak, KFEQ
Omaha, KFCZ, KFOX, WAAW, WIAK, WNAL, WOAW
Tecumseh, WTAU
University Place, WCAJ

Nevada:
Sparks, KFFR

New Hampshire:
Chesham, WSAU
Hanover, WFBK
Laconia, WKAV

New Jersey:
Atlantic City, WHAR, WPG
Camden, WABU, WFBI
Gloucester City, WRAX
Lambertville, WTAZ
Newark, WAAM, WBS, WNJ, WOR
New Brunswick, WEBA
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State College, KFRY, KOB

New York:
Buffalo, WFBR, WGR
Canton, WCAD
Cazenovia, WMAC
Freeport, WGBB
Ithaca, WEAI
Jamestown, WOCL
Kingston, WDBZ
Lockport, WMAK
New York, WBBR, WDBX, WEAF, WEBJ, WEBL, WEBM, WFBH, WGBS, WHN, WJY, WJZ, WNYC, WQAO, WSAP

State, City, Call

New York (Continued)
Richmond Hill, WAHG
Rochester, WABO, WHAM
Schenectady, WGY, WRL
Syracuse, WFBL
Tarrytown, WRW
Troy, WHAZ
Utica, WSL

North Carolina:
Charlotte, WBT
Fort Bragg, AT9
Raleigh, WFBQ

North Dakota:
Devils Lake, KDLR
Fargo, WDAY, WPAK
Grafton, KFRH
Grand Forks, KFJM, KFRL

Ohio:
Canton, AQ6
Cambridge, WEBE
Cincinnati, WAAD, WHAG, WLW, WMH, WSAI
Cleveland, KDPM, WEAR, WHK, WTAM
Columbus, WBAV, WCAH, WEAO, WMAN
Dayton, AW5, WDBS, WEBT
Elyria, WGBL
Granville, WJD
Hamilton, WRK, WSRO
Lima, WOAC
Newark, WBBA
New Lebanon, WGBY
Pomeroy, WSAZ
Sandusky, WABH
Springfield, WNAP
Toledo, WABR, WTAL
Wooster, WABW
Yellow Springs, WRAV
Youngstown, WDBF

Oklahoma:
Bristow, KFRU
Chickasha, KFGD
Fort Sill, KFRM
Norman, WNAD
Oklahoma City, KFJF, KFQR, WKY

Oregon:
Astoria, KFJI
Corvallis, KFDJ
Portland, KFEC, KFIF, KFJR, KFQN, KFRQ, KGW

Pennsylvania:
Allentown, WCBA, WSAN
Altoona, WFBG
Arnold, WCBU
Buck Hill Falls, WCBY
East Pittsburgh, KDKA
Erie, WOAV
Grove City, WSAJ
Harrisburg, WABB
Haverford, WABQ
Johnstown, WBBV, WGBK, WTAC
Lancaster, WDBC, WGAL
McKeesport, WIK
Oil City, WHBA
Parkersburg, WQAA
Philadelphia, WABY, WCAU, WFBD, WFI, WIAD, WIP, WLIT, WNAT, WOO, WWAD
Pittsburgh, KQV, WCAE, WJAS
Reading, WBBD, WRAW
Scranton, WGBI, WGBK, WQAN
State College, WPSC
Wilkes-Barre, WBAX, WBRE

Rhode Island:
Cranston, WKAP
East Providence, WKAD
Providence, WCBR, WEAN, WGBM, WJAR, WDWF, WSAD

South Carolina:
Charleston, WBBY
Clemson College, WSAC
Greenville, WGBT

South Dakota:
Brookings, KFDY
Rapid City, WCAT
Vermillion, WEAJ
Yankton, WNAX

State, City, Call

Tennessee:
Bemis, WCBI
Columbia, WDBW
Knoxville, WFBC
Lawrenceburg, WOAN
Memphis, WCBO, WGBC, WMC
Nashville, WCBQ, WEBX
Tullahoma, WCBV

Texas:
Amarillo, WDAG, WQAC
Austin, KFQM, WCM
Beaumont, KFDM
Beeville, KFRB
College Station, WTAW
Dallas, WFAA, WRR
Denison, KFQT
Dublin, KFPL
El Paso, WDAH
Fort Worth, KFJZ, KFQB, KFRO, WBAP
Galveston, KFLX, KFUL
Greenville, KFPM
Houston, WEAY, WRAA, WSAV
Orange, KFGX
San Antonio, WCAR, WOAI
San Benito, KFLU
Tyler, WOAF
Waco, WJAD

Utah:
Ogden, KFCP, KFUR
Salt Lake City, KDYL, KFOO, KFPH, KFPT, KFUT

Vermont:
Burlington, WCAX
Springfield, WQAE

Virginia:
Norfolk, WBBW, WTAR
Radio, NAA
Richmond, WBBL
Roanoke, WDBJ
Thrifton, WGBG

Washington:
Everett, KFBL
Lacey, KGY
North Bend, KFQW
Olympia, KFRW
Pullman, KFAE, KFRX
Seattle, KDZE, KFHR, KFOA, KFQX, KHQ, KJR, KTW
Spokane, KFIO, KFPY
Tacoma, KFBG, KGB, KMO
Walla Walla, KFCF
Yakima, KFIQ

West Virginia:
Charleston, WPAZ
Martinsburg, WDBD

Wisconsin:
Beloit, WEBW
Fond du Lac, KFIZ
La Crosse, WABN
Madison, WHA
Marshfield, WGBR
Menomonie, WGBQ
Milwaukee, WCAY, WHAD, WSOE
Osseo, WTAQ
Sisiht, WAR
St. Croix Falls, WRAL
Stevens Point, WHBB, WLBL
Superior, WDBP, WEBC

Wyoming:
Laramie, KFBU

Alaska:
Anchorage, KFQD
Juneau, KFIU
Kukak Bay, KNT

Hawaii:
Honolulu, KGU, KYQ

Philippine Islands:
Manila, KZKZ, KZRQ

Porto Rico:
San Juan, WGBO, WKAQ

Argentina:
Buenos Aires, B1, LOR, LOV, LOW, LOX, LOY, TCR

Australia:
Adelaide
Sydney, 2BL, 2FC
Melbourne, 2AB
Perth, 6WF

State, City, Call

Austria:
Vienna, OHW, Radio Wien, Ravag

Brazil:
Bahia, Sociedade do Bahia
Belle Horizantes, Nat'l Teig. Service
Rio de Janeiro, Praia Vermelha, Sociedade de Rio de Janeiro
Sao Paulo, Radio Bondeirantes

British West Indies:
Curacao, Dept. of Finance

Canada:
Calgary, CFAC, CFCN, CFHC, CHBC, CHCM, CJCK, CKCX, CNRC
Edmonton, CFCK, CJCA, CNRE
Hamilton, CFCU, CHCS, CKOC
Iroquois Falls, CFCH
Kingston, CFRC
Kitchener, CJCF
London, CFCW, CFLC, CJGC
Moncton, CNRA
Mont-Joli, CJCM
Montreal, CFCF, CFUC, CHYC, CKAC, CNRM
Nanaimo, CFDC
New Westminster, CFXC
Ottawa, CHXC, CKCO, CNRO
Quebec, CFCJ, CKCI
Regina, CKCK, CNRR
Saskatoon, CFQC, CHUC, CNRS
Sudbury, CFCR
Thorold, CFKC
Toronto, CFCA, CHIC, CHNC, CJBC, CJCD, CJCN, CJSC, CKCE, CNRT
Vancouver, CFCQ, CFYC, CJCE, CKCD, CKFC, CKLC
Victoria, CFCL, CFCT, CHCE
Winnipeg, CKY, CNRW

Cuba:
Caibarien, 6EV
Camaguey, 7AZ, 7SR
Camajuani, 6YR
Ciego de Avila, 7BY
Cienfuegos, 6BY, 6CX, 6DW, 6GR, 6GT
Colon, 5EV
Havana, PWX, 2AB, 2BY, 2CX, 2HP, 2HS, 2JP, 2KP, 2LC, 2MG, 2OK, 2OL, 2RY, 2TW, 2WW
Sagua la Grande, 6HS
Santiago, 8AZ, 8BY, 8CX, 8DW, 8EV, 8FU, 8GT, 8HS
Tuinucu, 6KW, 6KJ

France:
Agen, Fr. Gov.
Issy-Lez-Moulineaux, Fr. Gov.
Lyons, YN
Paris, FL, FPTT, SFR, Le Petit Parisien
Toulouse, MRD

Great Britain:
Aberdeen, 2BD
Belfast, 2BE
Birmingham, 5IT
Bournemouth, 6BM
Bradford, 2LS
Cardiff, 5WA
Chelmsford, 5XX
Dundee, 2DE
Edinburgh, 2EH
Glasgow, 5SC
Hull, 6KH
Leeds, 2LS
Liverpool, 6LV
London, 2LO
Manchester, 2ZY
Newcastle, 5NO
Nottingham, 5NG
Plymouth, 5PY
Sheffield, 6FL
Stoke-on-Trent, 6ST

Mexico:
Chihuahua, CZF
Mazatlan, CYR
Mexico City, CYB, CYH, CYL, CYX, CYZ, CZA, XDA
Monterey, 24A
Oaxaca, CYF

STATION SCHEDULES

(Continued from last week)

CJCE, Vancouver, B. C., Can. 400 meters. 150 watts. Sprott-Shaw Radio Co. Daily ex Sun, 12:30-1:30 pm, 3:30-5, 8-10, music, news. Pacific.

CJCF, Kitchener, Ont., Can. 295 meters. 300 watts. The News Record.

CJCK, Calgary, Alta., Can. 316 meters. 500 watts. Radio Corporation of Calgary.

CJCM, Mont Joli, P. Q., Can. 306 meters. 500 watts. Dr. J. L. P. Landry (Chief Announcer). Slogan: "Three weeks below Quebec on the top of the world." Daily, 5-6 pm, news; 11:30-12:30 am, Radio vaudeville. Mon, Wed, Sat, 8:30-9:30 pm, music. Eastern.

CJCN, Toronto, Ont., Can. 410 meters. 2,000 watts. Simon Agnew & Co., Signals.

CJGC, London, Ont., Can. 430 meters. 200 watts. London Free Press. Daily ex Sun, 7:15-8:15 pm, news, market, weather, music, entertainment. Eastern.

CJSC, Toronto, Ont., Can. 430 meters. 500 watts. The Evening Telegram.

CKAC, Montreal, Que, Can. 430 meters. 7,500 watts. La Presse. Announcer, Jaques Cartier. Mon, Wed, Fri, Mon, 1:45 pm, orchestra. Daily ex Sat, 4 pm, weather, markets, stocks. Tues, Thurs, Sat, 7 pm, children's hour; 7:30, concert; 8:30 pm, studio concert; 10:30, dance. Sun, 4:30 pm, sacred concert. Midnight frolics first and third Wednesdays of month. CNRM programs occasionally. Eastern.

CKCD, Vancouver, B. C., Can. 410 meters. 1000 watts. Vancouver Daily Province. Announcer, William Rose. Slogan, "Canada's Western Gateway." Daily ex Sun, 8:30-9:30 pm, music, news, entertainment. Pacific.

CKCE, Toronto, Ont., Can. 450 meters. 2,000 watts. Can. Ind. Telephone Co. Occasional programs.

CKCI, Quebec City, Can. 295 meters. 200 watts. Daily "Le Soleil." Announcer, J. N. Thivierge.

CKCK, Regina, Sask., Can. 420 meters. 2,000 watts. Leader Pub. Co. Announcer, A. W. Hooper. "The Queen City of the West." Daily ex Sat, Sun, Tues, 9:45-10:30 am; 1-2 pm; 7:30-8:15, music, news, markets. Tues, 9:45-10:30 am; 1-2 pm; 8-10. Sat, 9:45-10:30 am; 1-2 pm. Sun, 9-10 pm, church services. Mountain.

CKCO, Ottawa, Ont. Can. 400 meters. 200 watts. Dr. G. M. Geldert (Ottawa Radio Assn.) Announcer, Dr. O. K. Gibson. Slogans, "Ottawa's Radio Voice," "The Community Voice of Canada's Capital." Tues, 8-10 pm. Sun, 7 pm, services; 9, sacred concert. Eastern.

CKCX, Calgary, Alberta, Can. 440 meters. 1,000 watts. P. Burns & Co., Ltd. Tues, 9-10 pm, music, lectures. Mountain.

CKFC, Vancouver, B. C., Can. 385 meters. 200 watts. First Congregational church.

CKLC, Calgary, Alta., Can. 400 meters. 200 watts. Wilkinson Electric Co.

CKOC, Hamilton, Ont. Can. 410 meters. 300 watts. Wentworth Radio Supply Co., Ltd. Announcer, H. Slack. Slogan: "In the Garden of Canada" Mon, Wed, Fri, 8-9 pm, music entertainment. Sun, 7-8 pm, church services. Eastern.

CKY, Winnipeg, Man., Can. 450 meters. 2,000 watts. Manitoba Tel. System. Announcer, D. R. P. Coats. Slogan, "Manitoba's Own Station." Daily ex Sun, 12:30-1:30 pm, music, lectures, etc.; 2:15 pm, markets, weather; 4-5, concert. Tues, Fri, 8:15-10 pm, concert. Thurs, 7:30 pm, French lesson; 8, Canadian Nat. Railways concert (CNRW). Announcer, R. H. Roberts. Sun, 7 pm, church services. Central.

CNRA, Moncton, N. B., Can. 313 meters. 500 watts. Canadian National Railways. Announcer, G. A. Wright. Tues, Fri, 8 pm. Eastern.

CNRC, Calgary, Alta., Can. 430 meters. 1,000 watts. Canadian National Railways.

CNRE, Edmonton, Alta., Can. 450 meters. 500 watts. Canadian National Railways.

CNRM, Montreal, Que., Can. 341 meters. 2,000 watts. Canadian National Railways.

CNRO, Ottawa, Can. 435 meters. 2,000 watts. Canadian National Railways. Announcer, A. W. Ryan. Wed, Sat, 7:30 pm, markets, bedtime story; 8, 10:30, dance program. Eastern.

CNRR, Regina, Sask., Can. 420 meters. 2,000 watts. Canadian National Railways.

CNRS, Saskatoon, Sask., Can. 400 meters. 500 watts. Canadian National Railways.

CNRT, Toronto, Ont., Can. 400 meters. 2,000 watts. Canadian National Railways.

CNRW, Winnipeg, Man., Can. 450 meters. 2,000 watts. Canadian National Railways.

Cuba

PWX, Havana, Cuba. 400 meters. 500 watts. International Tel. & Teleg. Corp. Wed, Sat, 8:30-11 pm, music. Eastern.

2AB, Havana, Cuba. 240 meters. 20 watts. Alberto S. Bustamante.

2BY, Havana, Cuba. 260 meters. 100 watts. Frederick W. Borton.

2CX, Havana, Cuba. 320 meters. 10 watts. Frederich W. Borton.

2HP, Havana, Cuba. 295 meters. 100 watts. Credito y Construcciones Co.

2HS, Havana, Cuba. 180 meters. 20 watts. Julio Power.

2JP, Havana, Cuba. 270 meters. 20 watts. Julio Power.

2KP, Havana, Cuba. 195 meters. 10 watts. George A. Lindeaux.

2LC, Havana, Cuba. 250 meters. 30 watts. Luis Casas.

2MG, Havana, Cuba. 280 meters. 20 watts. Manuel Y. Guillermo Salas Music Store. Announcer, Roger Morales. Daily, 3-4 pm, music. One day each week, 8-11 pm. Eastern.

2OK, Havana, Cuba. 360 meters. 100 watts. Mario Garcia Velez.

2OL, Havana, Cuba. 290 meters. 15 watts. Oscar Collado.

2RY, Havana, Cuba. 275 meters. 20 watts. Raoul Karman.

2TW, Havana, Cuba. 230 meters. 20 watts. Roberto E. Ramirez.

2WW, Havana, Cuba. 210 meters 20 watts. Amadeo Saenz de Cajahorra.

5EV, Colon, Cuba. 360 meters. 10 watts. Leopoldo V. Figueroa. Sun, 9-11 pm. Eastern.

6BY, Cienfuegos, Cuba. 300 meters. 100 watts. Jose Ganduxe.

6CX, Cienfuegos, Cuba. 170 meters. 20 watts. Antonio T. Figueroa.

6DW, Cienfuegos, Cuba. 225 meters. 10 watts. Eduardo Terry.

6EV, Cabarien, Cuba. 250 meters. 50 watts. Maria Josefa Alvares. Daily, 10:30 pm.

6GR, Cienfuegos, Cuba. 250 meters. 10 watts. Luis del Castillo.

6GT, Cienfuegos, Cuba. 190 meters. 10 watts. Juan Pablo Ros.

6HS, Sagua la Grande, Cuba. 200 meters. 10 watts. Santiago Ventura.

6KJ, Tuinucu, Cuba. 275 meters. 100 watts. Frank H. Jones.

6KW, Tuinucu, Cuba. 340 meters. 100 watts. Frank H. Jones. Slogan, "If You Hear the Koo of the Cuckoo You Are in Tune With Tuinucu." Mon, Tues, Fri, Sun, 10 pm, music. Wed, Thurs, Sat, 8 pm, music. Sat, 12 midnight, dance music. Eastern.

6YR, Camajuani, Cuba. 200 meters. 20 watts. Diego Iborro.

7AZ, Camaguey, Cuba. 225 meters. 10 watts. Pedro Nogueras.

7BY, Ciego de Avila, Cuba. 235 meters. 20 watts. Eduardo V. Figueroa.

7SR, Camaguey, Cuba. 350 meters. 50 watts. Salvador C. Riondo. Slogan, "Cuba, the Land of Sunshine, Sugar and Tobacco." Mon, Tues, Thurs, 9 pm. Eastern.

8AZ, Santiago, Cuba. 240 meters. 20 watts. Alfredo Brooks.

8BY, Santiago, Cuba. 250 meters. 100 watts. Alberto Ravelo.

8CX, Santiago, Cuba. 245 meters. 50 watts. Pedro T. Azarate.

8DW, Santiago, Cuba. 275 meters. 50 watts. Pedro C. Andux. Daily, 4:30-8:30 pm, 10:30-12.

8EV, Santiago, Cuba. 180 meters. 75 watts. Eduardo Mateos.

8FU, Santiago, Cuba. 225 meters. 15 watts. Andres Vinent.

8GT, Santiago, Cuba. 260 meters. 50 watts. Juan F. Chibas.

8HS, Santiago, Cuba. 200 meters. 10 watts. Gilliermo Polanco.

France

FL, Paris, France, Eiffel Tower. 2,600 meters. Announcer, "Chief Poste Militaire de la Tour Eiffel.

FPTT, Paris, France. 450 meters. 480 watts. Superior School P. T. T. Announcer, M. Chanton.

MRD, Toulouse, France. 1,525 meters. Aerodrome.

SFR, Paris, France. 1,780 meters. 2,000 watts. Radio-Paris.

YN, Lyons-la-Doua, France. 480 meters. French Government.
Agen, France. 335 meters. French Government.
Issy-Lez-Moulineaux, France. 1,600 meters. French Government.
Paris, France, Le Petit Parisien. 340 meters. 500 watts.

Great Britain

2BD, Aberdeen, Scot. 495 meters. 1,500 watts. British Broadcasting Co. Announcer, A. M. Shinnie.

2BE, Belfast, Ireland. 435 meters. British Broadcasting Co., Ltd. Announcer, W. T. Guthrie.

2DE, Dundee, Scot. 331 meters. British Broadcasting Co.

2EH, Edinburgh, Scot. 328 meters. British Broadcasting Co.

2LO, London, Eng. 365 meters. 1,500 watts. British Broadcasting Co.

2LS, Bradford, Eng. 310 meters. British Broadcasting Co.

2LS, Leeds, Eng. 346 meters. British Broadcasting Co.

2ZY, Manchester, Eng. 375 meters. British Broadcasting Co.

5IT, Birmingham, Eng. 475 meters. British Broadcasting Co. Announcer, Percy Edgar.

5NG, Nottingham, Eng. 322 meters. British Broadcasting Co.

5NO, Newcastle, Eng. 400 meters. British Broadcasting Co.

5PY, Plymouth, Eng. 235 meters. 200 watts. British Broadcasting Co. Announcer, Clarence Goode.

5SC, Glasgow, Scot. 420 meters. British Broadcasting Co.

5WA, Cardiff, Wales. 351 meters. British Broadcasting Co.

5XX, Chelmsford, Eng. 1,600 meters. 14,000 watts. British Broadcasting Company, Marconi Wireless Telegraph Co., Ltd.

6BM, Bournemouth, Eng. 385 meters. British Broadcasting Co. Announcer, John H. Raymond.

6FL, Sheffield, Eng. 301 meters. British Broadcasting Co.

6KH, Hull, Eng. 335 meters. British Broadcasting Co.

6LV, Liverpool, Eng. 315 meters. British Broadcasting Co.

6ST, Stoke-on-Trent, Eng. 306 meters. British Broadcasting Co.

Mexico

CYA, Mexico City, Mex. 185 meters. Partido Liberal Avanzado.

CYB, Mexico City, Mex. 380 meters. 500 watts. El Buen, Tono. Tues, Sat, 7:30-9 pm. Thurs, 8-10 pm, concert. Mexican.

CYF, Oaxaca, Oax., Mex. Federico Zorrilla.

CYG, Mexico City, Mex. Secretara de Guerra y Marina.

CYH, Mexico City, Mex. 340 meters. 100 watts. High Life.

CYL, Mexico City, Mex. 480 meters. 500 watts. La Casa del Radio. Announcer, Raul Azcarraga. Slogan: "The Land of Eternal Summer. Daily ex Sun, 1:30-2 pm, weather, financial reports, music. Tues, Fri, 9-10:30 pm. Mexican.

CYR, Mazatlan, Sin., Mex. Rosseter Y Cia.

CYX, Mexico City, Mex. 333 meters. 500 watts. Excelsior & Cia. Parker. Announcer, Rafael Lerdo de Teiada. Slogan, "Land of the Aztecs." Mon, 8-9:30 pm. Fri, 8:30-9:30 pm. Mountain.

CYZ, Mexico City, Mex. 400 meters. Liga Central Mexicana de Radio.

CZA, Mexico City, Mex. 70-500-1,070 meters. Aviation Dept., War Ministry. Announcer, Ricardo S. Bravo. Daily, 12:30-1 pm, time, weather, news; 6:30-7:30, time, markets, music. Mexican.

XDA, Mexico City, Mex. Variable wave. 4000 watts. Government station. Slogan, "Radio Chapultepec."

CZF, Chihuahua City, Mex. 400 meters. 250 watts. Chihuahua State Radio Broadcasting Station. Announcer, C. A. Nieto. Wed, Fri, 8-9:30. Mountain.

24A, Monterey, Mex. 285 meters. 200 watts. Tijerina & Cia. Daily ex. Sun, 12-6 pm, news, markets, baseball. Wed, 8:30-10 pm. Mexican.

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