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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 Disest EVERY LIFE & DE CENTS REG. U. S. PAT. OFF. & DOM. OF CANADA

Vol. XII

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No. 8

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, Cleve-

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)

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 Radlo 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 com-

FAN THINKS HIS SET HAS ITS EYE ON HIM

HICAGO. — 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.

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.

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

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 ellminate local interference. The paper is collecting a fund to which the public is contributing money for the employment of a Radlo expert to trace down all interference. The paper prints a daily coupon for making subscriptions.

NEWS NOTES FROM FOREIGN LANDS

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-

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 Dorchéster, 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 for this reversed situation.

The first amateur Radio-photo fan has heard the strokes of Big Ben consecubeen discovered in England. Located at tively through seven stations of the Burton-on-Trent, he has been assigned 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. "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

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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.

Newsstands Don't Always Have One Left

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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



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 11/2 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.

ronome, he thought it was a rebroadcast, but later found that the arrangements of the two orchestras were slightly different. The chance of dup-licating 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.

graph recording machine was brought men.

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. Without letting the invisible audience The Ensley Kiwanis club voted recently in on the proceedings a portable phono- to purchase a Radio set for the city fire-

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 anticipainnumerable 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 call a for over KFNF and received by t

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.

NEWSY BRIEFS AND CHITCHAT FROM THE STATIONS

phony orchestra beginning Tuesday, time. 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" night 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

New realms of musical appreciation will | Charles Mason may be heard every Monbe conquered by the KGO Little Sym- day night from 12 to 12:30 a. m., eastern Idaho, had as one of its attractions a re-

> 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 Prob-lems 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., daily newspapers throughout the country. tube set on a loop aerial.

A Radio show recently held at Nampa, ceiving 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 eastern time, from WGBS, New York, is Tonkin, China. He reported reception of silversheet stars' train, where to expect being reprinted in many of the larger the Eiffel Tower station, using a one them, when they will arrive and what they

'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.

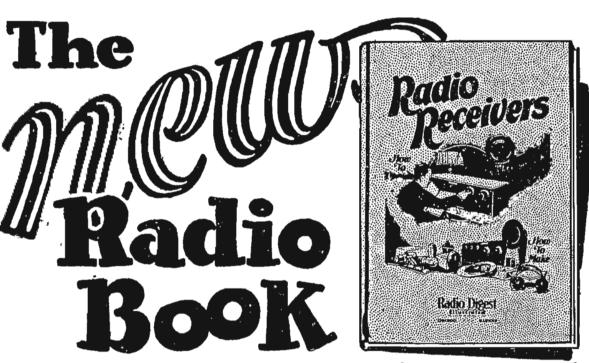
The boy, hardly tall enough to reach the pedals on the piano, has already furnished music for WBAP concerts and received messages of applause.

"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 grass-hopper," 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 will do at each stop.

i . u



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.

> > Subscription Department

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WDAF Nighthawks and the Merry Old Chief



WCCO ONLY STATION LEE SIMS SUCCEEDS TO RELAY AIRPLANE

ECLIPSE REBROADCAST IS GIVEN BIG ACCLAIM

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

MINNEAPOLIS. Minn—The story of the recent solar sclipse, as the Gold Medal station, Saint Faul-Alimaepolis, WCC, broadcast it by remote control from an airplane, was heard from Saskatchewan to Texas.

WW. C.C. was the only station west of W.C.C. was the only station west of the control of t

only station to carry it through successmine broadcast was planned as rather a
last minute attain. Weather reports early
have broadcast was planned as rather a
last minute attain. 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
It. Sweet, chief engineer of WCCO. He
acilied upon three of his neparators, Hugh
Celley, to assist him The 1991, Observation Syndron offered to provide a
plane, and First Lieutenans G. M. Palmer
volunteered to fly.

Use Robutle 5-Watt Transmitter
A 5-wait amateur transmitting set

Use Rebuilt 5-Watt Transmitter A 5-wait annatur transmitting set owned by Mr. McCartiney was rebuilt so that it would fit into the fusielage of the plane. On it was installed an ordinary telephone mouthpiece with a husbaphone (a device to prevent extraneous noises provided by the plane of trailing the plane of the provided by the plane of trailing the plane of the plane of the plane as counterpoise. as counterpoise.

as counterpolae.
A short wave, low loss, lwo tube recelving set built by Mr. Kelley was placed
in WCCO's St. Paul studie.
At 7,70 on the morning of the sellese,
WCCO's wint on the air. The announcer
tempted and saked to the station. The
announcer talked until 7:27. Then the
switch was made to the plane. Immediacting operator, came through clear as a
cling operator, came through clear as a
the airplane motor, but it was ool enough
to bother.

to bother.

To a large part of the west, clouds had obscured the early part of the college, but the plane thown by Lieutenani Palmer and carrying Mr. McCartney rose above the clouds where an excellent view of the phenomenon was obtained. Mr. McCartney for the college of the c flight they were making.

Station Changes

WCCO, the Gold Medal station of Min-neapoils-St. Paul, plans to have the formal opening of its new \$,690-watt transmitter of the inaugural address of President Couldge. A special program will be siven later in the evening from tho new Nicolite 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 Satavia, Ill., with control studio in Chicago, has added an extra schedule on Tuesday evenings.

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

The Portland Oregonium station, KGW, now has its aftent night on Monday in-rtend 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

Given Girl Fan by KTHS

HOT SPRINGS, Ark. — Miss Louise
Glwess of Malvern, Ark. — Me proud
possessor of the first American mined
diamond ever given away by a broadcasting station. She was recently awarded
the diamond of the first the station of the first the first

HERB MINTZ AT KYW



With Merbio Mitty departure from NYW operation of the Mitty departure from NYW operation of the Mitty departwith the new long station, WHT, where he has accepted the role of musical distriction of the Mitty, has superintended in the state of the Children of the Ch

ican-KYW staff.

An introduction of Lee Sims is not the Common of the Sims is not the Corner Lee Sims is not the Corner Lee Sims in the Corner Station WTAS, Eligin, Ill., and others recall blim as having been an organist and plaulast in various theaters throughout the United States. Today Lee Sims holds an envisible record popular planists. His playing has created many wonderful Chrills to listeners in

STANDARD FREQUENCY TRANSMISSION HOURS

Bureau of Standards Announce March and April Schedule

WASHINGTON—The next transmissions of standard frequency strands by the bureau of standards will be held on March 5 and 20, and April 6 and 20, www.y at washington, D. G., and 6XBM at Stainford university, Galifornia, as usual, will send out the signals. The selecture of transmissions appears to the standard of the standard of the selecture of the standard of the selecture of th



Cultiornia.

"The schedules marked with this vign are tentative for 5%DM, Stanford university; later announcement will be made if there is any change.

Information on how to receive and utilize the signals is given to hureau of standards letter circular No. 22, which may be obtained on application from the bureau of standards at Washington, D. C.

WDAF AT KANSAS CITY

WDAF AT KANSAS CITY

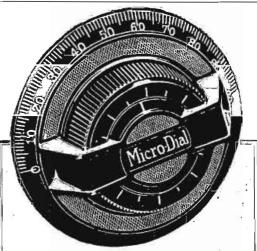
(Continued from page 5)

by calling the antido an the phone. The
calls are put directly through the ampilifier without the aild 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 varios. Since Marry 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 Mannfeld and he is almost total?
to see the hotes on a sheet of music, and
awing once heard a plece he is a she
to see the hotes on a sheet of music, and
to reproduce it without milliaks. He plays
on the Nighthawk programs every right,
supplying numbers requested.

The Radio statif is exceptional the
and for its popularity. Lee Pit-partick is
and for its popularity. Lee Pit-partick is
and for its popularity. Lee Pit-partick is
Radio childre of the Sighthawks
He is assistan by Don D. Johnson, chief
openities. V. S. Batton, remote control

Seven Stations Maintain a Constant Frequency Output

Constant Frequency Output
WasHINDTON.—Seven broadcagiting
stations whose transmitting waves were
measured during Desember by the Bureau
during Desember by the Bureau
sufficiently constant frequency
ful as frequency standards. Thesi stations were: WCAP, Washington; WRC
Washington; KDKA, Pittsburgh; WRC
Springfield, Mass., WGY, Schenecady,
N. Z; WSB, Adfants and WWS, Detroit.



SHARP

Fifty times as sharp as an ordinary dial. Revolutionizes Indisreception in any set. pensable 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.

IEWETT RADIO & PHONOGRAPH CO. 5670 Twelfth Street Detroit, Michigan

"Compare It: You'll Buy!"



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.

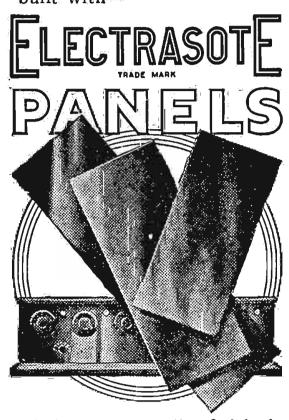
WTAT Doesn't Mind the Sea

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 continu-

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

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—



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

YOUNG SOLOIST FROM SIOUX TRIBE



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."

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.

"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.

S IX 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 Presi-nothing unusual about dent, assigned general correspondence to this, yet that little the regular typists, was responsible for radio set changed my 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.

I didn't know a thing about Radio, but I soon

In addition to these, I was often priv- got onto the tricks of ileged to arrange accommodations for the operating a receiving President when he went off on a trip. set and rapidly became a real "fan." But And when he wanted some personal mat-much to my surprise, I got more fun out ter attended to, such as purchasing theater of the mechanical operation of my set tickets or having his evening clothes than I did from the music, speeches, retickets 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. cordingly 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

about Radio, but I soon

ports and regular program of the nearby

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

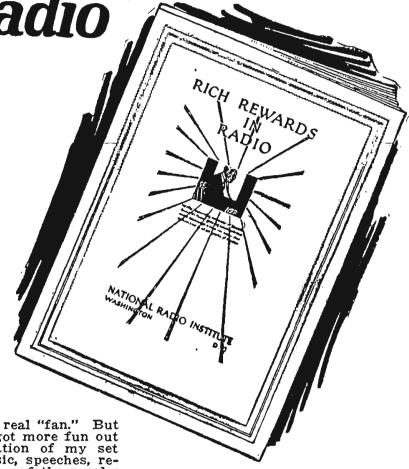
Naturally, I didn't stop there. Several of my friends had "sending" sets and I wanted nothing less. I began to study the code and longed for the day when I could get a license and have a "call letter" of my own. My routine, humdrum work at the office began to lose its appeal. I could hardly wait until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

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. going to go the limit.

I won't attempt to tell you all the details of the wonderful opportunity that awalts 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, "Rieb 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.

i	Name	Age
į	Street	Occupation

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 rourse 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 \$4,420 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 bellove 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 Dity	Mel.	Saturday	Sunday	Monday	Tuesday	Wydnesday	Thursday	Friday
AT9. Fort Bragg. N. C., CF4C, Calgary, Alta. GF6A, Toronto, Ont. GF6A, Toronto, Ont. GF6A, Granto, Christopher, Christophe	485 430 850 440	8:00- 9:55 Silent	9:00-9:00 Slient 7.00-8:00 Slient 9:00-0:00 4:00-1:00	Silent 11:00- 3:00	9:00- 0:55 0:55-11:45	Silent 10:15-11:15 8:15- 3:15 8:10- 3:15	8 00- 9:55 12:00- 2:00 8:15- 9:15 8:16-15 8:16-15	Silent 10:00-11:00
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CKAC, Montreal, Que	437 410 450		4130- E:30	Silent 11:80-12:80	13:43	8:30- 9:30 Silent 11:30-12:30 Silent 7:30-12:30	#:20- 9:20 11:30-12:30	Silent 11:30-12:30 9:30-10:15
CNRO, Oltawa, Online	450 455 110	7 11 12:00 9:11 10:00	3:00- 9:00 Junites Junites	11:30-12:30 Silent	8::0-10:15 Silent 9:30-10:00	Silent 7:30-12:30	#-20- 9.20 11.30-12.30 8.30-10:15 filent 19.09-12.00	9:50-10:15 Stlent Stlent
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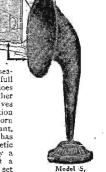
Instructions for Use-All the hours above are given in Eastern Standard Time. If your city sees. Central Time, subtract one hour from each of the periods stated; if your city shall hountain Time, subtract two hours, if your city uses Painfer Time, subtract three hours. This fault includes only the evening and, on Sunday, the late alternoon putgrams.

STATIONS IN ORDER OF WAVE LENGTHS USED

Meter	e Call			Meter	s Call	Meter	rs Call	Meter	s Call	Meter	rs Call
240	WOAX	275	WORD	315.6		361.2	WHN	416.4	weco	468.5	WRC
244	WABN	275.3	WJAS	319	WGR	365.6	WDAF	428.8	WLW	475.9	WBAP
248	WEBG	278	WCAT	322.4	KOA	365.6	whb	422.8	HIMW	475.9	WEEL
250	WTAY	278	WLBL	225.9	WSAI	370	CYB	426.3	WSB	475.9	WFAA
201	KFFT	278	WREC	330		370.2	WEBH	429.5	KPO	430	CYI.
263	WGAQ	280.2	WNAC	330		370.2	WGN	430	CFAC	483.6	WOC
	WMAK	285.5	THAR	331.1	WBZ	374.8	KTRS	431.5	NAA	483.6	WSUI
266	KENE	285.5	WREO	336.9	KFMX	279.5	WGY	435	AT9	491.5	WEAF
256	WECK	285.5	WEMC	336.9	KNX	379.5	WHAZ	435	CNRO	492	KGW
266	WCBK	288,2	KFKX	336.9		389.4	WEAR	427	CKAC	499.7	WMC
270	WGST	293 9	KJS	336.9		384.4	WMBF	440	CFCN	508.2	WIP
270	WOI.	293:0	WHAV	340.7		389.4	WTAM		WDWF	508.2	WOD
272.3	WBBR	293.9	WEAD	340.7	WKAQ	394.5	WLIT	440.9	WOS	509.9	KLX
272.6	KTW	299.8	KFMQ	341	CHAC	394.5	WEI		WMAQ	516.9	WGX
272.6	WEBH	299.8	WPG	244.6	ACHD	394.5	WOAI	447.5	WQJ	526	MIIO
272	KFKE	202.8	WJJD	844.6	WI.S	395	KFRU	450	CKY	526	WOAW
273	WEBJ	392.8	WTAS	348.6	KOB	399.8	WHAS	454.3	WJZ	526	WNYC
273	WHK	305.9	WJAR	348.6	WTIC	104.1	KHI	455	KFOA	535.4	WHA
272	WHW	209.1	KDKA	350	CFCA	405.2	Max	461.3	WCAE	535.4	KYW
275	KFAU	315.6	KFDM	352.7	MAAT	405.2	WOR	467	KFI	545.1	KPUO
275	WAEL	315.6	WARG	661	KGO	410	CKCD	468.5	WCAP	1545.1	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



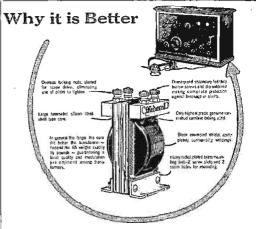
There are five Bristol Loud Speakers, priced from \$12.50 to \$30.00. If not at your dealer's, write for Bulletin Mo. AY-3020.

THE BRISTOL COMPANY Waterbury, Conn.

Cabinet Model, \$30.00

BRISTOL AUDITOPHONE Loud Speaker

For 36 Years Makers of BRISTOL'S RECORDING INSTRUMENTS. Ash Any Technical Engineer



"M ASTER of Every Note in the Orchestral Range" is the proven claim of the Federal No. 65 Audio Frequency Transformer! Wolume without distortion is the basis for the beauty of Federal Tone.

From its oversize locking nuts to its heavy brass mounting feet the Federal No. 65 Transformer incorporates the

same engineering skill that has made Federal the recognized leader in electrical communication apparatus since 1890.

Insist upon Federal parts for your "pet" hook-up. There are over 130 standard parts bearing the Federal iron-clad performance guarantee.

Chiengo San Francisco Bridgeburg Canada

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, WBMY, WEEL, WEMC, WGST, WHAZ, WHB, WO, WGST, WAZ, WHB, WOO, WORD, WSUI.

Eastern Time Stations

Eastern Time Stations

CHIC, Toronto, Can. (350), 9-11 p. m., dance musle, 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., kiddles' 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 Carlbou," 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, Westlinghouse 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; Westlinghouse 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., spe-

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 Cbesterton; 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, planist; play by the Deiphian 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. Vogt; John Wannamaker Commercial Institute band concert.

WOR, Newark, N. J. (405.2), 3:15-3:30 p. m., Adams Arcadlans; 6:15-7:15, Elmer Nippes and his Briar Cliff orchestra; 8-8:15, Julius Koehl, planist; 8:30-8:45, 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 Hali string trio; dance music.

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

WWJ, Detroit, Mich. (352.7), 3 p. m., Detroit News

Beck, organist.

WWJ, Detroit, Mich. (352.7), 3 p. m., Detroit News orchestra; 8:30, concert, Detroit Atbletic 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, planist; 9:15-10, organ recital, Lawson Reid; 10-11,

Headliners of the Week

ATURDAY 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, Louis-

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.

dano frolic, Meyer Davis-New Arlington hotel or-

chestra.

KYW, Chicago, III. (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, III. (266), 7-8 p. m., George R. Cleveland, 'Hobby Club Man;' Jack Heath and Eddie Downs, Harmony duo; 8-12, Catherine Miller, Did you ever see a ukulele as large as this? Neither have

we, but this doesn't happen to be a ukulele. 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'Nell, 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'Nell, 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; Radio Sunday echool lesson, Dr. Herbert W. Virgin;

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, III. (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: Jerry Conley Blackstone dance orchestra: WHAS, Louisville, Ky. (399.3), 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.

reader.

WLS, Chicago, III. (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 bis 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.

MMAQ, Chicago, III. (447.5), 6 p. m., Tegtmeyer's or-chestra; 8, Russell Pratt and Fred Daw; 8:30, "Bag-dad," Robert J. Casey; 9, weekly Balaban and Katz

dad," Robert J. Casey, 9, weekly Balaban and Katz Chicago theater revue.

WMC, Memphls, 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, Brandels store restaurants; 9, artist pupils, Corinne Paulson Thorson, planist; 11, Frank W. Hodek, Jr., and his Omaha Nightingales.

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

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.

WOJ, 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. Eddle, Bennie: Clarence Theders, tenor; George A. Little, Larry Shay, Harmony singers; Yukons Cameron, soprano; Rick, Whalen, Gardener, Harmony singere.

WSAI, Cincinnati, Ohlo (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: (Continued on page 10)

(Continued on page 10)

cial 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, planist; 8:10, Malcolm Carment, clarinetist; 8:20, Bible questions and answers; 8:50, Malcolm Carment, clarinetist, WBZ, Springfield, Mass. (33.1.1), 7:05 p. m., bedtime story for the kiddles; 7:15, sketches, United States naval history, E. S. R. Brandt; 7:30, concert, Hotel Kimbail trio; 8, Anna Wollmann, soprano; 8:15, Beaudoin trio; Veronica LeMare, pianist; Gladys Berry, cellist; Anna C. Beaudoin, violinist; Mariorie Boutelle, soprano; 9:30, Anna Wollmann, soprano; 8:45, Beaudoin trio; Mariorie Boutelle, soprano; 9, Alwyn E. W. Bach, baritone; 9:15, Beaudoin trio; Mariorie 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, Octroit, Mich. (516), 6 p. m., dinner concert, Book-Cadiliac.
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 ofchestra; 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, Philadelighia, Pa. (394.5), 3 p. m., Conshohocken Higb school orchestra; Isabelle Weaver Henry, soprano; 6, Rey Elrae and hie dance 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 Nagci; 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 G

and his entertainers; 11:30-12:30 a, m., Ausoland dance orchestra.

WIP, Philadelphla, 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., Sberry's Tea orchestra; 7-8, Freddie Rich and Hotel



KOA GIVES FIRST LIGHT OPĘRA FRIDAY

Better Advance Programs

Saturday, February 28

(Continued from page 2) 9-10, Lester Kotzey, tenor; Fred Jacobsen, mono-toguist; Nip and Tuck; Casey and Gervals; 13-12:30, Parthenon organ concert.

Mountain Time Stations

KOA, Genrei, Colo. (322.4), 9-12 midnight, dance
Jan Mann and his Rainlow-Lane orchestra. Pacific Time Stations

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RFI, Da, Aupelea, Galif. (467), Scho-f. Brancher RFI, Dannelea, Galif. (467), Scho-f. Brancher and June (467), The Rock Schoff, Scholler and June (467), Brancher and June (467), Scholler and June (467), Brancher and June (467), June (467), Brancher and Julius (467), June (467), Brancher and Julius (467), June (467), Brancher and Julius (467), Brancher and Julius (467), Julius (467), Brancher and Julius (467), Julius (467), Brancher and Julius (467), Brancher and

K. M. Les Angeles, Call. (1964), 12:29-12:0, p. m. 11. Manton and his owners 2:50-5. Unrite Wellmann, Scitch, Science, S



Alvina Kasal, WOAW's new hostess, is a pia alst end of the control of the control of the control of the programs. Miss Kasal has many driles as hostess, in any driles as hostess, the receiving of telephone calls, the receiving of artists and various vari

135. Dr. Phillip T. Riby "Care of Hosip", 8-12, program, Profile Decitic Englavor company. A Trip to Republic Profile Decitic Englavor company. A Trip to Republic Profile Profile National, "The Prince of Lazz" Global Bladwell Call. (17), 8 m. proving profile Pro 5-15, and it playing at the local meaters; 8-12, and W. are'n dence pre-size. RPO, Son Francisco, Calif., (429.5), 3:30-5:30 p. m.

Sunday, March 1

Sunday, silent night for: AT9, GFAC, CKAC, CHNC, KFAE, KFDM, KFU, KFMC, KFKX, KFOA, R.O. KLX, KSO, PWX, WAHG, WBAY, WOAE, WOAF, WDWF, WEAG, WEEJ, WEEW, WGBS, WGST, WHA, WHAS, WHAZ, WHO, WIP, WY, WKAC, WLBL, WKIT, WMAK, WMC, WOI, WOO, WOR, WSAI, WAY, WAY, WA

Eastern Time Stations

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sey Rielock, poster; 3:30 p. m., 17-place Mayer Dafa', New Lingston force, onchesting Harley, the property of the Control of t

organ.
WEAF, New York, N. Y. (491.5), 8:13-9:29 p. m., Hony and bin gang, Capitol theater; 9:20-10:15, organ reand but game. Capted therete: W25-19-13, cogan cr. WGAR, Clevelan, Dhe (388-4), 1-2 p. m. symphom extensity. Alley lineary 3:359-36 wildred concord, has been considered by the company of the company of

Symphony archestra: A. O. Ocyceballi, timor; S. Dr. Proto: Sill. Roserns, violating; 1:30. First Methods with New York, N. V. (180), 5:4 b. in. Digural, Gallery C. V. S. V. (180), 5:4 b. in. Digural, Gallery C. V. V. (180), 5:4 b. in. Digural, Gallery C. V. V. (180), 5:4 b. in. Digural, Gallery C. V. V. V. (180), 5:5 c. V. V. V. C. Condition of Chest Value and the state time 1:90-055. Chest Research C. Condition of Chest Value and the state of Chest Value and Chest Value and

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Central Time Stations

KFMF, Senandah, 18va (280), 10:25 a. m. tertler, Plus 4.1. distance (2. species, Methodats church (2. 5). Service, Goodan Raid, metho. Park, Ark. (37:48), 11 a. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 a. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust Presignation durate, Rev. Church (27:48), 11 b. m. termes, Plust (27:48), 12 b. m. termes, Plust (27:48), 13 b. m. termes, Plust (

BEGINNING with the last issue the 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 Radiophaus with an even more indispensable aid to the popular pastime of listening in. Briefly the change embraces:

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 centrol, monitatin and Pacific time stations, in the order named.

der 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 stutions, following the general arrangement of the stations as just

The new presentation of the advance program material will make it much more valuable locally than heretofore. Eastern fans will find heretofore. Eastern fans will find all of their closest stations, programs

change embraces:

der named.

explained.

and Southern consents, William Keep, ditector; Jeseph w.M.C., Rengish; Ten. (4927), 11 s. ut., services, First Bathitt Guide, Rev. A. 11. Bonds, fasta, p. erfects, First Brounder, Rev. A. 11. Bonds, fasta, p. erfects, First Frendrich (1904), p. ut., Berfect, Ontoniersteinstein, etwice, J. 20. Jan. Berfect, Ontoniersteinstein, etwice, J. 20. Jan. Berfect, Ontoniersteinstein, Rev. (231), Jan. 18. Bonds etgen proteins, Key Said and Varreny Colassov, 1894, and proteinsteinstein, Key Said and Varreny Colassov, 1894, and proteinsteinstein, Key Said and Varreny Colassov, 1894, and proteinsteinstein, Key Said and Varreny Colassov, 1894, and Colassov, 1894, and 1894,

Mountain Time Stations

Eastern Time Stations

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Elizabeth Awad will take part Monday at w H BH, Rrootly, New York, in u Syria program. Toufac Koubeid, also from this romantic country, will play and the plane of the plane of the plane.



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 are against the stations and time tables are stations and time.

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 advauce programs carried by Radio Digest. Practically every station in the contury transmitting wirt 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 little of the control of the co

Pacific Time Stations

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Boundary diector; 9-11, grouram, Glebe lec Cream Konney, Francisco, Calif. (426,5), 11-12 m., church Boundary Calif. (2011), 11-12 m., church Grantis, 6,30 p. m., "What is Playing at the Leca Theory 8,30-10, convert, Mudy Seiger's Foirmont noted orbication.

Monday, March 2

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10; 8.36, Merer Devir Dellerus Stanfard severa erthesters, 7, Somey Jim.
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with AK, Leckport, N. Y. (255.5), S. p. m., Al Uniform, W. W. C., Rev Verls, N. Y. (255.7), 7-130 p. m., sheet program, Bogul orchiteris, 12df-745, hash fully, 245-grant, 10df-11. Trend of the Thints: The Thints of T

Central Time Stations

Central Time Stations

FKU, Lawrence, Mark (275), 8:50 g. m., place central—in rureher 7, musics 715, 7-Tablom, loss of treat Ambient. Productions of received and Dulid Treat Ambient. Production of received and Dulid Treat Ambient. Production of the Tablom of the Treat Ambient of t

SPECIAL SWEDISH PROGRAM AT WOC

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.

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. 1. 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., plano 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 Muslc. Mu Phi Epsilon; address on food and nutrition, Mrs. Nellie Kcdzie Jones.

WHO, Des Moines, la. (526), 7:30-9 p. m., Mrs. Harry Kimball, contralto; Harry Kimball, tenor; Sam Caplan, violinist; Stewart Watson, baritone; Helen Birming-

cbildren'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 Specbt and bis 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, Symphonio 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, Adrlen Blain, oboe soloist; 7:10-7:20, Elsie de Lawrier Harmon, soprano; 7:20-7:30, Cbas. 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 Midnigbt serenaders; 7:30-7:45, Almo trio;

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 or-

Vanderbilt orchestra; 8-8:10, Wall Street Journal review; 8:10-8:20, N. Y. U. Air college; 8:25-8:40, Beatrice Anthony, planist; 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 Krlps, soprano; Lola Harley Weber, mezzo soprano; 4:30, Andrew M. Strang, violinist; 7:30, Dream Daddy's bedtime storles.

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 Sbopping," 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

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.

WOAI, San Antonio, Texas (394.5), 8:30 p. m.l. Warren Hull, baritone; Charles Stone, tenor; Walter Dunham, pianist; instrumental muslc, WOAI trlo.
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, la. (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, III. (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, III. (447.5), 7-8 p. m., dinner concert,

and Mrs. Frederick Burke, duets.

WQJ, Chicago, III. (447.5), 7-8 p. m., dinner concert,
Ralph Wlliams 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 bour,
Ralph Williams, Glnger Man, Skylarks.

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

WTAY, Oak Park, III. (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, planist; Raynor Timme, baritone; George Klopf, planist.



ham, accompanist; Mary Eaton, planist; 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 organisms.

Obligatoes, Ewald Haun; Henry Lange's Hotel Sinton orchestra.

WMAQ, Chicago, III. (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-planist; 9, program, auspices Matsui studio; 10:30, Hospe's Royal Serenaders.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., fashion talk, Charm 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, III. (275), 8 p. m., Ward's six-piece orchestra; 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.

WSP, Atlanta Ga. (428.3), 5-6 p. m., Vick Myers'

WSB, Atlanta, Ga. (428.3), 5-6 p. m., Vick Myers' melody artists; Bonnie Barnhardt's hedtime 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. 1rls Ruth Pavey, director; KOA orchestra, Lewls 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,

Herald, table talk and news, 3.30-6. Brammer 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 hls Louisiana Five dance orchestra.

KFOA. Seattle, Wash. (455), 4-5:15 p. m., Studlo muslc; 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 atories, KGO kiddies' club; 8, Arlon trio; "Present Status of the Fruit Bercrage Industry," J. H. Irlsh; "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 Wurlltzer studio; 6:30-7:30, dinner hour muslc; 8-9, KNX feature program; 9-10, program by Paulals, Inc.; 10-11, Silvertown Cord orchestra, Lillyan May Challenger, apprano, presented by B. F. Goodrich Rubber company; 11-12, Abe Lyman's Coccanut 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 Selger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; Anna K. Blotcky, contraito; 6:30, "What Is Playing at the Local Theaters;" 10-11, Gene James' Rose Room Bowl orchestra.

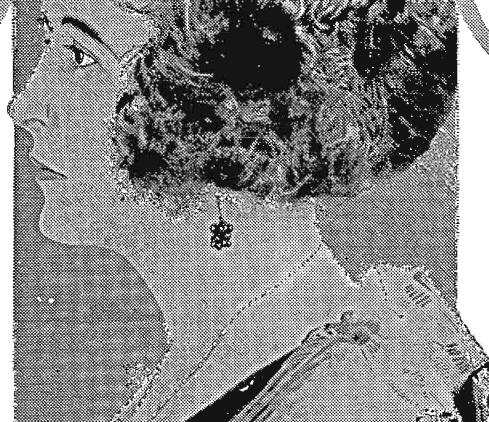
Tuesday, March 3

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; mldnight frolles.

KDKA, E. Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Pittsburgh Athletic association orchestra; 7:30,



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

Twins: 9. Eveready hour; 10, Goodrich Silvertown Cord orchestra.

WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Hotel Cleve-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, plano lesson; 3:50-4, Jessie Moss Berenson; 6-6:30, Uncle Geebee; 9-9:30, "In a Casting Director'a Office," Charles Waltan; 9:30-10, program, Herald-Tribune; 10-10:15, Anthony Pesci, tenor; 11-12, Fred E. Benson's orchestra.

Anthony Pesci, tenor; 11-12, Fred E. Benson's ofchestra.

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

wick hour of music; 11:15, organ recital, Stephen E. Boisclair.

WHN, New York, N. Y. (360), 12:30-1 p. m. Chas. Strickland's Palals 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 Ncw 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. songa, Mark Fisher and Joe Burke; 6:15, Harvey Marburger and his vaudeville dance orchestra; 8, Elliott Lester, dramatic critic; 8:15, Malla 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, planist; Lillian Wood violinist: 4:30-5:30 Bernhard

WJZ, New York, N. Y. (455), 4-4:20 p. m., Fay Milbar, planlst; Lillian Wood, violinist; 4:30-5:30, Bernhard Levitow'a Hotel Commodore Tea orchestra; 7-7:15. "Dogs," Frank Dole; 7:15-8, Joseph Strissof's Hotel

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, III. (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, aoprano; Midway Gardens orchestra; Robert Benquist, reader; Tom Owen's barn dance trio; Finney Briggs, humorist; Anna Fleming, soprano; F. H. McDonald; Fanous 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 bour, 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, III. (370.2), 7-8 p. m., Oriole orchestra: Dan Russo, violinist: Ted Florito. celeste

WEBH, Chicago, III. (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, planist; songs, Kay Ronayne; 11-12, Oriole orchestra; Loos brothers; Nick Lucas; Jack Penewell, gultarist; Frank Magini.

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

Don Bestor Drake dance orchestra.

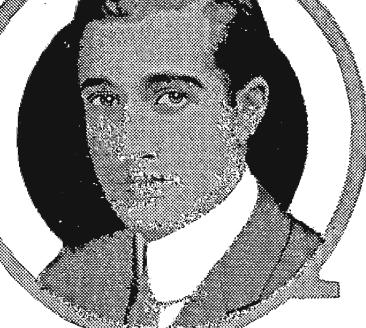
WHAS, Louisville, Ky. (399.8), 7:30-9 p. m., concert, Carl Zoeller's Melodists; chapter of the "Billy and Jane" stories, James Speed.

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

Wilson Higginbottom, director and manager.

WMAQ, Chicago, III. (447.5), 4 p. m., American Red Cross talk, Dr. H. W. Gentles: 4:30, pupils, Knupfer studios; 6, Chicago tbeater 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, planist.

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



Pacific Time Stations

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., Olymple hotel orchestra; 6:45-8:15, Rbodes' 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., Sunsbine 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 Sympbony orchestra; 10-1, dance music, Henry Halsted's orchestra.

KHI. Los Angeles, Calif. (404.1), 12:30-1:30 p. m.

Symphony orchestra, 10-1, stead's orchestra.

KHJ, Los Angeles, Calif. (404.1), 12:30-1:30 p. m., Major and bis 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 ward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories American blstory, weekly visit of Queen Titania and Sandman from Fairyland, Uncle John, Louis F. Klein, Cbarles Leslie Hill, reader; 8-10, program, Mullen and Bluett, arranged by the Radio Philosopher, G. Allison Phelps; 10-11, Earl Burtnett's Blltmore hotel dance orchestra. KJS, Los Angeles, Calif. (293), 8-9:30 p. m., vocal and instrumental program, direction of Prof. J. B. Trow-bridge

KNX, Hollywood, Calif. (337), 5:45-6:15 p. m., musical half hour from Wurlitzer studio; 6:30-7:30, dinner bour program presented hy 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.

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, WŞAI, WSUI.

WREO, W\$AI, 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 cborus.

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 Sumy Screnaders; 10:05, the Volce of Parls; 10:15, Radio talk; 10:30, Paul Specht's dance orchestra. 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. in., chapel services, Columbia university; 4 20 Greenden

(Continued on page

PRESIDENTIAL INAUGURATION

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 friviolous. 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

Central Time Stations
Saturdoy, Pobrusary 32: 8, WDAF,
WALWO, VOC. 8, WCCO: 8:15,
WCCO: 8:30, WMAO,
Monday, March 2: 8, WDAF, 7:15,
KFKU, 7:30, WSAC, KFKU, WHA;
7:45, KFKU

Tuesday, March 3: 0. WDAF, WOAW; 6:50, WOC, 7:30, KSAC; 2, WMAQ, WMC; 6:20, KYW; 8:30, WMAQ; 2:50, 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, KOD. 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, Morch 4: 6:30; KHJ; 7, KFI; 8, KHJ.

Thursday, March \$1 6:30, KHJ; 7:20, Kle1; 7:30, KHJ; 7:45, KHJ; 8, KJS. Friday, March 6: 6:30, KHJ; 10, KGW.



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Wednesday, March 4

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WAGA, Su June, P. R. (2017), 7-9 c. m., Mondrell bland.

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WEBH, Chinese, Ill. (1972), 7-8 p. m., order called their

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nessers 116 Hadio ordestra, William L. Martin, W.W. Diedenard, Ohio (222.3), 6, m. gilmer bur concert, Selfacky instrumental cellulars, Selfacer bur concert, Selfacky instrumental cellulars, Selfacer bur concert, Selfacky instrumental visible, for the concert program. Turnitud instrumental visible, for the concert program. Turnitud instrumental quartet Vivilter Schererer, Frault, and Instrumental quartet WhAQ. Chicago, III, (447.2), 11 a. m. Insuspense (147.2), 12 a. m. Insuspense (147.2), 13 a. m. Insuspense (147.2), 14 a. m. Insus

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Mountain Time Stations

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Pacific Time Stations

Pacific Time Stations

KFI. Les Angles, Callf. (407), 8-45-7 p. m., editelk: 7-7:20, Nirk Harria, detective stortus of life: 7-20-6, program, Goodwin, Klinger and Me 5-0, Evening Feralt Jance ordicates; 9-10. Example Charten Statistical Anna Cross movies program; 1 Particle-Mark dance ordicates, Buty Particle.

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2-10. Ancerlean Boader archestra; 10-11-00, covera-philipona.

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Thursday, March 5

Birsday, Silent night for: CHNC, KFAE, KFOM, KEMX, KFOA, KUX. KOA, KNB, PWX. WAHG, WBAY, WEAG, WEBI, WEMD, WHA, WHAZ. WLBL, WOO, WOR, WOS, WSUI.

Eastern Time Stations

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Eastern Time Stations

ATS, Fort Brupe, N. C. (425), 8 p. m., indrumental and wood, motive: address in linguistic General Albert J. and wood, motive: address in linguistic General Albert J. (FGA, Irenth. Can (250), 11.90 p. m., proclar dense CRAC, Mentred. Can (125), 425 p. m., whose had these societies; 8.30 p. m., conset. Canadian National Lines cocketts; 8.30 p. m., conset. Canadian National CRAC, Mentred. Can (125), 425 p. m., whose had these societies; 8.30 p. m., conset. Canadian National CRAC, Mentred. Canadian National CRAC, Canadian CRAC, Canadian

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WLAU, San Jasan, P. R. (24-77, 1500-5 p. b. center, WLAT, Philadaphia, Pa. 208-5, 11-43 a. m., dally almane, 1276-7 n. m., Sunjey Ibester order, receipt and several control of the sev

Central Time Stations

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West, Erwy, T 9:35, Wh

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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 KLK, Oakland. Eleanor Freemantel (at the piano) is the catch-ascatch-can accompanist of WCCO.

> KSD, St. Louis, Mo. (545.1), 8 p. m., recital, James, R. Keyes, tenor; 10, request program, Vin James, R. Keyes, tenor; 10, request programs, pianist.
> KTHS, Hot Springs National Park, Ark. (374.8), 8:30
> p. m., concert, Department of Arkansas, American

> p. m., concert, Department Legion.
>
> Legion.
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> 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.

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lich, director; 9:30-10;45, artists, Thorpe Spring Christian college.

WBCN. Chicago, Ill. (266), 7-8 p. m., Chicego 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; Casev & Geryais; Mollie LeVelle, soprano; Eddie McPhail, planist; Raiph Norris, planist; Hill, Hirsen, & Gorny; The Three Musketeers; Cambridge Sisters; Casey & Gervais; Mollie LeVelle, soprano; Eddie Shepard, concertino soloist; Dorothy Litchfield, wblstler; 12-1, Ann Williams, soprano; Alvin Fry, tenor; Eddie Sbepard, concertina soloist; Mollie LaVelle, soprano; Ralpb Norris, planist; "Big Boy" Yegle.

WCBD, Zlon, III. (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, planist; Ruth Beem, reader.

WCCD, 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., plano 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.

Lady; Trianon ensemble; 11:45-1, Nighthawk frolic, Plantation players; Eddle Kubn's Kansas City Athletic club orchestra.

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

DIOIS orchestra; songs, Benks Kennedy, Deen Reinker, piantst; Loce brothers.

WEBW, Belolt, Wis. (268), 8-9 p. m., band concert, quartet, vocal solos, Fairhanks. 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 or-

chestra.

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

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

WLW, Cincinnati, Dhio (422.3), 4 p. m., French lesson. Madame Ida Tcimpidis; plano 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, plano-accordian; the Doherty Melody Boys. Doherty Melody Boys.

WMAQ, Chicago, III. (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 progrem, Sam Galberth

hraith.

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

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

WDAW, 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 compeny; 10:30, Frank W. Hodok, Jr., and his Nightingale orchestra.

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

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

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

/SB, 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

melody artists; Bonnie Barnnerdt's bedtime story; 8-9, Ritz Harmony Boys' orchestra; 10:45, Dr. Charles A. Sheldon, organist.

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

WQJ, Chicago, III. (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 bis 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. Brainard, director.

WTAY, Dak Park, III. (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 compeny of California presenting play with music; 9-10, Los Gatos instrumental trio, Carol Blaine, contralto; 10-11, Examiner popular song program, Madelyn Hardy, pienist.

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

KFOA, Seattle, Wash. (455), 4-5:15 p. m., Olympic hotel orchestra.
KFSG, Los Angeles, Calif. (278), 10:30-11:30 a. m.,
Radlo 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 Mc-Pherson, 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.

10-11. organ recital, Esther Fricke Green.

KGO, Dakland, 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 musicele, 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 Bren-

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, telk 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.

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

neture.

KNX. Hollywood, Calif. (337), 5:45-6:15 p. m., musicel helf 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 Am-

Lyman's Cocoanut Grove dance orchestra from Amhassador hotel.

KPD, 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 Rowl orchestra; 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, WDAI, WMAK, WDI, WORD, WSUI

Eastern Time Stations

KOKA, 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 Radio Question Box. Wm. F. Diehl: 10:15-10:30.

Helen Kreutzlin: 10:30-10:45. Fred Ehrenberg: 10:4511:45, dance music.

WBAV, Columbus, Dhio (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; 1, 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,

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; KFI, KHJ, KNX; 10, KHJ; 11, 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,

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

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

Classical

Eastern Time Stations

Saturday, Pebruary 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, WW.I: 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,

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, WCAI.

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,

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

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. Priday, 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, KIS; 9:15, KFSG; 10, KFSG, KPO; 11, KPO.

Priday, 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: Pebruary 28: 7115, WEZ: 8, WCAE: WJZ, WRC: 8:00, WBRR: 8:45, WJZ: 8:50, WBBR: 8:30, WOR: 10:10, WNYC. Bunday, March 1: 8, WCAU, 8:30,

Bunday, March 1: 8, WCAU, 8:30, WBRR.

Monday, March 2: 7:15, WHN; 7:30, WGY, 7:35, WNYC; 8; EDKA, WIP, WIZ, WIZ, 8; EDKA, 8; WIP, 8:10, WJZ, 7:30, WGY, WIN; 7:45, KDKA; 8, WEAF, WGY, WIN; 7:45, KDKA; 8, WEAF, WGY, WIN; 7:45, KDKA; 8, WEAF, WGY, WIN; 10:10, WNC; 8:10, WJZ; 8:10, WCAU, 8:30, WRC; 8; WGB; 10, WJZ; 10:10, WNYC; 10:40, WNYC; WRC, 8:10, WCAU, WJZ, 8:10, KDKA; 8:30, WNYC; 10:10, WNYC; 10:15, WCAU, WGY, 7:30, WIN; 7:45, WGY, WHN; 7:55, WJZ; 8:45, WGY, WGY, 7:30, WSAF, WGY, WHN; 10; WCAU, WJZ; 8; WGHS, WGAY, 8:95, WJZ; 8:45, WIP; 8:30, WHN; 10, WCAU; 10:30, WJZ, WIN; 7:45, WGY, 8, WDWF, WLIT, WJZ; 8:40, WCAU; 10, WHN; 10, WCAU; 10:30, WJZ, WIN; 7:45, WGY; 8, WDWF, WLIT, WJZ; 8:40, WCAU; 10, WHN; Central Time Stations

Central Time Statione

Baturday, February 26: -5, 171AF, WOOW: 7: WOC; 8, WCCO: 8115; WCCO: 8130, WMAQ, Warch 21: 6, WDAF; 7115, MFIL: 7130, KFIL: 7130, KHJ; 7145, KFKU; 7130, WBAC, KFKU, WHA; 7145, KFKU, WHA;

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

WMAQ: 8:60, WMAQ: 11:05, KYW.
Wedneseasy, Marob 4: 8, WDAF;
7:30, KSAC: 8, WMAQ, KYW.
Thursday, Maroh 0: 8, WDAF; 7:30,
KFKU, KFMQ, KSAC: 7:45, KFKU;
8, WGN: 8:15, WMAQ; 8:50, WMAQ;
0:15, KYW.

Priday, March 61 8, WDAF; 8:50, WOC: 7:30, KSAC, WCCO; 8, WMAQ; 8:30, WMAQ; 9, WMAQ; 8:45, WEMC.

Mountain Timo Stations Monday, March 2: 7:30, KOB, Tuesday, March 3: 7:30, KOB. Wednesday, March 4: 7:30, KOB,

Pacific Timo Stations Baturday, Pebruary 28: 8:30, KHJ; 6:45, KFI; 7:30, KHJ; 7:40, KFI; KHJ; 8, KHJ,

Mondey, March 2: 8, KLX. Tuesday, March 3: 8:30, KHJ; 7:30, KNX; 8, KGO, KGW.

Wednesday, March 4

(Continued from page 11)

Attestem, sorrano; 4:30-4:40, Tessic Hoom, planist; 4:40-5, children's stories; 5:1-1, dinner music, waldert assicia hole; 1-7:20, seriece, United Apasague of America; 7:20-7:20, seriece, Elegen, David, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Mina, (418.4), 4 p. m., WCO, Minasagui, St. Paul, Minasag

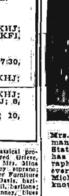
WEAR, Claveland, Ohle (398.4), 7-8 p. m., Hotel Clerk
lind orchestra.

WFI, Philadelphis, Pa. (304.5), 1 p. m., Meyer Davis
Relience Struited centered orchestra; R. Lorsita Kark
plensit; 0.80, Aleyer Davis Hellecue Sirellord concert
corchestra; T. Rumpy J. (316.8), 1.50-230 p. m.,
WOBS, New York, N., (316.8), 1.50-230 p. m.,
Roberts from Dila-Carlion, holal
Baction, interleer, Incortry Herror of the Dality-Millerer
Relience John Culture; 6-30-5:10, Artino de Manierre, 180-11, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10, 180-10

DESCRIPTION OF THE CONTROL OF THE COLUMN STREET OF

diselor.

W.W. Christasti, Ship (42.3), 6 p. m. dinner hour corest, Relinsky Instruments, quintst, 8. Milnor, Instruments, Instruments, S. Milnor, Instruments, Iria, Ciliforni Lear, Johnsti, 8.30, concert. Restitouse, Celles, Empane, Instruments, Iria; flee minute, Isla, "Netional Trifft;" Harry J. Plostedt; 9. concert program, Furniest Insulation company Walter Fabreger, Johnst, Ship, Instruments quarter; Lovic male quarter, 1447.5), 11; m. Insulation company and the concept of th



Eastern Timo Stations

ATO, Fart Sriss, N. C. (433), S. p. im., Instrumental and rocal music, aidness, Reigadire-General Albert J. Bowley, U. S. A. (1988), S. p. im., Instrumental and rocal music subtress, Reigadire-General Albert J. Bowley, U. S. A. (1988), B. p. im., popular dance music, Roctop E. Tilliand his orchestra. Window hotel Stational Control of Chapter (CNIII), 1990 p. m., concert, Canadian National Stational Control of Cont

Fig. 2. 1903. 1. 1907. Heart for WAAP 1. 19. control for WAAP 1. 2. control for WAAP 1. 19. control for WAAP 1. 2. control for water from WAAP 1. 2. control for water fo

Thursday, March 5

nunday, elicot night for CNNC, KFAE, KFOM, KFMX, KFOA, KLX, K5A, K0B, PWX, WAHO, WBAY, WEAO, WEBI, WEBI, WHA, WHAZ, WLBL, WBO, WOR, WOS. WSUI.

Eastern Timo Stations



Dadio extinage, direction Mahot Swint Ewer; 6:30.
Meyer Davis Hellerue Straiford control orthestra; 7.
Sunny Jin; 9. Aiwater Kent concert from WKAP.
W908. New York, N. Y. (315.8), 3:210 p. m.; InferCostitrohn, soprane; 8:20-3:40, start 3:10-209, Pannie
Costitrohn, soprane; 8:20-3:40, start 3:10-209, Pannie
Costitrohn, soprane; 8:20-3:40, start 3:10-209, Pannie
Don J. Sweelland; 3:50-4. Pannie Costitrohn; 8:6-30,
Uniel O celeco; 7:30-8:200, Armand Vessey's orchestrafrom Ditts-Carlion hotel; 8:30-0, play and book rep-30-11, Poorram and Lamplicht; Oliser, Sayler;
Dadio Acc'; 11:30-1-a. m., program, Bussian Eagle
retuurad,
WGY, Schaneerady, N. Y. (379.5), 6:30 p. m., dinner
music, Hold Ten Eyric orchestra; 1:50, isliv on new
looke, William P. Jacob; 1:45, WGV orchesitra;
music, Hold Ten Eyric orchestra; 1:50, isliv on new
looke, William P. Jacob; 1:45, WGV orchesitra;
MRAN New York, N. Y. (360), (2:30-1-p. m., Chas.
Stephen E. Bolicelir, organist;
NNN New York, N. Y. (360), (2:30-1-p. m., Chas.
Strick, Hans Brox. Pablic corporation; 2:35-1, stolin
Stylet, Hans Brox. Pablic corporation; 2:35-1, Sorfine
Stylet, Hans Brox. Pablic corporation; 2:35-10-25,
O'Maria Dardens ballroom orchesitra; 11:11-30, (Connic's
Inn revue: 11:30-12, Lou Holiz and his Wileyam Club
enterstainers.

Secut Inik; play by play, Datmouth-Penn hasketball game; II, Harrey Marburger and his "Yauderille dance orchestra," MAR, Pravidance, R. L. (303.9), 8 p. m., studio presents mr. 9, Titch presentation; 10. Goodrich Silvertown with the presentation; 10. Goodrich Silvertown with the studies of the presentation; 10. Goodrich Silvertown with the wind with the studies of the studies of the studies of the wind with the studies of the studies of the wind with the studies of t

DANCING (Ceetal 7 me)

Salorio, fibruary :28; 5:10, Whit 120, Way 1 9, Chec. Kai, Forn, Wroh. 9:30, Clas. Way 1 10, Keo. Key. Esi, Flora, Weo. Weil, Fish. Web. Wol. 10:15, What 10:50, Whnt 11; Ess. Weaw. Wee: 1135, Way 12, Khi, Kat. Kiw, Tail 1, Kiw.

Wester, Barch 2; 8, Wral, Ref; 9, Kpo; 9:30, Rth. Klx., Wahe, West; IL. Wahe, Kgo, Kth; Wah Wol; 10:50, Work; Il. Wahe; 12;

Totalin, Morch 5, 8:39, Widel, May 9, Kpo, Webb Well who, Wosw;

Westerning, March 4: 8, Wester 4: 8, Wester 5: 8, Whon; 9, King, East Wish, Wester 9: 90, Who; 10, Kin, Feet, Wen, Wan, Wester 10, Kee, Man; 12, Kee, ED, Kan.

Thursday, March 5: 8.
Why 125 The: 9 Kpo.
Why 125 The: 9 Kpo.
Why 125 The: 9 Kpo.
Why 125 The West 10: 00: 00
Why 125 West 10: 00: 00
Why 125 West 11: 00: 00
West 125 Kps. Epo.

Disnist.

KT HS. Net Springs National Park, Ark. (374.6), 8:50 p. m., concert. Department of Arkansas, American P. M. C. (185.6), 120.8:20 p. m., concert. Department of Arkansas, American WBAP. Fort Worth, Tex. (415.6), 120.8:20 p. m., concert. Texas Christian underestly, Prof. H. D. Ousleh, director 9:30-10:35, attist, Thorpe Spring Carlellan college.

WBCN. Chicago, III. (286), 1-6 p. m., Chicaro miaed WBCN. Chicago, III. (286), 1-6 p. m., Chicaro miaed Gurriel. Helm Irvin. Disnist. J. Fortes, leaver of the Company Sandton, 19-14, Kimer Jordan, Larry Loser, 19-15, Kimer Jordan, Larry Loser, 19-15, Kimer Jordan, Larry Loser, 19-16, Kimer Jordan, 19-16,

Nient, "RHL; 10:11. Don Restor Diske dance for chests.

WAAS. Leulvilla, Ky. (139-83), 7:36-9 p. m; renert; auspices livs. Hobert K van Pell.

WHO: Oes Meinet, la. (335), 11:42 midnicht. At Levich and his Serrander Carlotte, p. m; renesh ferson WLW, Clarisaatt, Ohio (422-1), d. p. m; renesh ferson WLW, Clarisaatt, Ohio (422-1), d. p. m; renesh ferson WLW, Clarisaatt, Ohio (422-1), d. p. m; renesh ferson Status, Carlotte, Carlotte, Carlotte, April, Status, Carlotte, April, Status, Carlotte, Carlotte, April, S. The Paulon Phy; 10, three-minute measare, Visit Service Department of United Salets Correnament; 10:03, convert program, Cooper emporation; Paper orchettra, male quarter, Larry Drutte, plane according the Deherty Mclody Borston, Carlotte, Salets Correnament, Carlotte, Ca

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

Pacific Time Stations

Brain, Medical Review of the Resident popular song propring, Medical Review Medical Review Medical
RFOA, Seattle, Wash. (655), 6:3-15 p. m., Olympte
New Medical Review Medical Review Medical
RFOA, Seattle, Wash. (655), 6:3-15 p. m., Olympte
New Medical Review Medical Review Medical
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Friday, March 6

ed Chicago lecture; 2 15, Scotch program. Sam Galantillo.

Managhla, Tenn. (297.7), 2 23 p. m., organ rate of the Managhla, Tenn. (297.7), 2 23 p. m., organ rate of the Managhla, Tenn. (297.7), 2 23 p. m., organ rate of the Managhla, Tenn. (297.7), 2 23 p. m., organ rate of the Managhla, Tenn. (297.7), 2 23 p. m., organ rate of the Managhla, Tenn. (297.7), 2 23 p. m., other medic, Jimnie-Joya Bottland, Charles of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the Managhla, Tenn. (297.7), 2 23 p. m., other medical points of the

Index to Popular and Classical Concerts

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

Fastern Time Stations

Datarday, February 28: 0:35, WNVC; 7:30, WIIN, WNVC, 8, WFI, 8:30, CKAC, WIIN, 15, WOR, 11:15, WIIN,

WIN, 16, WIN, MONRY 1918, WOVE 708, WAIG, WELF, 7130, WITY, WIN, 8, WELV, WEEL, WLIT, WMAR, WOO, 8,30, WAIG, WAIG, WEEL, 9,48, WAIG, WIN, WOR, 10, WEAF, 2, WELF, 212, WIN,

Tussday, March 3: 7:50, WERL: 7:35, WNV!', 7:45, WERL: 8, WCAR, WKAQ, 8:30, WIME, WKAF, WFILS, WELLS: 10, WHN; 11, WHN; 11:15, WHY.

Wednesday, March 4: 7, Willi, WGV, WHN, 5, WLIT, WOO, WWJ; 10, WWJ;

Central Timo Stations

Saturday, Patroary 981 8, WMAQ; 7, WHCN: 7:80, WLS; 8, KYW, WHCN: WMAQ, WOS; 6, WMHI; 8:15, WSA; 10, WHCN: WEBH; WQJ; 11:30, WQJ; 21:40, WDAF; 19, KYW, WHCN, WQJ; 1; WQJ;

Thorsday, March. 5: 0:30, WdY: 7, Wlin: 7:30, WkAQ: 7:45, WdY: 8, Whin: 8:30, WkAQ: Whin: 8:20, Whin: 10, Wffi: 11, Wlin: 1130, Whin: 1145, WJZ: 10, WMAK

Triday, March 61 7, WEILJ, WGY; 7:45; WEILJ 9, WEAF, WHY, 6:30, WEILJ 8, WAILJ, WCAL, WEAF, WGY; 9:30, WLIT: 10:20, WEAF, 10:30, WAILG, WGY; 11; WHX, 19, WHX.

Toseday, March 3: 6:30, WTAV, M.
WHO. WSh. 9, WHO.N. WIND.
WOJ. 10:45, WSh. 11:43, WHAT.
WOJ. 10:45, WSh. 11:43, WHAT.
WHO. WUJ. 1. WJ.
Wednesday March 4: 7:30, WHAT.
WHO. 8, WHON. 0, WHON. WHOH.
WHO: 9, WHON. 0, WHON. WHOH.
WTAY 0:30, WTAV. 10, WJJ. 10:30,
KYW: 11, WEIHL, 10, WUJ. 10:30,
KYW: 11, WEIHL, 10, WUJ. 12:35;
KYW: 1, WJ.
Thursday, March 5: 6:30, WTAV.
8:30, WFAA. 9, WHOH. 10, KAW.
WHO. WJJ. 10:30, WHAT.
WHO. WJJ. 11:45, WHAT. 16,
WHON. WJJ. 11:45, WHAT.
TIGAY, March 0: 6:30, WTAY 7,
WHON. 8, WHON. WJD. AWITE.
0:30, WFAA. 6, WHON. WJD.
WHON. 10, WJJ. 11:45, WHAT.
WOAW 10, WJJ. 11:45, WHAT.
WAR. WJJ. 11:46, WHAT. 19, KAW.
WOM. 10, WJJ. 11:47, WHAT.
WOAW 10, WJJ. 11:48, WHAT.
WOY. 11:48, WHAT.
WOY. 11:48, WHAT. 19, KAW.

Mountain Time Stations Monday, March 91 B, CF C. Tuesday, March 31 7:45, CPAC.

Pacific Time Stations

Tuesday, March Jr B, KFI, KNN, KHJ, 10, KFI, KNN, Wedusaday, March 41,7130, KFI, B, KNN, 0130, KILL, 6, KFI, KNN, 10, KPO

WIY

Priday, March 8: 0, WEAP, WWIY

B:30 W/AL WFL WIIN: 7, WIY

WJZ, 7:48, WEAP, WIIN: 7, WIY

WKEI, WWI: 8:50, KIKA, W UP;

WCAP, WIY: WNY; 8:30, WAE,

WEEL 8:48, WIY: 10:03, WOO.

Saturday, February 201 0, WHCN, WINN, WHNE, St.15, WTAY, 9:20, KPNF, WINN, WTAY, 8:45, WOAW, 7, KYW, KERI 7:20, WHAN, 9, KRP, WG WASAI, WEIL 8:30, WCCO, WHC W.W.S. 8, WMAQ, WCO, WCC, 8:35, KYW, 11:30, KTW, 12, WCAI

Wednesday, March 41 9, Killy Triday, March 6, D. KOA, 8(10,

Hattiday, Tehritary 69; 10, KNN-10, KPU, 11, KNN, 19, KIL Sunday, March 11, KIL, 1, KNX, Mooday, March 51 B, KIL KNX, 9, KPU, KILJ, KNN, 10, KILJ, 11, KILJ

Thursday, March 51 7:30 KF1, 0, KF1, KH3, KNN, 9, KF1, KNN, 10, KF1

Eastern Time Stations

Central Time Stations

Eastern Time Stations

Baturday, February 291 0, Will.
WCAE, WELL, WELL, WOIL, 0300, WOAE, WILL, WELL, WOIL, 0300, WCAE, WELL, WILL, WQJ; 9:15, WCCO; 9:35, KTH),

| W. CAE. W. W. C. 11115, W. W. C. 11165, W. W. C. 11115, W. C. 11115, W. W. C. 11115, W. C. 11115,

Pacific Time Stations

Balarday, Echimery 201 6, Kill;

6:15, KNN, 7, 4(city, 0, Kill) 8:30, Kill, 0, Kill, Kill,

CAST WEDNESDAY FOR FIRST TIME

COA. OA; 8:10, 8, KNX;

; 9, KNX. IJ, KNX; KHJ; 11,

FI, KNX,), KFI; 8, KNX; 10,

, KFI; 8, KNX; 10,

KLX; 8,

, KTHS,

, WMAQ, A, WGN, D: 7:30, 3, WCBD,

LQ; 9:30, A. 5, WGN, F, WGN, WEBH, C, KYW, WEMC; S, WHA, WSB; 12,

WEBW, S, WFAA, W; 9:15, P; 10:03, V; 10:45,

V, WLW, N, KFNF, OAW; 7, WHAS; N, WHO, MC; 9:15, WSB.

ons OA. 7.

> 15 6, KHJ; GO: 8:30, KHJ. JS; 6:30, IX; 7:15, 0, KFSG;

LX; 6:30, KPO.

KHJ; 6:30, AGW; 9, KFI; 10,

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.

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

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

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

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

. 8,

9:30,

ahg; 0:30,

Vcco. Khj.

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 asw; 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; 10:4511:45, dance music.
WBAV, Columbus, Ohlo (293.9), 8 p. m., Dispatch
concert, Alma Borneman's Chittenden hotel orchestra.

(Continued on page 14)

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,

www.americanradiohistory.com

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TABLE FOR MAKING TIME TRANSITIONS 1 2 3 4 5 6 7 8 9 10 11 12 Eastern Standard Time |12| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 Central Standard Time 1112 1 2 3 4 5 6 7 8 9 10 Mountain Standard Time 10 1 1 1 2 1 2 3 4 5 6 7 8 9 Pacific Standard Time

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 15)

WCAE, Pittsburgh, Pa. (461.3), 6:30 p. m., diamet cor nert, William Peun hotel; 7:36, Uncle Kayben; 8:36 p. mahe quartet; 9:30, concer

New York, N. Y. (233), 7-7:45 p. m., Trant-7:45-8:16, Keil Barmonica band; \$20-9, G.

Well. Am. V. V. K. V. (233), 7-74 i. b. m. Chamistics of Ad-213. Action 1. Total on the Chamistics of Ad-213. Action 1. Total on the Chamistics of Ad-213. Action 1. Total on the Chamistics of Ad-213. Action 1. D. t. M. Sweet D. C. Williams and Chamistics of Ad-213. Action 1. D. t. M. Sweet D. C. Williams and Indian concert for Sp. Attent fixed between the Chamistics of Sp. Attent fixed between the Chamistics of Advanced Chamistics of Chamistics of Chamistics of Chamistics of Chamistics of Herwitz Bank, Name 1. 345-320. Co. Chamistics Bank, Name 1. 345-320. Chamistics Bank, Name 1. 34

cert. WNYC. New Yerk, N. Y. (525), 7:35-7:50 p. m., resume of meeting of Board of Estimate; 8:30-9:30, represent programs. return of meeting at Board of Estimate; \$13,992.00.

Op. Philastehin, Pa. Chr. 5, 145 p. m., organ reclaid, Mary 2, 1641, 748. A translated sementic
claid, Mary 2, 1641, 748. A translated sementic
claid, and the sementic of the sementic
claid, organ carried, being E. Wast, 1950, Vincon
Hittory Zush, Franch dense ortherra,
(Wi. Berril, Walt, ESS, 7), 6 p. m., dinner concert;
3. congram, Walt, P.

Central Time Stations
KFDM, Beaumont. Tex. (315.8), 8 p. m., Refinery band KF 100ff, Shallbeau, 1 etc. vol.000, F B. B., security some KF 14F, Shengadah, 11. (260, 529 p. B., lift priced revenentry, Mary Ruth Cherry, director, 100 p. B., Bocker, Russ WGN, Chitzgs, 1th. 1760, 1-9 p. B., Bocker, Russ Resulter, tener; Damelhy Fergusen, xylophoniat; 30 g. Bocker, Lee Brarelle, and another, Melhary Gardas convector; Edm McGuffn, stellar 5-10, W. G. Wenner and company; 18-1055, Mildrey, Gardas in Program of the Company; 18-1055, Mildrey, Gardas in Program of th pril or and company, (*) 1875. **

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Walchungs, III. (379.2), c p. m., segat rectal, Lyon & Reght, edge, three concert, Dries concert, Lyon & Reght, edge, three concert, Dries concert, Preset, 19-11, bon Berter Leide dance orbitally WHA, Mackins, Win. (353.4), 139 p. m., Wiscontine WHA, Mackins, Win. (353.4), 139 p. m., Wiscontine Concert, terra, Aud. Lespold, 199. sequence of the concert terra, Aud. Lespold, 199. sequence with a sequence terra, but Lespold 199. se

Rapp's subbates.

16. Des Moines, Ia. (528), 7:38-9 p. m., Bernis Well, planist; Auß Johes, cornellet; High Irwin, planist; Amonné Péta Americas Lerican Basic Nicola. Mary Baugh Williams, scorgano; Eart Williams, segrano; segrano; Eart Williams, segrano; segran

secrement and virtuality. Joseph Herioglobus, 1841 (1988). A Gonth, N. Nari, 5281, 6 n. n., 4007 blor: Darie Galler, School, School, Nari, 5281, 6 n. n., 4007 blor: Darie Galler, School, Frank, William, Frank, Fr

Beers Baye, Lawr. Billey West Students and Company of the Company

Schle, merclet Segranty, Mr. and Mrt. Nyer & Mallene.

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Mountain Time Stations

KOA. Desert Case (5224), 8 m. a. Fed Edunit and his Nation Case (5224), 8 m. a. Fed Edunit and his Nation Case of Case (524), 8 m. a. Case of Case of

Pacific Time Stations

to." 3. C. Kinder. Privat Servis, H. S. D. d.

For a Carfie Time Stations

KF1. Les Angeles, Gelli. (467), 2-126 p. H., Westley

Hersh, Time Laif, J. H. W. J. J. 126 p. H., Westley

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DEVICE "SMELLS" LEAKY GAS PIPES

Principles of Radio Applied in Electric Devining Rod Now in Use

Now in Use

NEW YORK—Teaching up roadways and sidewalks in an attempt to locate leaking and maintenance of gas, will seen be almost a thing of the past as the result of a new invention which applies the principles of the Bodio to this work.

Mains smal pipes are found by what times 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 see up a coil of the coil will be similarly interrupted.

If the current is given free play it will similarly interrupted.

If the current is given free play it will be similarly interrupted.

If the current is given free play it will be similarly interrupted.

If the current is given free play it will be similarly interrupted.

One of the play it will be considered the current in the bed received the play it will be comes yet yet plays. Once directly over the play the sound stops entirely.

JACK BARKER GIVES KYW CLEVER TUNES



Jack Barker

ACK Barker, who

JACK Barker, who Jalays the leading role in "No. No Nanetta". The Marker is the leading role in "No. No Nanetta". The Marker is the late of the leading to be seen as teady broadcaster at Westing house Station KYW.

Beside be in g a headther of the continuous stage he deptiment stage he headther of the headther of the sheet. Mr. Burker, whose home is in Knause, is a member of Signa Chi fracernity all Northwestern university, western university many thousand riends claim him as city."

Jack Barker his many thousand a "bit o' the windy city."

Without mentioning other of his theaterical associations, it is received that the city of the control of the cont

Fine Southern Amateur for Maliciously Interfering

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 of the court at Know and the contract was established that electric maposition of a fine of the court at Know and the court at Know

Morning Broadcast Nearly Starts Riot

Honolulu Gets Oakland So Loud It Wakes Neighbors

OAKLAND, Calif.-Such is the power

OAKLAND, Call—Such is the power of Radio that while entertaining Japanese insteners. Radiophans in Australia. New Zealand and Tasmania, a recent early morning broadcast from LGO nearly nearly and the stream of the station. The report of the station. The station of the station.

KFNF Makes Additions to-Studio Broadcast Service

Studio Broadcast Service SHENANDOAH, Iown.—Owing to the locrease in telegrams received at Station KFNF, the local Western Union magner has installed an operator at the station throughout the day to handle the traffic operator is always on duty.

To kelp improve the weading outliness a little, Station UFNF is offering the services of the Radio chapital to anyone wives of the Radio chapital to anyone who wants to get married at the Henry Field Seed company studio. This is a chance chapter of the services of the Shenndoah, we will be served to the services of the Shenndoah.

Claims Toy Electric Train Creates Radio Disturbance

GRAND JUNCTION, Colo.—Is the toy electric train making fife mysprable for the Radiophans in this city?...
Lawrence Bothwell, president in the Read County Radio association, cledims much of the noise which is bothering the electric trains.



Radio Digest Publications Military and the company of the contract of the contract to the contract of th

order, stamps or currency to

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:

∆ =59.6 VLC

in which $\Delta =$ 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:

$$L = \frac{\Delta^2}{3552C}$$

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 Nº1

WAVE LENGTH RANGE 190 TO GOOMETERS

C = 250 mmfd. = .00025 mfd.

 $L=.40 \, mh.$

DIA.OF TUBING	31N	CHES	3½1N	ICHES	4 INÇHES				
WIREB&S	LENGTH OF NUMBER WINDING OF IN INCHES 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			
55	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

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 as in most cases this can be determined then the wave length ratio is determined by using one-eighth as many turns as 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, While condenser design is constantly 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, 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:

$$L = \frac{.0002 \text{ A}^2 \text{ N}^2}{3\text{A} + 9\text{B} + 10\text{C}} = \text{induct. in milhen.}$$

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: 11plate = .00025 mfd. or 250 mmfd., 13-plate = .00025 mfd. or 250 mmfd., 17-plate =.00035 mfd. or 350 mmfd., 21-plate = .0005mfd. or 500 mmfd., 23-plate = .0005 or 500 mmfd.

Use Table 1 for .00025 Mfd:

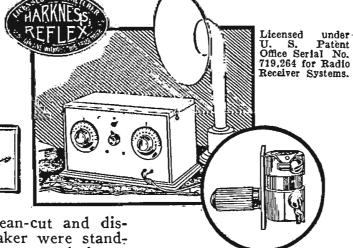
Using a condenser of .00025 mfd. capacity, and applying the two formulas given, it will be found that an inductance yalue of .40 milhenries is required. The table worked out for this capacity allows the choice of six different sizes of wire and three sizes of tubing, thus giving the experimenter considerable 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)

very word as clear as crystal



EACH word clear, clean-cut and distinct, as if the speaker were standing at your elbow. Just one unit is responsible for the Reflex's well-known tone clarity. That is the crystal detector. You will find it in the Shamrock-Hark-

This signature -

Knneth Harres

makes it genuine.

ness Two Tube Reflex, the set which combines the outstanding features of the

leading circuits.

Save half the cost of buying. Build your own. The Shamrock kit contains all parts necessary to build this marvelous set, including full directions simply told. Enjoy the best radio in your community. Before building your set, mail coupon below for "Shamrock Radio Builder's Guide Book."

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The Wonder Set \$3950

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The set for the masses as well as the classes

Licensed Parts The Shamrock Kit contains only these genuine, guaranteed parts. PRICE

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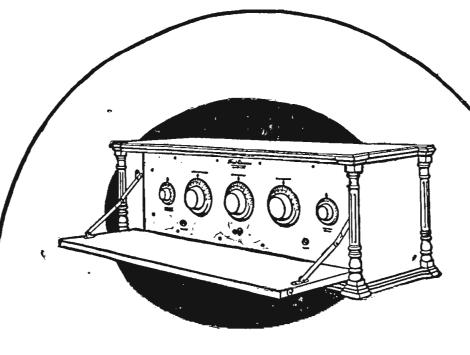
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SHAMROCK MFG. CO., Dept. 25-C, Market St., Newark, N. J.

Please send me a copy of "Shamrock Radio Builder's Guide Book" containing diagrams and complete instructions for building 10 sets at prices ranging from \$15 to \$50. I enclose 10 cents (U. S. stamps or coin.)



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There is a very good reason!

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Vol. XII Chicago, Saturday, February 28, 1925

Less Stations and Better Radio

THERE are many complaints coming to us about I the close proximity of station wave lengths. In order to make room for additional statious meter wave lengths have been arranged so that there is but a fractional difference between many of them. The result has been that the order of the stations very frequently come in together, bluffing and spoiling the reception. Very selective receiving, very selective revening sets are needed in order to catch a variety of programs.

Not so many broadcasters and more widely sep-

order to catch a variety of programs.

Not so many broadcasters and more widely separated wave lengths would be futuch better. If a Radio listener were to tune in 64 one hundred programs a tight 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 nettrainment for conntless married people who cannot get away from home because of small children and it cheers the agod and juffrm. 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 bis home completed every detail for the purchase even to the Radio quality of the vicinity. A receiving set was placed on the lot and aerial set up. After proving to his satisfaction that the locality was good for Radio the deal was completed and the house build.

It mes, dn chauge. Once it was a good spring or a

Times on 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 lairly 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 beavent 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 night unmake nature.

Radiophone Supplants Letters

PRIVATE conversation has been carried on hetween 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 8BE1 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 1bing of the past.

A log has been kept and this has given the infor-nation that during rain storms, when the antenna and counterpoise are wet, hest reception is had. These amateur stations have also given effective, serv-ice in emergencies when wire communication was interrupted.

Increased Use of Radio on Farm

ROM a survey made by the department of agri-culture 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 set used in farm homes. The Radio market news developed by the depart-ment 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 agriculture conditions, both of which are a great aid to the farmer.

RADIO INDI-GEST

"The Land of a Million Smiles 'Way Down in Arkensaw

Dedicated to Gec. D. Hav

Say Jedge, you are a daisy,
You've got us nearly crasy,
Us ladles and Aunt Mandy
Sey you've got the cand Mandy
Sey you've got the candy
And all other lads bent a mile.
Stopl and book and listen that's the latest law,
At every railroad crossing, way down in Arkansew.

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 trickiln' Down in the old wood lot.

Now please don't think me silly For writh you this note. For writh you this note. You've surely got my goat. And Ma says you're the wbiskers That growed out on the rat. And Fep says you're the yammer-yams And icts it go at that.

Off times in the stilly night. We hear the old train thumpin', And we seem to see the old headlight And the rear end jest 2-humpin', And then the hell goes Ung-a-ling, We know there's something humpin', Turn on the steam and everything For joy is in the coming.

Lasi night the frogs were singing, Down by the Old Mill Stream, And the Burgle bugs were dinging, On a play for the silver screen, And the shedows, soft and teastn', Played 'round our cabin door. And then the train kept a -weezin', Just az it did of yore.

And when you're sailing in the blus, My soul for you is plaing. The roughest hearts are sometimes true, Pure gold needs no refining. And when the old wheals cease to move And the steam refuses to rise, May all your Joya and sorrows, De wafted to the skiea.

Old Dear, I fain would leave you,
Don't think I'm getting raw.
But a corn-led fan now loves you,
Way down in Arkansaw.
When your old train goes a-tootin'
Out in the Carrk wilds.
Please dou't forget your "snookem"
In the "Land of 2 Million Smilog."
II ARRY A. RIFCADES.

Radio Degeneration

Radio Degeneration

A SKORT STORY

By Raymon Martin

The new Radio Ry Raymon Martin

The new stationa continued to some in, and load enough to be heard for a block. Now Denver, Chleago. Pittsburgh, New York. And then—yes, it was RZUY, Manila, P. I. A broad emile of salisfaction covered his face as he turned up the amplification and settled himself more comfortably in his chair. There was been completely out "Strange." he said sotily as he began an awkward turning of the dials, the was a new fan), "they were plain as day." He continued his manipution for some time, but all was subst-except, perhaps, the man for the examined his service to the continued of the continued his maniput. A little later the man in the apartment above, sighed. A little later the man in the apartment above, sighed, a mighaby's acrial lead to the recisived in his come had been great as a promoter of restful and undisturbed sleep.

sleep.

Walla Walla Expedition

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 lass
to understand the meaning of such a thing.
From advices received tonight, it was learned that
the "Kanoohis" had reported to several statious to he
on the lookout for signals from any pirate craft.
Emergency measures will be taken to rush immediate
relief to the stricken slipi fit can he located.
Any reader hearing word of the "Kanoohis" 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 unifoced regenerative complexed de luxe superbetraneutrapticultradyne. My eliminated on my set?

A.—Sure, very easy. All you have to do lis to disconnect your A battery leads from your A battery and connect them to your 110-voit light scoket, and the state will discoper allogerator. W. O. A. LOT.

Mr. Kaltenborn's Prophecy



Condensed By DIELECTRIC

There is no question as to the importance of WOAW to a large number of the regular Rādlo liverenes and it is to be hoped that the changes in where length of some stations will increase the number who may tune in the Woodmen station. It confess to infrequent visits but am not guilty of intentional slight.

WCCO engages a program director who hastles after the interesting features. Each time I have tend 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 also 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' some, While these are not so transparent as rome, Iew 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 limit was the steady chatter of men and women unmitted in "us millions." After the opening strains of the orchestra the tardiness was forgiven. Before that there was chatter at bone, as well as abroad.

In listening to the songs with piano accompanincul you will notice how "hoatse" many of these pianos have become with use. Even in the studios of several of our largest statious room is given to these diseased instruments and their rough tones are set before us without any intimation of upology. WEAR could have ruined (but didn't) the playing of a Chopiu not turne and scherzo had they possessed such a piano. Especially in that composer's music must one have a good instrument. 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 Ihis country. The Victor and Brunswick concerts are unique. KDKA added much to or pleasure when it broadcast the Minneapolis symphoby orchestra concert. orchestra concert.

WHAZ ordinarily introduces to its audiences talent of standing and programs of merit. That they should stip once in a while is no more than should be expected. Perhaps we should be willing to make some allowance for the Remselaer high school orchestra. We do; but why not wait for a little further drilling before addressing Mike or.

Did it Strike You D-U-M-B?

Dear India One evening during lest summer 1 was literary in the audion to which you litere, by the rapid succession of ordertra numbers with no amounteement between literaries in the account to the state of the

1

Hetduogen Builders Getting Splendid Results

Range, Volume and Quality Praised

THERE is no question but that the Hetduogen requires unusual care in ment 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 knockout 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 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 finally completed, having attached a 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 construction, a great deal of adjust- 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.

> 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 ampli- a dozen disc records and about % pound fication with a model R 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,

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 and I am tickled pink to know that I 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 - 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 get- 23-plate down to get the .00015—and it ting distant stations. I have logged such worked fine. 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 Handy, 134 Summit street, East Providence, R. I. 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 threeplug coil set, together with a few parts from an old -- receiver, half

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 any thing 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

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.

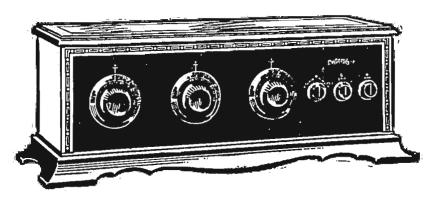
Being situated pretty far north as compared to the location of most of the U.S. broadcasting stations I thought perhaps my experiences and success with this set in the tests equipped above might be of interest. The first kick came when the set worked without further adjustment than that of the second 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)

KENNEDY

THERMIODYNE ULTRADARE

MURDOCK

QZARKA



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.

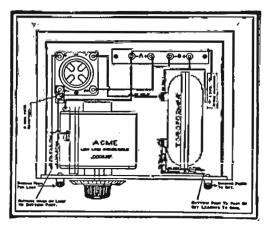
The Deresnadyne is not a Neutrodyne. It is not a Heterodyne. Based on a new principle—that of Deresonation—it is unlike any other set on the market, both in principle and results. Buy it at your dealer's.

De Luxe Model \$165 without accessories

DEALERS: Order through your jobber. JOBBERS: Write to us.



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Attachment furnished complete on Panel for \$22.00 Or in Kit form for \$18.00

full size drawing of the separate Toroformer Attachment Unit is available for 25c postpaid.

Overcomes Local Interference Gives Greater Distance Increased Selectivity

Vastly improves any Reflex or Radio Frequency set, such as Acme, Murad, De Forest Reflex, Powr, Erla Loop Aerial Sets.

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Toroformer with printed diagrams and hook-ups.

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DIA.OF TUBING

GUAGE OF

20

22

24

26

30

 $L = .20 \, mh$

WINDING

IN INCHES

1.9

1.45

1.15

.95

.8

4 INCHES

LENGTH OF NUMBER

OF

TURNS

41

38

37

36

34

CHART Nº2

WAVE LENGTH RANGE 190 ™ 600 METERS

= 350 mmfd.=.00035 mfd

CONDENSER VALUES

(Continued from page 15) inductance of .39 milhenries to cover the wave length range of 190 to 600 meters. Though condensers of .0005 mid. capac-ity are not in general use in tuned Radio frequency circuits, there are undoubtedly

frequency circuits, there are unnouncedly many experimenters who have condensary of this value, and table number 3 will permit their use in the designing of ef-ficient circuits when the colls are to be used as turned Radio frequency trans-forms, curved for single circuit, double forms, or the control of the control of the production of the control of the control of the and ways molecular the sets, wave traps

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 jutermediate frequency transformers.

frequency transformers.

In winding the coils the wire should be kept taut to keep all knots and sanatis 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 shellar, collotion or their liquid man of thoders of any soft

or other liquid inders to keep the whree his 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.

and wave meters.

L= .29 mh

L	C 4 330 Milliu: - 30003 Milliu: - 2 12 12 1									
DIA OF	311	3 INCHES 3 1 INCHES			4 INCHES					
	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	8.5	64	2.4	55				
55	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				

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 siphabet having a similar source Fadio.

For instance, the letters C. B. D. E. P. T. V and Z are not easily distinguishable

T, V and Z are not easily distinguishable over Radio.
Thus, for Zion, Illinois, whose call leters are WCDD, the numerals 23-2-4 should be announced immediately after the call letters.
Bach listener can have a consecutively numbered alphabet to which to refer and few mistakes will then he made insolar as identification of stations is concerned. Deleve this day is of the control o

As I have a vary selective five tube neutroff have a vary selective five tube neutroff have a vary selective five seeken fully clarged I must say the trouble and annoyanes with interference is not so much statle as it is cougestion. I have too many stallows on the air at the same time. The hest 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 misterested in domains experient them sain, so many stations are so must stay up until the same time, and the stations make spalls all reception. The stations make spalls all reception. The stations make spalls all reception. The stations make spalls all receptions we must stay up until the stations make spalls all receptions. The stations make spalls all receptions we must stay up until the stations make spalls all receptions. The stations make spalls all receptions were must stay up until the stations make spalls all receptions were made to the stations make the stations and the stations make the stations are so interested in domains expressive set to people with means when they until the stations make the stations are so interested in domains expressive set to people with means when they until the stations make the stations are so interested in domains expressive set to people with means when they until the stations make the stations make the stations make the stations are so interested in domains expressive set to people with means when they until the stations make the stations are so interested in domains expressive set to people with means when they will be set to be stations and the stations are so interested in domains expressive set to people with means when they until the stations are so interested in domains expressive set to people with means when they until the stations are so interested in domains expressive set to people with means when they until the set of the stations are so interested in domains expressive set to people with means when they are so interested in domains expressive set when the stations are so interested in domains expres

C=500mmfd = .0005 mfd.

3 INCHES

61

55

51

47

45

44

LENGTH OF NUMBER

WIREBES WINDING OF D.C.C. IN INCHES TURNS

2.65

1.95

1.55

1.2

1.0

.8

Tibblis, Nebraska City, Nebraska Division Works (Richard Work Annual De Waigs (Richard Work — New January 31 has "Dittarts," willing a de "Gaugest" of Column on the deligation of the Column of the C

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CHART Nº3

3 INCHES

ÔF

TURNS

51

46

43

41

40

36

LENGTH OF NUMBER

WAVE LENGTH RANGE 190 TO 600 METERS

WINDING

IN INCHES

2.2

1.65

1.3

1.05

.9

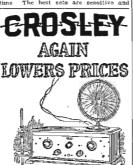
.65

Can you advise me why it is that Radio firms are so litterested in domaing expens-

there is?
Why don't they make these docations to the poor, who would really appreciate the sift? It would not be necessary to give the poor an expensive set to make them happy, either, At least filteen or twenty families could have been made happy for the price the expensive set, recently given one of nur high federal officials, must have cost—A Reider.

Arrangement of Binding Posts

Arrangement of Dimoing, rosts
If a Radio set is so built, that the
hinding posts are arranged sling the
buttom edge of the panel it is a good legbuttom edge of the panel it is a good legto raise the cabinet about 1 set. above
the table by weans of small rubble; jobs
The wire leading to the post on them
be run beneati the cabinet and out from
the back, thus keeping them out of sight.



Big Reduction in Famous TRIRDYN and other Radios CROSLEY TRIRDYN SPECIAL

CROSLEY TRIRDYN SPECIAL
THE biggest selling high
grade receiver on the market—the Crosley Trirdyn—reduced from 955 to \$50.
The Trirdyn Special—the beautiful
Model with Cabinet to house batteries—
formerly \$75, now \$50.
The Crosley 51-P, a tremendous seller
as \$25, reduced to \$25.50.
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 \$50. There is a
Crosley to suit every taste and pocket-Crosley to suit every taste and pocket-

Before You Buy—Compare Your Choice Will Be a Crosley Most Good Dealers Handle Orosloy Radios As is customery prices needed do not include on the loud speaker, phonos or batterias, All Crastey Radios Are Licensed Under dynastrong U.S. Patent 1.13.499. Prices West of Rockies—Add 10 per cent.

The Crosley Radio Corporation POWEL CHOSLEY, IR., President 2404 Sassafras St. Cincinnati, O. Crosley Owns and Operate: Broadcasting Station WLW

Prices Reduced The "Goode" Two-o-One





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Detector-Amplifiers 5.50

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Send express or postal money order—New York draft—or orthonal check to—

The Goode Tube Corporation Owensboro (Dept. A) Kentucky

FRANCE No Bulbs No Acids No Sticking or

Sparking Contacts

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NOUTHS.

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CAN BE CHARGED IN SELIES. No
form or Irogine. Inst moment the Quarter
form or Irogine. Inst moment the Quarter
ibe current. Simple—Society and Emiciant. The Prives Super-Larger attagate the battery is charged and private the private of the private

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OFFERS 9 ADVANTAGES

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- sisectrostatic field.

 3. Screw all the way through rubiner, adding tremendous strength.

 4. Dustproof shield on stator.

 5. Two-hole mount with sharft hole
 in same line making drilling of
 panel easy.

 6. Heavy Die-cast end plates.
- Adjustable rotor and stator in suring perfect alignment of plates at all times.
- Dur-aluminum plates dis-cast in rotor and stator, reducing resist-ance to minimum.
- Pigtall connection to rotor means perfect electrical contact.

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Price \$4.50 OFALERS and IOBBEHS Eincoln sells the legitimate bade only Write for Lincoln prices and specifications.

Lincoln Radio Corporation 224 North Wells St.

Broadcast Listener's Reference Library

Part IV—Tuning Your Regenerative Receiver

By Edward Thomas Jones, A. I. R. E.

O INCE 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

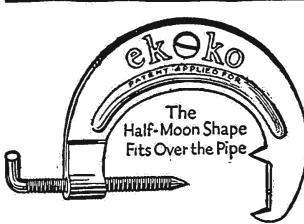
The tuning of a regenerative set is done chiefly in the grid circuit of the detector tube and an inductance is placed between the grid and filament with a variable condenser in parallel. This inductance is designed so that when the condenser is at maximum capacity the circuit will respond to wave lengths 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 5 lower this resistance and thereby considerably increase the sensitivity of this circuit so that far weaker signals will

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 r 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 cir-



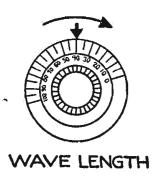
End 50%

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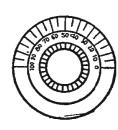






Figure 9

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

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

cuit tuner, while if the antenna system | 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 1/4 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 1/4 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)

London, Madrid Newcastle, Aberdeen-that's just a few of them

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ABSOLUTELY authentic! Many happy owners of Elgin sets again tuned in the European stations.

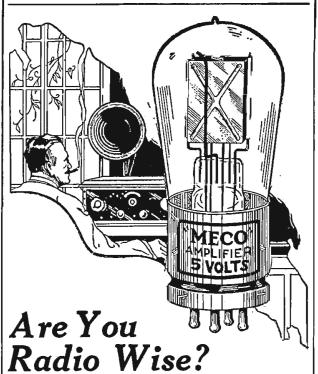
will give you the selectivity and distance it has given others. And you can save \$50.00. Let us tell you how-

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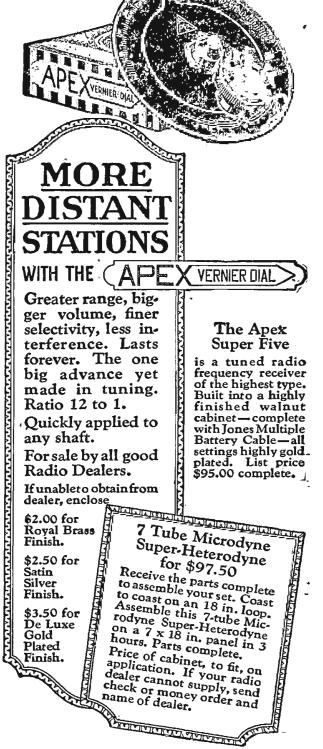
coupon-ELGIN RADIO SUPPLY CO., Dept. A, 207 E. Chicago St., Elgin, Illinois. Send the FREE drawinge of the Elgin Super-Reinertz at once. Also tell me how I save \$50.00 on this set. I en-close a stamp for postage. (Please PRINT in pencil)



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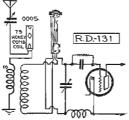
RADIO JOBBERS:
Some very profitable Apex Radio Territory still available. Write or wire immediately.

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HOOK-UP R. D. 131

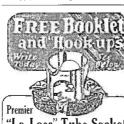
OST of the super-heterodyne articles which have been published show this Justity famous receiver and the show this Justity famous receiver majority of cases a loop will nast to the set all the energy needed for either local or long distrance recention, but there are cases where the use of an outside aerial rould be desirable, 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 ii. The result was a broadness of tuning and strength with the secondary of a variocoupler for the loop and connect his outside aerial and ground to the primary and many tried ii. The result was a broadness of tuning and strength 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 bode coupling for a little was a falled to the substitute of coupling the antenna. A fixed coupler of the usnal type containing a 10-turn primary and 50-turn secondary is used. In series with the primary is a 75-turn honeycomh 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 se-

tunis coulpies to the secondary permits assistant permits and the secondary permits. The fack 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 farst detector. The coil in the lead from farst detector. It should be needless to add that great care in placing the houseons to the detector of the detecto

One of the must useful pliers fur build-ing receiving sets are of the small, round-nose type, with cutting jaws



'Lo Loss" Tube Socket Checks Current Losses

Chechs Current Losses
What is it that sape current strength breathaton is storage poor contait and motival capa. All the storage poor contait and motival capa. All the storage poor contains a storage capable consequence of the storage capable cross section is thin to the backlete cross section is thin to see the backlet cross section is the losses. The backlete cross section is the losses the backlete cross section in the backlete cross section is the losses. All metallite party are arranged for minimum capacity. Positive contact is insured by cam action spring on tube prong. One piece contact springs have twice ordinary deficient range. Steleton having permits happened to price 90 cents.

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HETDUOGEN BUILDERS

(Continued from page 17)

continued from page 17)
and two of the Chicago stations whose
call letters I do not have before me as a
picked up while our lecal, broadly tuned,
1,000-wait 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 on an about 5 degrees
there it is even finer. On the harmonic
wave of the local (scenething about 230
meters) I can tune out on 2 degrees.
To sum up, the set is extremely acleutive, reaches out well and brings in good
arrival of the shelded transformers so
that I may give the set a more fair trial
and also use the extra stege of audio. In
addition to the stations listed above I
heard several more whose call letter
under such conditions who could ask
more? Please convey to Mr Brush my
thanks and appreciation of the complete
detail of his article. Yours electedy.

REFERENCE LIBRARY

REFERENCE LIBRARY

(Continued from page 19) slight thud the receiver becomes a small transmitter, which will cause annoyance to neighbors over a wide area.

to neignitors over a wide area. (Increased vange 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 carbor undum on the panel, which is a conducting medium. Use a face grade of sandpaper. After working the panel to a thill finish, dust it off and apply a light off



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Validable Unit acta.

A suitable set of values for a crie
leak would be I megolim, 2 megolims, 3
megolims, 5 megolims, 8 megolims, 8 megolims, 8 megolims, 8 megolims, 8 means may be provided for bringing,
these values in netton which may be secured by wiring a tap switch so that it may

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 nor year.

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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 estions; according to their distance and power.



The final Refer Director but equally statished for crystal roles and the crystal roles are statistically related by the crystal roles and the crystal roles are related to a role of the crystal role of the c







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.

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RADIO KINKS DEPARTMENT

Radio Digest, 510 North Dearborn St., Chicago

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.

The charging rate in amperes is indicated on the battery name plate. Never exceed this rate.

SOLVED!

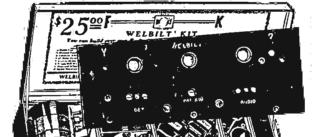
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Throw away your "B" Batteries and install a Kellogg Trans-B-former. It gives you "B" Battery current direct from your electric light socket at the trifling cost of onefifth of a cent per hour. Gives better reception-no interferences. Write for details.

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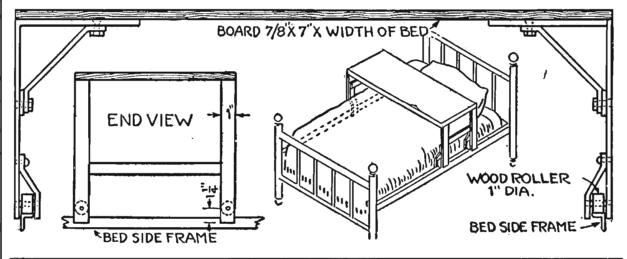
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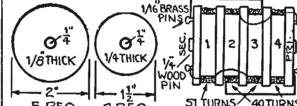
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After doing considerable experimenting with several transformers I found the one shown to work exceedingly well. The materials required are 5 discs of panel



insulating material 2 inches in diameter and $\frac{1}{8}$ inch thick, and $\frac{4}{2}$ discs $\frac{1}{2}$ inches in diameter and $\frac{1}{4}$ inch thick, all discs having a 1/4-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 threeplate condenser is placed across the primary.—Arthur H. Phillips, Winnipeg, Manitoba, Canada.





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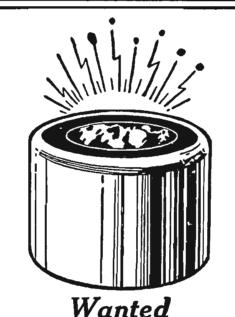
Every set reaches its maximum performance when it reproduces through a Morrison Unit. Volume on long distance work and the marvelous Morrison tone quality are unmatched. Thousands of Morrison owners from coast to coast know this.

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and **Ouestions** nswers

Tuned Radio Frequency Receiver

Timed Radio Frequency Receiver (12336) RDI, Memphis, Tenn.
I am operating a tuned frequency I am operating a tuned Rubb Fascalve filament, circuit to the ground lead between one one of the first primary and the ground connection. The set flows not seen as selective as it should be and a friend of inthe says this Is because I have connected the filament to the groundity will be increased if I change this.
A.—Into unplinto the selectivity would be greatly increased if the antenna primary were made an entirely apparate circuit from the reat of the set and the negative filament circuit disconnected recative 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 obtained.

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ti's your money and you can spend it for the your money and you are made in the man show you how to bring distant sta-tions in on a simple crystal set. San-blans increase range of tube sets also plans increase range of tube sets also for your distant crystal sets. Shot Leon Lambert, 501 Kaufman Bidg. Wichita, Karsan.



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Station WGY at Schenectady also broad station wor's at semenceany and ground casts on the short wave length of 167 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.

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Tucson, KFDH Tucson, KFDH

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Conway, KFKQ, KFRJ
Fayetteville, KFMQ
Hot Springs, KTHS
Little Rock, KFMB, WCAV
Pine Bluff, KFPX

California:
Bakersfield, KDZB
Berkeley, KRE
Burlingame, KFNZ, KFQH
Fresno, KMJ
Hanford, KFRN
Hollywood, KFQZ, KFWB, KNX
Holy City, KFQU
Long Beach, KFON
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KFPR, KFQG, KFSG, KHJ,
KJS, KWH
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Stanford Univ., KFGH
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Taft, KFQC
Upland, KFWC
Whittier, KFOC
Colorado: Whittier, KFOC
Colorado:
Boulder, KFAJ
Colorado Springs, KFQE, KFUM
Denver, KFAF, KFUL, KFEL,
KFLE, KFUP, KLZ, KOA
Greeley, KFKA
Gunnison, KFHA
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Wilmington, WHAV
District of Columbia:
Washington, WCAP, WDM, WRC,
WRHF Florida:
Miami, WQAM
Miami, Beach, WMBF
St. Petersburg, WDBI, WSAG
Tampa, WDAE, WGBP
Winter Park, WDBO

Ravannan, WEBZ
Idaho:
Boise, KFAU, KFDD
Keilogg, KFEY
Moscow, KFAN
Wallace, KFOD

Cedar Falis, KFJX
Cedar Rapids, KFLP, WJAM,
WKAA
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Lamoni, KFFV
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Waterloo, WRAN
Kansas: Kansas:
Lawrence, KFKU
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Milford, KFKB
Wichita, KFOT, WEAH Wichita, KFOT, WEAH

Kentucky:
Louisville, WHAS, WLAP

Louisiana:
Alexandria, KFFY, KFRF
Baton Rouge, KFGC
Jennings, WCBJ
New Orleans, WAAB, WAAC
WABZ, WBBS, WCAG,
WCBE, WEBP, WTAF, WWL
Shreveport, KFDX, WGAQ

Maine:
Bangor, WABI Maine:
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Houlton, WCBL
Orono, WGBX
Maryland:
Baltimore, WCAO, WCBM,
WFBR, WGBA
Takoma Park, WBES
Massachusetts:
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WNAC, WTAT
Bridgewater, WFBN
Dartmouth, WMAF
Fall River, WGBH, WSAR,
WTAB Georgia:
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Mattapoisett, WBBG
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Roslindale, WEBY
South Dartmouth, WMAF
Springfield, WBZ
Taunton, WAIT
Worcester, WCBT, WCTS
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Berrien Springs, WEMC
Dearborn, WWI
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Broadlands, WSRF
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Carthage, WCAZ
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WBCN, WCBZ, WDBY, WEBH.
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WQJ, WSAX
Chicago Heights. WCBZ
Decatur, WBAO
Elgin, WCEE, WTAS
Eureka, WFBB
Galesburg, WFBZ, WRAM
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Iowa:
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Oak Park, WTAY
Peoria, WJAN
Rockford, KFLV
Spring Valley, WGBW
Streator, WTAX
Tuscoia, WDZ
Urbana, WRM
Zion, WCBD
Indiana: Houghton, KFMW, WWAO
Lansing, WREO
Menominee, KFLB
Mt. Clemens, WABX
Petoskey, WBBP
Port Huron, WBBH
Saginaw, WABM Minnesota:
Breckenridge, KFUJ
Carver, KFRA
Collegeville, WFBJ
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KFMT, WCCO. WHDI, WLB
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Indianapolis, WBBZ, WFBM
Laporte, WRAF
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Seymour, WFBE
Valparaiso, WRBC
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Cape Girardeau, WSAB
Carterville, KFPW
Columbia, WAAN
Independence, KLDS
Jefferson City, WOS
Kansas City, WDAF, WHB, Moherly, KFFP, KFOJ, KFUM Springfield, KFUV St. Louis, KFQA, KFUO, KSD, WCK, WEW, WIL, WMAY, WRAO Warrensburg, KFNJ Montana:
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WMAH
Norfolk, WJAG
Oak, KFEQ
Omaha, KFCZ, KFOX, WAAW,
WIAK, WNAL, WOAW
Tecumseh, WTAU
University Place, WCAJ
Nevada: Nevada: Sparks, KFFR New Hampshire: Chesham, WSAU Hanover, WFBK Laconia, WKAV Laconia, WKAV

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Gloucester City, WRAX
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Trenton, WOAX New Mexico:
Albuquerque, KFLR
State College, KFRY, KOB State College, KFRY, KOB

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Troy, WHAZ
Utica, WSL
North Carolina:
Chariotte, WBT
Fort Bragg, AT9
Raleigh, WFBQ
North Dakota:
Devils Lake, KDLR
Fargo, WDAY, WPAK
Grafton, KFRH
Grand Forks, KFJM, KFRL
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WLW, WMH, WSAI
Cleveland, KDPM, WEAR, WHK, Cieveland, RDPM, WEAR, WHK
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WEAO, WMAN
Dayton, AW5, WDBS, WEBT
Elyrla, WGBL
Granvilie, 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
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Oklahoma: WTAM Oklahoma: Bristow, KFRU
Chickasha, KFGD
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Oklahoma City, KFJF, KFQR,
WKY Oregon:
Astoria, KFJI
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WTAC
Lancaster, WDBC, WGAL
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Oil City, WHBA
Parkersburg, WQAA
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WFBD, WFI, WIAD, WIP,
WLIT, WNAT, WOO, WWAD
Pittsburgh, KQV, WCAE, WJAS
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Scranton, WGBI, WGBK, WQAN
State College, WPSC
Wilkes-Barre, WBAX, WBRE
Rhode Island:
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WGBM, WJAR, WDWF,
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Rapid City, WCAT
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Columbia, WDBW
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Saskatoon, CFQC, CHUC, CNRS
Sudbury, CFCR
Thorold, CFKC
Toronto, CFCA, CHIC, CHNC,
CJBC, CJCD, CJCN, CJSC,
CKCE, CNRT
Vancouver, CFCQ, CFYC, CJCE,
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Camajuani, 6YR
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6GR, 6GT
Colon, 5EV
Havana, PWX, 2AB, 2BY, 2CX,
2HP, 2HS, 2JP, 2KP, 2LC,
2WW
Sagua la Grande, 6HS
Santiago, 8AZ, 8BY, 8CX, 8DW,
8EV, 8FU, 8GT, 8HS
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Bradford, 2LS
Cardiff, 5WA
Chelmsford, 5XX Cardiff, 5WA
Chelmsford, 5XX
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Glasgow, 5SC
Hull, 6KH
Leeds, 2LS
Liverpool, 6LV
London, 2LO
Manchester, 2ZY
Newcastie, 5NO
Nottingham, 5NG
Plymouth, 5PY
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Stoke-on-Trent, 6 Stoke-on-Trent, 6ST Mexico: Buenos Aires, B1, LOR, LOV, LOW, LOX, LOY, TCR Chihuahua, CZF
Mazatlan, CYR
Mexico City, CYB, CYH, CYL,
CYX, CYZ, CZA, XDA
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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 watta. The News Record.

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). Siogan: "Three weeks below Quebec on the top of the world." Daily. 5-6 pm, news; 11:30-12:30 am, Radlo vaudeville. Mon, Wed, Sat, 8:30-9:30 pm, music. Eastern.

CJCN, Toronto, Ont., Can. 410 meters. 2,000 watts. Simon Agnew & Co., Signais.
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.

Evening Telegram.

CKAC, Montreai, Quc, 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 "The 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, Sun, 9-10 pm, church services. Mountain.

CKCO. Ottawa. Ont. Can. 400 meters. 200 watts. Dr. G.

Mountain.

Mountain.

CKCO, Ottawa, Ont. Can. 400 meters. 200 watts. Dr. G.
M. Geldert (Ottawa Radio Assn.) Announcer, Dr. O. K.
Glbson. Slogans, 'Ottawa's Radio Volce,' '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.

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, Hamiiton, 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 Tcl. System. Announcer, D. R. P. Coats.

CNRE, Edmonton, Alta., Can. 450 meters. 500 watts. Canadian National Railways. Canadian National Raliways.

CNRM. Montreal, Que., Can. 341 meters. 2,000 watts.
Canadian National Raliways.

CNRO, Ottawa, Can. 435 meters. 2,000 watts. Canadian National Raliways. 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 Raliways.

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.

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. y Constructiones Co. 2 HS, Havana, Cuba. 180 meters. 20 watts. Juito Power. 2JP, Havana, Cuba. 270 meters. 20 watts. Julio Power. 2KP, Havana, Cuba. 195 meters. 10 watts. George A. Lindeaux. Lindeaux.

2LC, Havana, Cuha. 250 meters. 30 watts. Luis Casas.

2MG, Havana, Cuba. 280 meters. 20 watts. Manuei
Y. Guillermo Salas Music Store. Announcer, Roger
Morales. Dally, 3-4 pm, music. One day each week,
8-11 pm. Eastern.

20 K, Havana, Cuba. 360 meters. 100 watts. Mario
Garcia Velez.

20 L, Havana, Cuba. 290 meters. 15 watts. Oscar
Collado. 2RY, Havana, Cuba. 275 meters. 20 watts. Raoui Karman.

2TW, Havana, Cuba. 230 meters. 20 watts. Roberto E. Ramirez. 2WW, Havana, Cuba. 210 meters 20 watts. Amadeo Saenz de Caishorra.
5EV, Coion, Cuba. 360 meters. 10 watts. Leopoido V. Figueros. Sun, 9-11 pm. Eastern.
6BY, Cienfuegos, Cuba. 300 meters. 100 watts. Jose Gendusa. Ganduxe.
6CX, Clenfuegos, Cuba. 170 meters, 20 watts. Antonio T. Figueroa.

6GT, Clenfuegos, Cuba. 190 meters. 10 watts. Juan Pablo Ros.
6HS, Sagua ia Grande, Cuba. 200 meters. 10 watts. Santiago Ventura.
6KJ, Tuinucu, Cuha. 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, Frl, Sun, 10 pm, music. Wed, Thurs, Sat, 8 pm, music. Sat, 12 midnight, dance music. Eastern.
6YR. Camajuani. Cuha. 200 meters. 20 watts. Diego 6YR, Camajuani, Cuha. 200 meters. 20 watts. Diego 7AZ, Camaguey, Cuba. 225 meters. 10 watts. Pedro Nogueras. Nogueras.
7BY, Ciego de Aviia, Cuha. 235 meters. 20 watts. Eduardo V. Figueroa.
7SR, Camaguey, Cuba. 350 meters. 50 watts. Salvador C. Riondo. Siogan, "Cuba, the Land of Sunshine, Sugar and Tohacco." Mon, Tues, Thurs, 9 pm. Eastern.
8AZ, Santiago, Cuba. 240 meters. 20 watts. Aifredo Rrocke 8BY, Santiago, Cuba. 250 meters. 100 watts. Alberto 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, Cuha. 200 meters. 10 watts. Giliermo Polanco. France

FL, Paris, France, Eisfei Tower. 2,600 meters. Announcer, 'Chief Poste Militaire de la Tour Elsfel.
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 Govern-Agen, France, 335 meters. French Government.
Issy-Lez-Moulineaux, France. 1,600 meters. French Paris, France, Le Petit Parisien. 340 meters. 500 watts.

Great Britain

2BD, Aberdeen, Scot. 495 meters. 1,500 watts. British Broadcaating Co. Announcer, A. M. Shinnie.
2BE, Belfast, Ireland. 435 meters. British Broadcaating Co., Ltd. Announcer, W. T. Guthrie.
2DE, Dundee, Scot. 331 meters. British Broadcasting 2EH, Edinburgh, Scot. 328 meters. British Broad-

STATION SCHEDULES

(Continued from last week)

(Continued ing Co.
2LS, Leeds, Eng. 346 meters. British Broadcasting Co.
2ZY, Manchester, Eng. 375 meters. British Broadcast-51T, Birmingham, Eng. 475 meters. British Brosd-casting Co. Announcer, Percy Edgar.
5NG, Nottlingham, Eng. 322 meters. British Broadcasting Co.
5NO, Newcastie, Eng. 400 meters. British Broadcasting Co.
5NO, Plymouth Eng. 235 meters 200 meters. British Broadcast-5PY, Plymouth, Eng. 235 meters. 200 watts. British Broadcasting Co. Announcer, Clarence Goode. 5SC, Glasgow, Scot. 420 meters. British Broadcasting 5WA, Cardiff, Waies. 351 meters. British Broadcasting 5XX. Cheimsford, Eng. 1,600 meters. 14,000 watts.
British Broadcasting Company, Marconi Wireless Telegraph Co., Ltd. 6BM, Bournemouth, Eng. 385 meters. British Broad-casting Co. Announcer, John H. Raymond. 6FL, Sheffleid, Eng. 301 meters. British Broadcasting 6KH, Huil, Eng. 335 meters. British Broadcasting Co. 6LV, Liverpool, Eng. 315 meters. British Broadcast-Stoke-on-Trent, Eng. 306 meters. British Broad-6ST, casting Co.

Mexico

CYA, Mexico City, Mex. 185 meters. Partido Liheral Avanzado.

CYB, Mexico City, Mex. 380 meters. 500 watts. Ei
Buen, Tono. Tues, Sat, 7:30-9 pm. Thurs, 8-16 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 dei Radio. Announcer, Raui Azcarraga. Siogan: "The Land of Eternal Summer. Dally ex Sun, 1:30-2 pm, weather, financiai reports, music. Tues, Fri, 9-10:30 pm. Mexican.

CYR, Mazatian, 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. Avia-

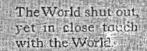
Mexicana de Radio.

CZA, Mexico City, Mex. 70-500-1,070 meters. Aviation Dept., War Ministry. Announcer, Ricardo S. Bravo. Daily, 12:30-1 pm, time, weather, nows; 6:30-7:30, time, markets, music. Mexican.

XDA, Mexico City, Mex. Variable wave. 4000 watts. Government station. Siogan, "Radio Chapultepec."

CZF, Chihuahua City, Mex. 400 moters. 250 watts. Chihuahua State Radio Broadcasting Station. Announcer, C. A. Nieto. Wed, Fri, 8-9:30. Meuntain.

24A. Monterey, Mex. 285 meters. 200 watts. & Cia. Daily ex. Sun, 12-6 pm, news, market bail. Wed, 8:30-10 pm, Mexican.



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