PUBLIC FOR NEW WAVES

STATIC ELIMINATED WITH SET IN GROTTO

SIXTY FEET UNDERGROUND BETTER THAN SURFACE

Demonstration in Ohio Cavern Proves Value of Subterranean Receiver— Many Witness Feat

Many Witness Feat

By K. G. Lind

SPRINGFIELD, O.—A remarkable demonstration of Radio reception took place during a heavy electrical storm recently when programs were received 60 feet underground. Virtually no static nor interference distressed the operators.

The demonstration was held in a large grotto of the Ohio Caverns, twenty miles north of here. A super-heterodyne set was used with a loop aerial. Positively no connection was made with the surface. Radio waves were received through sixty feet of limestone roofing of the cave. The heavy rain and electrical storm on the surface had no effect upon reception. Among the stations received were the following: WEBH, WEAF, KDKA, WLW, WSAI, WQJ, WGY, WGR and WJZ.

The set was operated by M. R. Geyer and Frank Grimes, Urbana Radio dealers, and the demonstration was witnessed by about a dozen persons.

This is believed to be the first demonstration of Radio reception in a natural cavern, similar demonstrations having been made in mines and tunnels, but not in caves.

Code Amateurs Send Applause Via Radio

WEAF Tells of Receiving Com-mendation from "Hams"

mendation from riadis

NEW YORK.—Radiophans might think
that Uncle Sam has the entire burden of
delivering applause in written form to
the various broadcasting stations. Such
is not the case, as WEAF is coutinually
receiving, either by phone or special messcnger, word from the various members
of the Amateur Radio Relay league residing in the vicinity of New York city.
Hardly a day passes but one of this
organization's members communicates
with WEAF, telling them that in the "wee
small hours" of the morning their brother
amateur out in Brooten, Minn., etc., asked
that the following message be delivered to
WEAF: "Your broadcasting of such and
such an orchestra attracting considerable

such an orchestra attracting considerable attention in this community."

HIGH POWER STUFF .AT THIS RADIO CLUB

ONDON, Eng.—The Radio club here has just been raided by the police and thirty-one members have pleaded guilty to consuming alcoholic liquor after permitted hours. They were fined \$25 each and three of the club's officers were fined \$250 each, the total fines being \$5,640. The club has been struck off the register and the premises have been disqualified.



VOTE SHOWS CONGESTION UNBEARABLE

Kintner Plan Is Favored

Listeners Active in Campaign to Clarify Air—Conference Will Remedy Trouble

Remedy Trouble

CHICAGO.—Ninety-five per cent of the present objectionable inter-station interference can be eliminated by the adoption of the Kintner plan of wave length allocation and station classification, according to authorities who have investigated and reported on the scheme.

In recognition of the overcrowded condition of the air, which has been bad for a number of months, and is steadily growing worse, Radio Digest has inaugurated a campaign to aid Secretary Herbert Hoover of the department of commerce in putting the Kintner plan, or some similar relief measure, into effect.

Will Help Secretary Hoover
Secretary Hoover has no law to work with, but has suggested that if some medium would assume the burden of obtaining a referendum from the listeners, he would do his best to abide by the decision of such a vote. Radio Digest is now taking that vote by means of the "Consensus of Opinion Vote" which is being published each week on page two of this publication.

The thousands of votes, received daily, show that the public is interested in this campaign, and it is hoped to collect and tabulate at least 2,000,000 of these votes so that the result can be catled representative and authoritative.

What Kintner Plan Is

The Kintner plan, so named because S. M. Kintner, research engineer for the

sentative and authoritative Is

The Kintner Plan, so named because S.

Kintner, research engineer for the
Westinghouse Electric and Mannfacturing
company, dovised it, is simple and effective. It is best outlined by means of
the table appearing on page two and
entitled, "Proposed Wave Band Assignment for Broadcasters."

Its advantage over many other proposed plans is that it would mean that
the receiving sets now in use would not
have to be attered in any way. Some
plans call for putting broadcasters on the
(Continued on page 2)

(Continued on page 2)

WAHG REACHES OUT AND HITS AUSTRALIA

EW YORK.—First prize for the best broadcasting station to reach australia was presented to Station WAHG recently. The test was to determine what effect the equinox might have upon Radio waves crossing the equator. Others heard were WOR, Newark; WLW, Ciocinnati; WCO, Minneapolis; WMAQ, Chicago; WOC, Davenport, and KFI, Los Angeles.

HAY TOPS HOT RACE IN GOLD CUP AWARD

STANDING OF 16 LEADERS SHOWN BY VOTES

Candidates Number 146 — Worcester, Mass., Man Names Honolulu An-nouncer—Interest Is Keen

mass, Mask Panterst 18 Keen

With a total of 3,003 votes to his credit at the close of last week, George D. Hay, the "Solem Old Judge" of WLS, Sears-Roebuck station, consistently maintained his lead in the 1925 Radio Digest Gold Cup Award for the world's most popular announcer.

George Hay, it will be remembered, won the first gold cup when the competition was inaugurated, but "there's many a slip "twist the cup and the lip," and one of Mr. Hay's strong competitors may overtake him yet before the contest is ended with the August 22 issue.

Now before the complete standing with votes of the sixteen leading announcers is given, it is desired to emphasize the point that but ONE nomination is necessary for any contestant. If more than one nomination is received, it will not add any VOTES to the credit of the announcer ammed. For the information of readers seeking to nominate their favorite "voice," the complete list of nominees to date is given below.

given below.
Standing of Sixteen Leaders

The standing of Sixteen Leaders
The standing of the sixteen leaders
is changing from week to week as votes
are received. While almost every week
the same sixteen names top the list, the
respective contestants are not always in
the same position. Every week brings a
new thrill. Who will be first, second,
fifth or tenth next week? Watch the
standings as they are given. The standing at the close of last week showed:

Pasition Name and Station Votes

Pos		Votes
1.	George D. Hay, WLS	3,113
2.	Graham McNamee, WEAF	2,481
3.	The Hired Hand, WHAY	2,250
	Henry Field, KFNI	1,128
5.	H. W. Arlin, KDKA	
6.	N. Dean Cole, WHO	
7.	W. G. "Bill" Hay, KFKX	
8.	Gene Rouse, WOAW	1,542
9.	Stanley W. Barnett, WOC	
10.	Charles Erbstein, WTAS	1,582
11.	Adams Cothoun, WFAA	1.434
12.	Robert Emers', WEEL	1,368
13.	Leo Fitzpatrick, WDAF	
14.	Lambdin Kay, WSEL	1,331
15.	Robert Boniel, WEBH	
L6.	Jerry Sullivan, WQ5	1,310

Complete List of Nominees

Complete List of Nominees
Exactly 146 announcers have been
named as candidates for the 1925 Gold
Cnp Award. Twelve new names were
added during the past week.
An interesting observation in last
week's nominations was the naming of
Homer Worley, of Station KGU, Honoluiu, Hawaii, by a regular KGU listener
at Worcester, Mass.
The complete list of nominees follows:
CMALL Fred Carling. KREU, Frank S. Lane

The complete I CFAR; Pred Service Office, E. J. Green Office, E. J. Green Office, Walter barring CFAR, W. Grant CHC, Rad Weep CHCA, N. S. Richards CKAC, J. N. Satcher CKA, D. R. P. Conte CKA, D. R. P. Conte CNIE, G. A. Wright NIEC, A. W. Bran NIEC, A. W. Bran NIEC, A. W. Bran NIEC, A. W. Bran NIEC, A. W. Arlin CFAR, George Bayles CTDM, B. R. Satture CTDM, Many-then Miss. CNES. G. A. Fright
CNET. Bddle Jackson
CNET. Bddle Jackson
CNEW, R. R. Roberts
EDIAS, H. W. Artin
KEDIAS, BLI (W. G.) HAY
KEDIAS, BLI (W. G.) HAY
KEDIT, H. R. W. PHOLO
KEDIAS, BLI (W. G.) HAY
KEDIT, GROSS W. YORK
KENT, GOSTON W. TORK
KEDIAS, C. R. HATINON
KEDIAS, C. R. HATI

of nominees follows

KFRU, Frank S. Lace

KFWB, Charles Wellman

KGO, Boward Milholland

KGO, Boward Milholland

KGO, Boward Milholland

KGO, Boward Milholland

KGOW, Richard Haise

KEJ, John Dwggetl

KEJ, John Dwggetl

KEJ, Mra W. D. Rey
nolda, Jr.

KNA, The Town Crier

KOA, R. K. Clark

KOA, R. K. Clark

KOA, R. K. Carder

KOA, G. R. K. Conder

KOA, G. R. K. Charles

KOA, G. C. Carder

KOA, G. C. Carder

KOA, G. C. Arnoux

KIW, "See" Knoey

KIW, "See"

WBBG. Irving Vermilya
WBBM. Lottle Vermilya
WBBM. Lottle Mager
WBBM. Code Hager
WBBM. Code Hager
WBBM. Chas. Hughey
WBZ. H. E. Bach
WBZ. H. E. Bach
WBZ. H. E. Bach
WBZ. H. Sandry
WCAF. Joery Wyman
WCAF. Sendenth Onesand
WCAF. WCAF. Joery Wyman
WCAF. Chemeth Onesand
WCAF. Willie Williams
WCAF. Willie Williams
WCAF. Chester Garded
WCAF. Chester Garded
WCAF. Chester Garded
WTS. C. D. Tomy
WTAF. Coe. Spinks
WEAF. Philip Carlin
WEAF. Philip Carlin
WEAF. Robert Londel
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WGB, Quin. B. Ryan
WGB, G. E. Becker
WGB, C. E. Becker
WGP, William Fay
WGF, Rolln Hager
WGY, Rolln Hager
WGY, Rolln Hager
WHAS, Green Barrisblye
WHAS, See Barrisblye
WHAS, See Barrisblye
WHAS, Rowelford Hayner
WHB, John Schilling
WHE, J. F. Hitchcock
WHB, John Schilling
WHE, J. F. Hitchcock
WHB, John Schilling
WHE, A. Rowelford Hayner
WHB, John Schilling
WHE, A. Rowelford
WHO, Wn. Marsh
WHY, Razl Bengritz
WJA, J. A. Riley
WJAS, J. Lewis Baddi WJAS,
WHET, Harty Chart
WJZ, J. Lewis Baddi WJAS,
WHET, Lewis Baddi WJAS,
WHET, Harty Chart
WZ, J. Lewis Baddi WJAS,
WHAS, J. Lewis Baddi WJAS,
WHAS, Gran AGONG
WJAS, J. Lewis Baddi WJAS,
W

PROPOSED WAVE BAND ASSIGNMENT FOR BROADCASTERS Number Number Number Stations on of Time Assignments Same Band Divisions Possible Number of Chan- Power Station Class—(Waiting List) nels Available Allowed . 4 of 10 kc. 100 w. 200-204 .45 of 10 kc. 100 w. 205½-294 .15 of 20 kc. 5-50 kw. 300-416.6 .17 of 10 kc. 500 w. 428½-555 'As required As required 4 3 1 0 2 2 Unlimited 540 15 68 IV III Radio relays on short wave channels in bands of 50 kc. width from reservations 50-55 meters, 60-65 meters and 70-75 meters.

WI.S. Billy Knight
WI.W. Fred Smilt
WME, J. H. Jay
WMC, Jerry G. L. Deardog
WMC, Jerry G. L. Jeardog
WMC, George F. Ross
WGC, S. W. Fanning
WOAW, Laster Palent
WOAW, Laster Palent
WOC, S. W. Eassnel
WOR, Joseph Barnasie
WOR, Joseph Barnasie
WOR, Joseph Barnasie
WORD, Dert Riee
WOS, Arthur Nelson
If your favorite announcer is not listed
above, forward your nomination of him

at once to the Gold Cup Award Editor, care of this magazine. No nomination blank is necessary.

How to Vote and Get Bonus

blank is necessary.

How to Vote and Get Bonus

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

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

Each of these ballots will count for one vote when sent in separately. You can hold these ballots until you have 4 that are consecutively numbered, and when they are sent in a bonus of 8 votes will be allowed for your favorite announcer. For each 8 consecutively numbered ballots your candidate will receive a bonus of 20 votes. For each 12 consecutively numbered ballots, 50 votes. For each 10 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 50 votes, but each 22 consecutively numbered ballots, 50 votes, and for each 22 consecutively numbered ballots, 50 votes, but each 22 consecutively numbered ballots, 50 votes bonus will be allowed.

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

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Looking Ahead

Two Very Good Reasons for Reading Next Week's Issue are to keep in touch with the progress of the campaign for less congestion of the air, and the standing of the fist sixteen announcers in the 1925 Gold Cup Award.

Operating and Trouble-Shooting Article. These are for maximum efficiency is obtained by an unusual circuit.

Newsstands Don't Always Have One Left

WHEN YOU WANT

Radio Digest

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

Among the Stations Soon to Be Described are KFI, Los Angeles, "The Radio Central Superstation"; KFAB, Lincoln, Neb., where Gayle Grubb holds forth; WAHG, Richmond Hill, N. Y., "Wait and Hear Grebe," and CKY, Winnipeg, "Manitoba's Own Station."

Radiola Regenoflex and Radiola Ten will be taken up as the basis for the next Operating and Trouble-Shooting Article. These are four-tube sets from which

e Next Chapter of the A. B. C. Course will show capacity and inductance in both parallel connections and series connections. Prof. Moreton shows clearly the varying results obtained when different combinations of these factors are used with A. C.

SEND IN THE BLANK TODAY

Please find enclosed shock M. O. for Five Delian (Six, Foreign) for One Year's Subscription to Hodie Digest, (Hustrated.	Nama			
(Six, Foreign) for One Year's Subscription to		igent, illustre		
	(Six, F	oreign) for i	Das Year's	for Five Dellare Sameeripties to

ASK FOR BETTER WAVES

(Continued from page 1)
lower wave lengths. Hundreds of theusands of sets cannot receive stations with
wave lengths lower than 200 meters, so
that such plans would require the rebuilding or junking of millions of dollars
worth of perfectly good receiving sets.

Allows for Promotion of Stations

Allows for Promotion of Stations
The highest class of stations recognized
by the Kintner plan is class I, the superstations. Class II is for 500-watt stations
of high class. Class III is for 100-watt
stations of recognized standards, and
class IV is the beginners' class. New stations must begin in class IV and take
gradual promotion to class III, then class
II and finally I, as vacancles occur in
the higher classes and as the new station
is qualified to serve according to the
standards of the superior classifications.
In the Kintner plan is seen a panacea
for present Radio ills. Heterodyning
would not be known and the air would he
clarified to such an extent that distance
reception would once more by enjoyable.
The ideas embodied may be modified, but
the plan is worthy of consideration as a
basis of a similar plan.

And Still More Stations Await

And Still More Stations Await

And Still More Stations Await
Considering the present condition of
the air, it is interesting to know that in
California alone thirty-two applications
for licenses to broadcast have recently
been turned down by W. D. Terrell, chief
Radio supervisor, because no wavo bands
are available. Other prospective broadcasters might as well make up their
minds to wait until there is room for
them on the air.

minds to wait until there is room for them on the air.

The result of the Radio Digest "Consensus of Opinion" vote will be taken before the fourth Radio conference which will convene in Washington in September, or possibly August. It is heing recommended to have the conference at the earliest possible date so as to bring remedial rulings into effect.

ET

KIMAC ETAI

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Ey A YORK ify sop Radio ring n or one e avera nore di sopranc cuts le her g rattle iaphras cinment

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SUCCESS PHONOLOGY

TELLS HOW IT SELF ART

Sopranos Fail Not But in Micro-Technique

a T. Rogers is not the general rule s as among the most tertainers, especially the mlerophone with hes as are to be found of an operatic colorate, the woods are full operanos." It is the chief reason operano is sedom pre-Lopez, is that there to whom the average on her top motes, putile into the effort, the "blast" of the microan hardly be listed as

very easy to conceive o is almost overnight I Radlo favorite must i "something" to offer to others lack. Reallzd across the bay to surn from Kay Macrae, y cries for her when how she does it. "Microphonology" c, please," I asked of it."

ites
insisted, laughingly,
to it. Any soprano
od enough for concert
work can become a
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wart of inicrophonol-

one may have a voice stional, there is no rea-one can be a successful of making a careful icular requirements of or the 'mike' is at best et; it cannot think for n its present stage of icrophone has a limited ...

rain pitch and force e microphone cause the fee producing that oblist in the receiving set the downfall of many in the other hand, low vibrate the diaphragm sed produce a muffled, the loud speaker or ear

Modulate Adequately
is, one of the most eshe equipment in every
ion is the modulating
he operator is supposed
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the upper reaches of ad down again.

Acrae Mas Learned

I," she continued, "that com the instrument when the instrument when the the obnoxious blast is higher the note, the furnitum ranges I generally telet from the instruction for a Chicken and the content of the obnoxious blast is higher the note, the furnitum ranges I generally the feet from the instruct sing low notes I sterness softly, concentre' against the diar increasary force

And Incognito

Lanyon, salesman broker, was the entity from the saminast the diar inconsentral arminast the diar incompany. It is the music ment of the saminast the diar incompany in the same of the

ALLEGED MONOPOLY HEARING POSTPONED

ASHINGTON, D. C.—The Federal Trade commission has again postponed tho taking of testimony in its case against the alleged Radio monopoly. This testimony was to have been taken in New York city, May 18. The hearings are to begin "sometime between July 1 and September 16." This is the second time that this hearing has been postponement was not given.

JAZZ MUSIC HELPS COWS SAYS FARMER

INNEAPOLIS, Minn.—Cows appreciate music just as much as human beings. That is, they prefer jazz music to classical. When the music is to their liking, they give more milk than they would under ordinary circumstances. At least, that is what a Wisconsin farmer has written to Station WCCO, and vouches for its veracity. The milker of the cows, however, prefers something heavier than juzz.

HAS OWN BROADCASTING SYSTEM



Miss Kay Macrae, coloratura soprano, well-known broadcasting star, who has per-fected a eystem of her own for broadcasting. As a result of her tests, Miss Macrae is soon to write a book on this subject.

sctions with those of tudio.

Therefore is that the international distinctly on the receipting and included a stood on a pedestal in udio. Placing a pair of she stood on a pedestal in udio. Placing a pair of she stood close to the arg a quick scale that the upper reaches of down assain.

Therefore is the proper reaches of down assain.

The proper reaches of down assain.

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Chicago Youth Wins Contest First Prize

SPORT CLASSICS AT STATION WGN

Kentucky Derby and Auto Races Will Be Featured by Chicago Broadcaster

STATION GLEANINGS AND NEWSY BRIEFS

BRUNSWICK HOUR CONTIN-UES NEXT TUESDAY

Wyoming's Woman Governor to Talk from KOA— WMCA Hardman Program Proves Popular

As the winter season draws near a close, the songbirds are flitting away to foreign shores, so that the next Brunswick hour of music, May 19, at 7 p. in., Central time, will be one of the last chances to hear some of them hefore they fly away until the next season opens. The next Tuesday weekly Brunswick program will be heard through WJZ, WRC, WGY, WBZ, KDKA and KYW.

Nellie Tayloe Ross, Wyoming, recently elected woman governor, is scheduled to make her first appearance before KOA's audience Monday, May 18, during a special program sponsored by the Cherenne. Wyo., chamber of commerce which will begin at 9:10 p. m., Central time. On Friday, May 22, "Erminile," a comic opera in three acts, will be broadcast from the Denver station of the General Electric company. company.

An enjoyable honr of music can be heard every Friday from 8 to 9 p. m., Eastern time, by tuning to WMCA, New York, the Hotel McAlpin station. The program is known as the Hardman hour of music.

The Vincent Lopez U.S. School of Music concerts continue at WOR. The next is scheduled for Wednesday evening, May 29, when a half-hour program of new music will be broadcast in the inimitable style of this internationally known orchestra. The concerts are played direct from the Pennsylvania hotel by the Vincent Lopez number one orchestra.

WGBS, Gimbel Brothers store, New York, scored a very entertaining evening recently when the station broadcast the jubilee dinner and entertainment tendered by members of the theatrical profession. Scores of actors, actresses and parformers whose names have been many times in electric lights, were heard.

Another of the series of grand operas in tabloid form was heard May 5 from WEAF, WEEL WFI, WCAE, WEAR, WGR and WWJ whon "Aida" was presented from the New York and linked stations. The tabloid opera series will continue as a result of the public's many complimentary communications.

Every Tuesday at 8:30, Eastern time, WHN listeners are now treated to a concert by Strickland's Palisades Park orchestra, which made a name for itself last summer with these concerts. The same orchestra entertains from WHN Tuesday evenings with dinner music at 5:30, Easterney

One of the features of the recent dedication program of special Crosley WLW Radio organ was a trip through the organ with Powell N. Crosley, Jr., as the guide and an organist assisting him with descriptive playing. The Radio audience was told of the various combinations of stops on the console and then heard the instruments in the organ. Carl Hugo Grimm provided a number of classical selections withe other organists also appeared on the opening program.

Broadcasters Form Local Association in Chicago

Association in Chicago CHICAGO, III.—Brondeasters in this city have organized and formed the Chicago Broadcasters association, which will function solely as an organization to glye aid to persons and institutions who do not now have an opportunity for enjoying Radio programs.

All stations within a fitty mile radius of this city are eligible for admission to the organization, provided their station is using 500 or more watts power. An election of officers was held, committees aamed and a constitution and by-laws of the association are to be drawn up.

CHICAGO.—Station WCN. famous for its big Radio features, will be on Saturday afternoon, May 16, giving listeners the sights and sounds of the Kentucky Derby.

As many as four or five micropiones will be in use, with the calling of all races as they pass each post. The instantaneous dope between races, descriptions of the pageant and the presentation of celebrities to the microphone.

On Decoration Day, Saturday, May 30, WGN will catch every thrill of the mighty auto races at Indianapolis. They will have all direct lines from the roof of the grandstand, the pits and the judges' stand, to bring the vibrant drama into the homes of the people. Quinn Ryan will act as Announcer.

w.americanradiohistory.com



Small price for big performance—achieved in Radiola m

Radiola III-a, for distance on the loudspeaker. With four Radiotrons WD-11, headphones and Radiola Loudspeaker \$83



How the Radio Corporation of America is Meeting the Responsibility of Leadership

It has made America the radio center of the world, through the high power radio telegraph circuits that link our country, by direct radio communication, with seven countries of Europe, with Asia and with South America.

It has developed radio ship sets, and a ship-to-shore radio service that makes the high seas safer, and aids all marine commerce.

It has the technical resources of laboratories for research that not only carry on unceasing experiment for the perfecting of Radiolas and Radiotrons, but study the problems of high power commercial transmission, and conduct research into every phase of radio, in every field in which it can serve the nation. It is one such study that has resulted in the transmission of pictures by radio.

With its associates, the Radio Corporation of America maincains ten powerful broadcasting stations, whose programs serve the whole nation: WJZ, WJY, WGY, WBZ, WRC, KDKA, KOA, KFKX, KGO, KYW-from New York to California!

By its extensive research in the development of Radiocrons, the standard vacuum tubes of radio, it has made contributions of inestimable value to radio prog-

It has developed Radiola Super-Heterodyne and other Radiolas, for the improvement of the quality of home reception and the lowering of its cost.

50 B

Radiola

PRODUCED ONLY BY RCA

RADIO CORPORATION OF AMERICA

233 Broadway, New York 10 So. La Salle St., Chicago, Ill. 28 Geary St., San Francisco, Cal.

82

Movieland! Some of the Thief of Bagdad and Dorothy Ver-non sets on the lot at the Pickford-Fairbanks studio.

tation KNX—In the Heart of Movieland



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DLLYWOOD is the place," according to a prominent and somewhard dignified New Eng-where a bank president can work bareheaded, in knicker and a fazzy sweater and no start a run on his bank." It as it may, Hollywood is distic, idealistic, different, and apart from any other the whole wide world. With sof the world's eyes upon it id goes blithely about its iness, real and make believe, world was Hollywood and id was the world. It would be world or so inhabitants did not ugh to Hollywood, so measure institued to provide a t station so that the world ow Hollywood better. That seem with the Los Angeles Express installed a broadion in Hollywood, and beydid such a good job of it Radio fans, whose greatest the past was to lune in on des. now dail a little farther seale to pick of KNX—in of Hollywood boulevard,

and surrounded entirely by the life and heart, play and tragedy of moveland.

In Hollywood there are thousands of a ctors, entertainers and musicians of all kinds—enough talent to run a broadcast station indefinitely. To get a man to handle the microphone at KNX who knew hundreds of Hollywood's prominent citizens was no small job, for the panorama of movieland shifts rapidly, and movie people are clannish. To get a man who knew all these people initimately and who, in addition, had the address and ready wit necessary for the successful announcer was still another proposition.

But a newspaper has its ways and means, so we find at KNX the Town Crier, author, seenarist, traveler—a perfect man for a difficult place, who can discuss reactions and cuts with the director, the peculiarities of makeup with the novelst, condensers, rheostats and potentiometers with the Radio hug.

The Town Crier manages the microphone at most of the evening programs at KNX except on Tuesday nights, when he picks out a nice table in the famous Cocoanut Grove at the Los Angeles Ambassador hotel, is served with a wonderful meal hy Rene, the noted chef, and enjoys the flutter and flurry of movie night at the Grove until 10 o'clock eoines, when he must go to work. Between suites of numbers by Abe Lyman's orchestra he then must find prominent people to say a few words to listening fans. In the latter he is universally successful.

A word must be said about Abe Lyman's orchestra, one of the big features of the station. A hundred dance orchestras may play a song the same way—Abe Lyman plays it differently. Thousands of hotels, eafes and ballrooms have dance or-

chestras—from Podunk, Maine to Shanghai, China, but there is only one Abe Lyman. Movie stars travel the earth and they come back, they say, principally to hear Abe Lyman play dance music. Abe takes his band to Atlantic City for the summer and causes a riot in the so-called effete East with his California jazz—the Coccanut Grove is not the same and husiness drops-off. So Abe Lyman comes hack to the Los Angeles Ambassador, part and fixture of the gay life of screen and Radioland. But we were talking of the Town Crier. When he is (Cominued on page 6)

Carrie Preston Rittmeister, program manager, receives a few telegrams. Above, Guy Earl, station manager of KNK, quite a handsome chap.





EYE METER PROVES SIR LODGE'S THEORY

PERFECTED BY EMINENT LONDON SURGEON

Machine Developed After Seven Years' Patient Investigation—Pro Power of Human Eye

Power of Human Eye

LONDON, England.—After seven years of patient investigation, Dr. Russ. one of the most eminent surgeons in London, has perfected his "eye-ray-meter," which measures the power of the human eye in electrical units.

Briefly, the instrument demonstrates that electricity generated in the brain is emitted from the eyes. Thus is vindicated the theory to this effect which has long been held by Sir Oliver Lodge, and also the numerous poetic figures—"sparkling eyes," "the eye's pure ray," "beaming glances," and so forth. In elaborating on his Iheory recently, it will be recalled that Sir Oliver Lodge went so far as to declare that the eye was the first Radio set used by man.

The idea is the eye ray meets rivals from other eyes. There is a battle in mid-afr. The stronger wins. And the weaker eye drops a protective eyelid. Thus the power of the human eye is an actual fact and a physical explanation is provided for a number of things, as for example:

Why one feels uncomfortable wheu sit-

actual fact and a physical explanation is provided for a number of things, as for example:

Why one feels uncomfortable wheu sitting in a street car faeing the battery of eyes from the opposite scals.

Why one becomes conscious of being stared at, and instinctively turns around to see who it is.

Why two people find it impossible to meet each other's gaze for more than a few seconds.

How lion-tamers triumph.

Indicator Moves Basily

Dr Russ's device moves as soon as it is looked at. In fact, the inventor declares that the celluloid rings of the instrument, with their tabs of metal foil, actually move around as the looker shifts his position. The stronger the ray, the greater the effect on the instrument. The average person moves the indicator fifteen degrees. But Dr. Russ has found that really brilliant people—airmen, actresses and journalists—send the needle whizzing around to 60 degrees.

If a man's health is bad, his ray becomes feeble, and he cannot move the indicator at all. But the ray is always thero. Though it may get fainter and fainter, it never ceases until death.

KNX-AT HOLLYWOOD

(Continued from page 5)

(Continued from page 5)
through cach night, exactly like the London cab driver, he goes home, hunts out his slippers and with his old reliable pipe, sits down in an easy chair and tunes in some DX. This Radio germ is incurable.

KNX is proud of being representative of Hollywood, proud of the Town Crier, proud of the nice shiny 500-watt Western Electric 1-B transmitter and the skilled operators who keep it going, but it is more proud of another thing than any else. That is, KNX is not worried over who is going to pay for broadcasting.

Carrie Preston Rittmeister, program director of KNX, is the woman responsible for that. Mrs. Rittmeister, while program director of KNX is november. 1924, has made it possible for the station and artists appearing to be paid for every evening performance except two. Truly a record to be envied. It has heen done os successfully only by the application of sound principles—low cost to the advertiser, a minimum of direct advertising on programs, a high standard of music and good showmanship. KNX is operated without thought or hope of profit, but is being operated on a pay-as-we-go basis, without deluging the air with tiresome advertising tulks. Carrle Preston Rittmelster of KNX, we take off our hats to you for that.

Although the influence of the films is early always present while KNX is on the air, Hollywood and the film colony have a second time to film of the film of the film of the same of the film of the same of the film of t

to you for that.

Although the influence of the films is nearly always present while KNX is on the air, Hollywood and the film colony have a special time to show off. Beginning at 11 p. m. on Saturday nights, Pacific time, of course, Hollywood night is in full swing, lasting until the players begin giving the announcer the "rights and lefts." To uame those who have appeared on Hollywood night at KNX would be to read the register of screenland from producers to extras.

But Hollywood is not entirely composed of those engaged in the making of celluloid dramas, despite popular helief to the contrary. Hollywood is a city like Des Moines or Atlanta, or some other place—except, well, except that It is Hollywood. And KNX represents fiollywood as a whole very well, its musicians, actors and actresses, authors, hotels, cafes, shoemakers, butchers and candlestick makers.

SPANISH ANNOUNCER FOR STATION KFDM



This KPDM Spanish announcer is known to thousands of fans as "Static."

PROMOTES SUPER FOR MIAMI BEACH

Carl G. Fisher Announces Con-struction of 2,500-Watt Broadcaster at Southern Resort

MIAMI, Fla.—Carl G. Fisher, multi-millionaire builder of the Indianapolis Motor Speedway and developer of Miami Beach, Florida, has announced that work has started on a new super-power broadcasting station for Miami Beach.

The large station will have a maximum power of 2,500 watts and will duplicate the one recently announced for WSB, the Atlanta Journal, as in process of construction. A network of telephone wires will connect the new station with the nine following Miami Beach hotels: Fleetwood, Nautilus, Flamingo, Lincoln, Kingcloe, Roney Plaza, Wofford, William Penn and Pancoast. and Pancoast.

Make Announcement of WCCO Staff Changes

A. Bellows Director-E. S. H. Harrison Becomes New Manager

MINNEAPOLIS.—When H. A. Bellows, former editor of "The North-Western Miller," became director of Gold Medal Station WCCO here recently, several other changes were made in the executive staff. Harry Wilbern, ex-manager of WCCO, resigned to resume his publicity work and to act as public relations counsel. He was succeeded by E. S. Harrison, formerly assistant manager.

was succeeded by E. S. Harrison, formerly assistant manager.
E. H. Gammons continues to direct all of WCCO's publicity. Mr. Bellows is in charge of all broadcasts and arrangements for same. Mr. Harrison will supervise all business affairs of the station and the contacts with the public.

and Pancoast.

Jesse H. Jay, director-announcer of
WMBF, Fleetwood hotel, will be director
of the superstation. WMBF, which closed
recently for the summer season, has reopened and will continue broadcasting.



Operating and Trouble Shooting

For the Owner of a Freed-Eisemann NR-20 Neutrodyne

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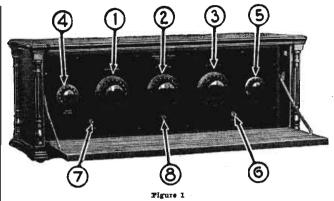
method of connection is ed not be changed. Antennas Its with NR-20 an outuld be used. This should from 70 to 100 feet long, sible, and well insulated ig objects. The lead-in securely attached to the eferably by soldering. In this set. A good inmissits of a long length re running through the all rooms, or a hallway, in a may be concealed beframe moulding of the it is preferable to keep east one foot away from 7s run the antenna lead, outdoor, away from the the the antenna or ground, or under, or alongside to not loop the indoor ound the room in which laced.

connection is very im good tight connection to place of connection, et al shows. The ground wire should he securely ferably soldered in place, and binding post, on the fiver, a wire should run carr and away from the round connection. In the round connection in the round connection can be utor pipe, water pipe or inding posts are provided, then as way 40 feet more

inding posts are provided, intenna, say 40 feet, more 1 and one for a long and one for a long and forth. It will usuat when the antenna is upper antenna terminad intenna, 't uning will be so because a small consonnected in series with

nonnected in series with him the Set the user may understand hat goes on in this set, have been numbered and reference can be made to owing explanation. The d the panel, and adjusted age dalas, are known as sers. These condensers red to the combination are safes. The dials on locks must be set at or the door will not open eiver, as in all neutromust be set at a certain signals cannot pass if these three condensers lettered 1a, 2a and 3a is ion with one of the three cils have been numbered the series and the series and the series and series are the series have been numbered the series and series and series are series are series and series are series and series are series and series are series are series and series are series are series are series are series and series are series are

me in from the aerial and t first pass the obstaele bil 9 and condenser 1a. 5 been set at the proper can enter tube V; from ther the circuit composed and coll 10 and they can



pass this circuit only when dial 2 has composed of 3a and 11. When dial 3 been set at the proper position. Tube W is set at a number approximately the same is the next piece of apparatus into which the energy must go, and from this tube is known as the detector tube. Signals enter the third critical circuit it is the purpose of the other four tubes

in the set to strengthen or amplify the Incoming energy but it is the purpose of tube X to alter the form of the energy so that it can be heard. Having passed from the left end of the set almest to the right end the converted energy leaving tube X enters the piece of apparatus identified by the number 12. It is the purpose of this unit to pass the signals from tube X into tube Y and it will be noted that the energy must travel, at this stage of the operation, from the right end of the receiver clear back to the left end, at which point we find socket Y. Another piece of apparatus similar to 12 will be found between sockets Y and Z and identified by the number 13. It is the purpose of this unit to pass the energy into tube Z, from which it goes to the loud speaker.

The push pull switch located at the lower left corner of the panel, and numbered 7, enables the user to connect the loud speaker after either tube Y or tube Z. This may be found destrable when local programs are too loud for the use of the speaker after tube Z. On the other hand, when distant programs are being heard it is better to connect the speaker after the last tube. The small dial, identified by the number 4, acta as a control of volume as it regulates the

(Continued on page 20)

"Tuning-In" with



When You Want KSD Just Dial Day-Fan 84 and Pull the Switch!



O YOU know why they call the Day-Fan Radio "Dial Phone of the Air!" Because it is the onlyset madewhich comes to you like a telephone, with a definite dial number for each of the broadcasting stations and a directory giving these numbers. Dial your number and pull the switch, and if the station's on the air it's in your home!

Why don't other sets do this? It's a matter of manufacturing exactness which rests solidly on our thirty-six years in the electrical business. And it has put Day-Fan into a class by itself.

When a Day-Fan lands in your home it works, from the minute you switch on the current. You don't need to know anything about radio to enjoy it. Even the children can use it - it is so strongly built, so simple, with no delicate adjustments to get out of order. With Day-Fan you can have radio enjoyment all summer. The big progams will be chain-broadcasted—the baseball games will be played over the radio.

> You will find that the sound of a Dav-Fan is the sound of the broadcast. Nothing else. And it is the broadcasted music in its full sonorous beauty, from the high thin note of the flute to the deepest tone of the

> Aren't these all things you can prove to yourself at the nearest Day-Fan dealer's? If they are true can you be content with anything else? Why not go in and prove it for yourself?

THE DAYTON FAN & MOTOR COMPANY DAYTON, OHIO

For 36 Years Manufacturers of High Grade Electrical Apparatus

Day-Fans will hereafter be sold only through authorized Day-Fan dealers, so we can be sure you get all you should out of your radio. There are five models—from \$98 to \$285, according to type of cabinet. But all Day-Fans are in exactness "Dial Phones of the Air" and in tone silent transmitters of full broadcast beauty.

RUSSIAN MUSIC KFI'S SUNDAY FEATURE

Saturday, May 16

Atlantic or Eastern Daylight Saving

Atlantic or Lanteria Capital August Time Stations
WAHG, Richmond, Hill, N. Y. (315.8), 12-12:55 p. m.,
musical program; 12-2 a. m., special program of

musical program; 12-2 a, m., special program on dance music.

WBBR, New Yerk, N. Y. (272.5), 8 p. m., Carl Park, riolinist; 8:10, L. Marion Brown, soorano; 8:15, Bibbs questions and answers; 8:16, L. Marion Brown; WBZ, Springefield, Mass. (333.3), 8 p.m., Leo Ralsmarás Hotel Lenos ensembie; 7:05, kidőlæs' beddime story; 7:15, U. S. Naval Hisstory skitches; E. S. Brandt; 7:30, Hotel Kimball tele; 8, Joseph F. Aurtik, telor; 'Lime Laranue; accompanis; 7:15, "Ada; telory; Lime Laranue; accompanis; 7:15, "Ada; Nicon restaurant; 4, orderstal program; 6:30, William Penn hotel; 8, address; 8:30, Chilcott Eandiy quattet.

Quartet. WEAF, New York. N. Y. (491.5), 0:45-7:45 a. m.



Winifred theney is an attra of two coed at Befort college. Although she is only a freshman, she has entertained many times during the WEBW, and is much in demand for the vssper programs.

Metropolitin tower health drill: 4-4:10 p. m. Attillo Martini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by Mrs. Oraclini, 1 vers of 10-40 m. J. Demonstra by J. Demonstra b

New York, N. Y. (315.6), 1:20-2 p. m., C Kaufman, soprato; Emile Fanning, tenor; iew with Joseph Miller, Jr.; talk, Henry Sp illiam.

view Kaufnam, soprams; Fanter Finning, towns view with Joseph Miller, Jr.; (all, Henry Spensier Williams, N. V. (319), 2:30-4:20, p. m., WGR's afternoon messical, directed by A. J. Erfsman, with messical properties of the proper

WJAR. Previdence, R. I. (3959), 7.95 p. m., studio program.
WIR. New York, N. Y. (454.3), 1.2 p. m., Erdedy's Prigit Law orchestros, voly-b, Preddic Pith, and Botel S. 50-10. seaf program from Aeedian 1341; 19-10-30, Maurice Lass and his string trio; 10. 29-11-30, Joseph Kneedis's Walderf-Astoric dance orchestra, M. dally Mills Philosophista, Ps. (480m; resident, M. dally Mills Philosophista, Ps. (480m; resident, M. dally and C. S. (480m; resident, M. dally and C. (480m; resident, M. dally and

Eastern Standard or Central Daylight

CNRO, Others, Car. (435), 7:30 p.m., beddine story, S. Chaten Laurier common criticals. P. Herber Sandiers, plantist Helen Lamcon, cellist; Charles Kavanaugh, soprancy Dandel Hans, violulari, surjac quariet; Clarices Laurier, dance orchestra. (RAA, Pitthursh, P.A. (2084)), 8:59 m. ddfess, RAA, Pitthursh, P.A. (2084), 8:59 m. ddfess, Dance Charles C

Headliners of the Week

HE KENTUCKY DERBY will

THE KENTUCKY DERBY will be broadcast Saturday afternoon by WGN, Chicago. The announcer promises all the exciting details. The big New England feature for Saturday will be the opera 'Adda,' sung by the Boston Opera company and broadcast by WBZ.

Three Russian singers of note will give a program of Russian folk and gypsy songs Sunday at KPI, Los Angeles. Innokenty Soohoff, baritone, John Lutkin, tenor and Vera Slavina, planist, will interpret the songs of their country.

Marjory Garrigus Smith, the popular Radio artist who played so well she wou the heart of the WLW announcer, will he on the air again Monday evening. Mrs. Smith is a planist of note. The Naples quartet with their mandolins and guitars will sing Meditervanean boat songs at WHO this same evening.

The outstanding feature of the week for WCCO will be the production Tuesday of 'The Prodigal Son.'' A chorus of 160 voices from the First a Baptist church will give this tremdous cantata.

KFAE, the college station at Pullman, will give an interpretative reading contest Wednesday. The following students of the dramatic department will take part: Mary Alice Armold, Mabeile Carstens, Clelah Cooper, Catherine Crosby, Doris Marsolais and Audrey Savage.

CNFW is giving a classical concert Thursday composed entirely of operatic selections. You will be sure to find one of your favorite songs on this program. The late entertainment of WFAA will be composed of music intended to relieve the inind of the tired business man, including the latest features from the Jefferson theater.

Friday marks the end of student programs from WEMC this spring. The Radio Lighthouse choir, Ernest Hurd, tenor, and Tootie Kressin, soprano, will entertain. Many nnique instruments will be featured at WEAR. The zither, the saw and the harmonica will compete with one another. The light opera, "The Miskado," which has been broadcast more than any other operetta will be sung at WAHG.

Central Standard Time Stations

KFAB, Lincoln, Nebr. (240), 11-12:30 a. m., midnight

KFAB, Lincoln, Nebr. (240), 11-12:30 a. m., midnight FAB, Lincoln, Nebr. (240), 11-12:30 a. m., midnight FOUNDERS, behandresh, lowa (286), 6:30 p. m., Stock FAB, Britsow, Okla. 1034, 51-20 p. m., Sunkay school losson, 9:12, mid. (1945), 7:30 p. m., Sunkay school losson, 9:12, mid. 7 p. m., Grand Central beater program; stage concert, Miller's orthester, 3:30, City Club dance music. 10 p. m., Grand Central beater program; stage concert, Miller's orthester, 3:30, City Club dance music. White the stage concert, Miller's orthester, Wardeloo band; 10-16:30, New Artinston hotel dance orchestra.
WAND, Misneapolis, Misn. (243-8), 12 m., Gayle Wood, ergenist; 10, Obsourt orelession, m. sunday school lesson, Mrs. W. F. Barnum, Cotto, Mineapolis St. Paul, Misn. (416.4), 2:30 p. m., matines musicale; 5:30, Dick Long's Nankin Cotto, Misneapolis St. Paul, Misn. (416.4), 2:30 p. m., matines musicale; 5:30, Dick Long's Nankin Gran; Golf Medal Radio quartet; 3:30, Coubby chartety Lik, Buel F. Jones; 10, Dick Long's Nankin Club orchestra; 19:40, Mon. (365.6), 3:30-4:430 m. m. or long strong long strong strong

WGY. Schenestady, N. Y. (379.5), 8:30 p. in., Ben Barial's excelenta.

WJDD. Mosesheart, III. (392.8), 4-4;30 p. in., Moose-heart assembly, concert band; 6:45-7:15, Albert F. Brown, organist; John Corny's orchestra; 7:15-8.

Erown, organist; John Corny's orchestra; 7:15-8.

Erown, organist; John Corny's orchestra; 7:15-8.

WLS. Chiengo, III. (344.8), 7:45 p. m., Lullaby time, Charley Straight and bis orchestra.

WLS. Chiengo, III. (344.8), 7:45 p. m., Lullaby time, Charley Straight, and the Charley Straight and Emperon Commission of Charley Straight and Charley Charley Straight and Charley Charley Straight and Charley Charley Straight and Charley 7-8. dinner concert, Ralph Williams and his Rainbo Gardens cricerita; Shoopard Levine; Cutor: Halen Reed, acquire the property of the property

Pacific Standard Time Stations

KFI, Los Angeles, Calif. (467), 5-30-6 m.m. Examiner.

KFI, Los Angeles, Calif. (467), 5-30-6 m.m. Examiner.

KFI, Los Angeles, Calif. (467), 5-30-6 m.m. Exhibition of the control of t

L n c i l l e
O' H a r a,
soprano, sings
at WBON
Chicago,
every week.
She is as good
to look at as
she is to hear.
She won a
b at h in g
beauty contest
conducted by
the New York
Times.



land hotel orchestra; 10, dance music, Multinomal hotel, or Angeles, Calif. (405.2), 5:30-6 p. m., Leighton: Arcade cateloria orchestra, Jack Crombaue; lender; 6-6:30, Art Blickman's Blincore hotel basect orchestra. Edward Fitzpastrick, director; 6:30-1:31, little stories, American higher, Port Valler Streeter jureniles, Uncle John, 7:30-8. Valroline string trick, 10:30-30, p. 10

Sunday, May 17

Atlantic or Eastern Daylight Saving

Atlantic or Eastern Daylight Saving
Time Stations

#8BR, New York, N. Y. (272.6), 10 s. m., Watchtower orchettra; 16:20. L. Marino Henver, soprano;
10:30, "Willy Can Noi Man Save Blunself," R. J.
Coward; H. L. Marlon Brown, sopranoi; 9 s. m., 1.
D. S. A. choral singers; 9:10. Watchtower string
the string of the string of

16:10 Watchtower string quartet; 10:29, f. B. S. A. CARE NIEBOURD AND CARE PILIBOURD PA. (66:13). 2. p. m. People's Radio church service; 4. concent; 6:30, William Tenn hotel. Historian parter; Maide Binanon Petit, moried director; Date of the Concentration of



Emil Heimberger's Hotel Bond trio plays the dinner music every Monday and Thursday from 6-7:30 p. m., at WTIC, Hartford.

Bubbles. Charles Pairson; 10. Vienes Locket Head Maydowee dance orthestra: 10:30. Crandair's Saturdas Maydowee dance orthestra: 10:30. Crandair's Saturdas Mightes; 12. dance outsile. Sidney Selderman's orthestra. Wast. Cincinnati, Ohio. (326), 7:45 p. m., Children's vietr. Max. Divid Krapp Behrman; 8, chinney Sids. Vietra, Max. Divid Krapp Behrman; 8, chinneys Sids. Vietra, 10:30. Elvide Intel Quartet. Hickore male vietrately 12, midnight entertainers; 12:30 a. m., Freds inner's Tootstonol orthest bour music. 47. Divid Wight. Cleveland, Ohio. (389.4). 12:15-1:15. Em. W.FAM. Cleveland, Ohio. (389.4). 12:15-1:15. Em. W.

WTAS, Elgin, III. (302.8), 8-10:30 p. m., Villa Olivia Radio concert, WTAS orchestra, Cavanaughs.

Landry and his Victor Recording orchestra; 7:30, address; 9, program, Omana Printing, company; 10:43, Frank W. Hodolf and law Nighthimps; 11:15, Arthur H597 organ jubilice; Dr. Applessues, announcher. 23sl Greato; 11:12, Lords Connor and his LeClaire hotel orchestus; Peter MacArthur, bartione. 23sl Greato; 11:12, Lords Connor and his LeClaire hotel orchestus; Peter MacArthur, bartione. Wolf, Ames. Iowa (279), 12:39 p. m. "Parks and Wolf, Ames. Iowa (279), 12:39 p. m. "Parks and WSB, Atlanth, Ga. (428.3), 5-8 p. m., Criterion quarter; 6, Sunday school lesson, Dr. Marton McHull; 5:9, Milistead band; 10:45, Journal Hired Help Sylatk, WSMB, New Orleans, La. (319), 11:30-1:30 p. nn. Sem. 1:30-10:29, operatic program.

Mountain Standard Time Stations WWJ, Detroit, Mich. (352.7), 12:05 p. ni., Jules Klein's KDA, Denver, Colo. (322.4), midnight, Joe Mann and Holel Statler orchestra: 3. Detroit News orchestra.

AMATIC READING CONTEST AT KFAE

Max E. Shippee is the tenor soloist with Ward's Trail Blazers. He may be heard this Monday at WHAP. Rathryn Fisher (below) is a sample of what Utah produces. Miss Fisher is a talented young planist and appears regularly at the new Ogden station, KFWA. Madelyn Marshall Simon (right) is also a planist and appears under the name of Maude Mason at WARG, Richmond Hill. We do not know the reason for the nom de mike.

Su

(Con

New York 1:38-7:30. Philadelph Bethans peden; A. Ma . Quigg.

n Star

y, May 17

d from page 8)

V. (341), 3-5 p. m., special con-Golden and his Hotel McAlote

a. (508.2), 2:00 p.m., Sunday e; 6:05, organ rectal, Clarence services. Bethany temple, Rev. n. pastor: organ recital, Caro-

Trinky church: \$:15. Dr. Price, noted evangelist, KFAB, Linkole, Nebr. (240), 4 p. m., church services, KFMX, Northfield, Mina. (335.9), 7 p. m., college veapor service. KFRU, Britonia Silvan, 30:30 n. m., Sunday KFRU, Britonia Silvan, Si

d or Central Daylight
Time Stations
(309.1), 9.13 a. m., Sigh Pres.
m., Dr. Churies Heinright, or Heinright, or Full Control C

of Christ; 3:30 p. m., Tuesday Musical club string orchestra; 7:50, First Church of Christ Scientist.

of Christ; 3:30 p. m., Tuesday Musical club atrins orobests; 7:50, First, Church of Christ Scientist.

Pacific Standard Time Stations

KFI, Les Angeles, Calif. (467), 8:30 p. m., McDaniel's nightly doings; 8:45-7. musical appreciation talk; 7-8, from stage and studio of Metropolitan thesize, 45-10, 1999.

Russian folk and gypsy songs, limitenity Schoff, barticos; John Lutkin, tenor; Fera Slarday, planist; 9-10, Examiner; Clinderella indimensor orchestra of Long Beach; 19-11, Packard Eight dance orchestra. Bill Fernossy, leader; Star Russell, Ulies Shaper.

Formossy, leader, Star Rus

basi; 9, A. & P. Gyper string ensemble: II, Press Kaybee, Blackstone theater orchestra. V&AF, New York, N. Y. (491.5), 6.45-7:35 a. m., Metropolitan tower health drill; 4.4-215 p. m. Elaine William Duble-Kerr; 4:90-46, Marine Schott, plassist, 4:20-5, talk to children, "More Bears and Dogs," Major Anthony Flaia; 8-7, dinner masic, Waithert, Asteria; 7:4-15. "Containess or Chees, Proceedings of the heater and studie, directions of Mr. Joseph Plumiast; 8:30-8-255, Eleanor Payes Babnice, planist; 8:30-8-858, Mercopolita Jófa fresurance concepant; 10:50-11-50, Ilan Bernie and his hotel Rocevett or-chestra.

WEI, Besten, Mass. (475.9), 5 p. m., Palm Garden Hambelers; 4. Andre Savard, planist; 5:30, Sid Reinhers and his orowiestra; 5:30. Bid Brother club; 7:39, Dar-Elsenbeurg and bis Shifondans; 8, Mandelin tob; 5:45, Town beeth dals; 9. d. 4. P. Gyntes: WFI, Philadelphia, Pa. (394.5), 1 p. m., Meyer Davis concert orchestra; 4:30, Charles Miller's dance orchestra; 4:30, Meyer Davis concert orchestra; 6:39, Meyer Davis concert orchestra; 7, bed-time stories; Midoly Five dance orchestra; 7, bed-time stories; Midoly Five dance orchestra; 7.



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Washingto ii. Bethle Enfectoral theater; cont. orga B. Pe

u. Uncle master of hishanectady society; 2 fa. White 7:45, B. violinis: Nosscheart of 12-4 a. Cincinnat

ileago. Ill einneinnati, al Staff e al Conce alc Ster rel. af Lockport

Catle, sup-Eigin, till Frank \ Detroit, & pul cathe-Hoxy and entral ! 126), 4-9 n. m., lea dance presectestra: Nel Santry; Santy;
Santy Santry; Santy;
Lossoury Huther; 5-10, Sandy
Revnerston Sisters trio; special
versan; teore; Ned Santry.
(286), 10:30-12 p. ph., service,
; Rev. Rufus White; 4-5, Lain
ver; 7-8, Laiu Raben, riblinis;
Lain Grinint, sprang; 8-11,
vax Daveins Garden, gebeng;
little reality; see Mart's Barpatte reality; see Mart's Bar-C. (468.5), 11 o. m., services: appel services, Mt. Stalban Na-dial; 6:124. Rosy and his Gang, Skibner organ recital; Maurice Theo Karl, temp; Joy Babcock,

(70.2), 7-9 p. m., twilight pro-

0.2). 11 a. m. crisics for the 1:15. Chicago theater; 2:20, never; 0:10. Smillst Evangell-Our Redictore chair. (- (379.5), 10 n. m., First Uni-m., WGY Symbony orchestra; uno; 7. All Souls Uniturian jumodure orchestra; 9, Godfrey



S. m., Defroit News orchests; Jong.

Mountain Standard Time Stations
CFAC, Calgary, Cas. (434.5), 7 p. m., First Baptist church, Rev. Dr. H. H. Bingham,
CFAC, Calgary, Cas. (232.4), 10:30 a. m., First Church

leader 6:30-7. Art Hickman's Biltmare botel concert orbester, Edward Pitzostriet, director; 7-7:30, organ rectial, Arthur Bilstely; 5-10, Lincoln program, Harold L. Arnold, Inc., automobile dealers, arranged by J. Howard Johnson, M. R. Lander, J. L. Lander, J. Lander, J. L. Lander, J. Lander, J. L. Lander, J. Land

Monday, May 18

Menday, cliest night for: CHID, CKAC, CKY, CNRT KFOM, KFMO, KFMO,

the Criterions; 18-2 a. m., spream processor, warmen, warmen, which was the control of the contr

Eastern Standard or Central Daylight
Saving Time Stations
CHIC, Toronto, Can. (337), 10 b. m., Canada male
quartet: Thelma Batestan, soprano; Jackson Crawford,

CHIC, Torgato, van. (1977), quartet; Theima Batesan, coprano; Jackson Crawrorz, quartet; Theima Batesan, coprano; Jackson Crawrorz, Charles Charles, Charl

QUEER INSTRUMENTS AT WEAR FRIDAY

Monday, May 18

(Continued from page 9)

"Days and Nights in Washington," William Bard; Washington Post hour; features. WCEE, Eigin, Ill. (275), 10-30-12 midnight, Charlene Star midnight dance program, Joe Rudolph directing

"Days and Night in Washington," William Bard, Washington Post hour; features.

WEEE, Elgin, 111, (275), 10.30-12 midnight, Charlend WEEE, Elgin, 111, (275), 10.30-12 midnight, Charlend WEER, Cleveland, Ohlo (383.4), 7-8 p. m., Losw's WEAR, Cleveland, N. Y. (379.5), 1 p. m., "Selection of Furnisher," Prof. America Survey Theory, 1 p. m., Losw's WEAR, Cleveland, N. Y. (379.5), 1 p. m., "Selection of Furnisher," N. Y. (379.5), 1 p. m., Elmon Willard School conservatory, Prof. William Glover, Bedvard, A. Adler, pianist; Mrs. Frederick R. Pearson, sonrand, WHAZ, Troy, N. Y. (379.5), 8:15 p. m., Elmon Willard School conservatory, Prof. William Glover, Bedvard, William Glover, Bedvard, William Glover, Bedvard, William Glover, Bedward, Prof. William Glover, Bedvard, Prof. William Glover, Bedva

WTAS, EIGHN, 11s. (2004.0), Orbestra; Cavanaughs, Frank Morris, WWI, Odeneit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Staller orchestra; 3, Detroit News orchestra; 5, dinner concept; 5, concert Grom New York; 9, Detroit News orchestra.

News ordesets, Standard Time Stations
KFAB, Liredin, Neb., (24), 7:30-8:39 p. m., Orille Andrews, Bufck warbler; Collectans orchestra; Verne E. Powell, sacophone vizard; Walthut it; njano tumer of the Collectans orchestra; Verne E. Powell, sacophone vizard; Walthut it; njano tumer of the Collectans orchestra; Verne E. Powell, sacophone vizard; Walthut it; njano tumer of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Zine Deposite; 7:21-30. "The Story of the Luca and Luca

9:30 D. m., concert, Byr. Ustram H. BANG, STATES, STAT

ESW. Beleit, Wis. (288), 2:45 p. m., concert. Beloit college. Perice Springs. Mich. (285.5), 8:15 p. m., EMG. Lightheuse Music Makers. [187], Lightheuse Music Music

Athletic club; Bill Deutster, string orderestra, Frank Bage, Icnor; Cyril Fosser, planist. William Committee and C

ment of the series when the series were series when the series when the series when the series were series and obstacles Encountered, L. F. De-Hart; address, Georgia A. Pickens; Paris, Missouri high school band and see clob.

""". Gentlan orthest high series when the series were series were series when the series were series were series when the series were series when the series were series were series when the series were series were series when the series were series when the series were series were series when the series were series were series when the series were series when the series were series were series when the series were series when the series were series were series when the series were series when the series were series were series when the series were series when the series were series when the series were series were series when the series were series when the series were series when the series were series when the series were series when the series were series when the series were series wer

Mountain Standard J. time Stations (OA, Deswe folio, (322.4), 6.30 p. nr., sandman's hour; 8, Fred Schmitt, and bla Rialto theeter orchestra; 8-10, studio program, Cheyene Chamber of commerce; address, Nellie Taylos Ross, Wyoning governor; Cheyene Lloni male quarter; Cybe G. Boss, violinitat, Starguette Viciniosis Basics, organis; Allos arimus corchestra.

Connett, contraito; Alice Clark Ross, plantis; AOA of Connett, contraito; Alice Clark Ross, plantis; AOA of Chestian, Carlon Ross, Carl

KF1, Los Angeles, Callft, (467), 5:30-8 p. m., Exumber's mattice program; 6-6:15, McDaniels' mightly control of the program; 6-6:15, McDaniels' mightly control of dense mute; 8-8, program, 8-7, program of dense mute; 8-8, program, 8-7, program, 8-8, program, 8-7, program, 8-8, program, 8-7, program, 8-8, prog

Fection Haves Several Programs of the Control of Monthantic cofe dance orchestra, have redesky heads.

Calif. (381.2), 2 pm., musical program,
posaleti 4-520. Henry Haistond's dance orchestra;
5:30-6, Aum Betty stories; Kiddies' Klub; 8, "The
Olive Industry Prof. W V Cruess; music, Arlon
Uric Lindustry and Perisonne," B. J. Williams;
'Chats the New Books, Joseph H. Jackson; 10-11,
K. M. Hanry Haistend's dance orchestra, soloist,
K. M. Hanry Haistend's dance orchestra, soloist,
K. M. M. Haist

trio; 5, ekildren's program; 6, William R. Boone, or-ganist, KJR, Seattle, Wash. (384.4), 5:30-9 p. m., Gordon Milbourne and his orchestra; 9-10, Post-Intelligencer

Milbourne and his orchestra; 9-10, Post-Intelligencer program.

KLX. Oakland. Gall. (508.2), 6-7 p. m., organ recital; 5-20.9, educational purgram; 9-30-10, American theater 5-20.9 (educational purgram; 9-30-10, American theater 5-20.9), educational purgram; 9-30-10, Substitutional Communication of the Communication of the

WFI. Philadelphia, Pa. (394.5), 1 p. m., Meyer Datis concent orchesizes; 32.00, "Bringing the Bank Clover to the Poblic," Harold W. Scott; 4, clart winning choises; 6, Green Hills Farms dance orchestra; 6.20, Mayer Datis eccent orchestra; 1.5 deline stockers; 7.5 deline; 7.5 deline

reservers. on author cloos; y. W.I.W. dinner hour naservit; S. one half hour concert program, Jack Jost Famous Lyrle male quarter; S. the Formics concert ordicates.

WMAQ. Chicago, III. (447.5), 4.75, p. m., American Red Cross Jalle J. E. W. Centler; 3.03. Insulend production of the concern and the co

Central Standard Time Stations

Central Standard Time Stations

CKY, Winnipeg, Can. (3844), 8:15 p. m., concert, To. I. Insoln, Nebr. (240), 11-12:30 a. m., midnight remoders.

KFKX, Hastings, Nebr. (268.3), 12:30-1 m. m. Radio farm school: Linco Mines and Other Foulty Parameters.

KFKX, Hastings, Nebr. (268.3), 12:30-1 m. m. Radio farm school: Linco Mines and Other Foulty Parameters.

KFMX, Forthfield, Mine. (395.9), 9 p.m., Over Mitchell and his orchestra.

KFMX, Northfield, Mine. (394.5), 10:30-12 midnight number.

KKDX, St. Louis, Mo. (545.1), 6 p. m., Rader's orchestra. KSD, St. Louis, Mo. (545.1), 6 p. m., Rader's orchestra. KTHS, Hot, Saring-National Park, Ark. (374.8), 8:30-10 p. (1997), 10:30-12 midnight number.

KSD, St. Louis, Mo. (545.1), 6 p. m., Rader's orchestra. KTHS, Hot, Saring-National Park, Ark. (374.8), 8:30-10 p. (1997), 10:30-12 midnight number. (1997),

the Farm Eurou, O. E. Braditut; 3-20-24, versume at home with the worth, Texas (475.9), 7.29 p. 10., band content; 3-30, classical program, J. E. Couley, WCCO, Minneagelis, St. Paul, Minn. (416-54), 8450 p. 10., Billy's St. Paul hatcl concert ordinate; 7, program from WEAFS, "The Prodigt Son," abusin of 160 rotors, First Hapitut chards, Theodore bengman, organizer, 111 pages 10-111 cents, colored quintity, address, and the product of the program of the product of the program of the product of the

from WEAR; 5, and the state of the state of

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Mountain Standard Time Stations

CNRR, Regina, Can. (312.3), 8 p. m., hedding travel tale, Jingles Kiddles; Grace Newman's Mandollts sertel. KOA, Denver. Coto. (322.4), 3 p. m., mathos. for housewives; 6-0.30, dinner music.

Pacific Standard Time Stations

KFI, Los Angeler, Calli, (467), 5:36-6 p. m., Escaliner; mattner program; 6-6:15, McDautels* Gleinly chings; 6-6:57. Raditored in S., 783, Academ machane objects; 6-6:57. Raditored in S., 783, Academ machane in the control of the c

KFOA. Seattle, Wash. (454.3), 4-5:15 p. m., Olympic hotel orchestra; residee; 6-6:35. Olympic hotel concerv orchestra; 6:15-8:15. Mahades' Descriment store pro-gram; 8:30-10. Those studio program; 10:05-11:30. Olympic hotel daine unset.

Otympic noted dange messes program; 10:30-11:30, KFWE, Hollyweed, Edit. (22, 13:13-30). m. Earry Torocal ducks; 0-10, program. Cinio Oli senganger, Roce Vastyda, the left with the double voice, Changes Romecy, barlione: Tillian string critics; 11:11, Parentr Hox. a. m., Francistator; Schowed, Montmache cut et al. (Continued on page 11).



Lina Torrano, wonder child of the piano accordion. She can make this difficult instrument talk tone plotares, and will do so from KGO Tuesday evening, May 19. Miss Torrano is said to be the youngest living virtuoso of the piano accordion.

whaz. who, wiad, wkaq, wmak, woi, woo, wsac, wsu, wram a yalight Saving Time Stations Chra, Moschen, Can. (313), 330 n, m., Mrs. R. L. Niesses, soprano; Mrs. W. A. Fitch, contralto; B. M. Dellong, soprano; H. V. Museray, bartione; George Davidson, base; E. C. Blacket, planit; Gurdon Douglas, satophositis, N. Y. (315.6), 12-12-55 p. im., talky and muse. La Scala stulle.

WcAE, Pitthurgh, Pa. (461.3), 4:30 p. m., William Penn haid; S. program from New York; \$:30, 60id. Dust Twins; S. program from New York; \$:30, 60id. Dust Twins; S. program from New York; \$:30, 60id. Dust Twins; S. program from New York; \$:30, 60id. Dust Twins; S. program; S. O. Charles Verna's dusc orchestra; 7:30, recital, M. Shallenburg and company; S. talk, Clara Zilliesen; 8:20, recital; 10:10, 8aido talk; 10:30, Jack Myer's Musical Architects dance or-WOWF, Providence, R. I. (440,9) 8:290-9:20 n.

3. talk. Clara Zillessen; S.29, rectas, assay, assay, astalk: 19:30, Jack Myer's Musical Architect dance ortain: 19:30, Jack Myer's Musical Architect dance orthography. Providence, R. 1. (440.9), 8:39-9:30 p. m., "When T. Lopes Arcadia dance orchestra".

WEAF, New York, N. Y. (491.5), 6:45-7:45 a. m., Betropoliton lower health drill; 11-11-12.0, gustacle Charles B. Scully, auspices of American Red Cress; 11:25-11-30, music; 11:30-11-14.5, lecture, Board of Efficiency, 11:25-12, motion picture forecast, Adele Wandschafter, 11:25-12, motion picture forecast, Adele Wandschaft, 11:25-12, motion picture, 12:35-5, women's program; 6:1; Effiner music, Waldorf-Astoria; 7:7:15. Buth Russell, paints; 7:13-7:30, "Whalk Europe Thinks of American Art." Steamy R. 30-9: Whalk Europe Thinks of American Art. Steamy R. 30-9: Motion and doctors, Mr. and Mrs. Burton Picture, 10:43-10, motion and doctors, Mr. and Mrs. Burton Picture, 10:43-10, motion and doctors, Mr. and Mrs. Burton Picture, 10:43-10, motion and doctors, Mr. and Mrs. Burton Picture, Valanber of Burton's WEAF Grand Opera company; 11:12, dence metal.

Berille, "WEAF Grand Opera company; 11-12, dance WEBJ, New York, N. V. (233), 7-130 p. m., Dan Barnett's orchestra; 7-25-8, Edith Law, soyrano, ac-companied by Allice Law; 8-3-10, raiftened Laik, G. T. Beet; 8-25-8-25, Richard D. Gibbert and Noth Winn; WEEL, Bassen, Mass. (47-50), 2 p. m., Johnnel Bowles and his Napoli Foor: 4, Harry Joyce and his Gastla by Marchine Companies, 1, musclate from New York; 4-30, Gold Dust Twins; 9, Evercady hour; 10, operatic group.

KPO, San Francisco, Calif. (423.3), 1-2 p. ns., Rady
KPO, San Francisco, Calif. (423.3), 1-2 p. ns., Rady
KPO, San Francisco, Calif. (423.3), 1-2 p. ns., Rady
KPO, San Francisco, Calif. (423.3), 1-2 p. ns., Rady
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Eastern Standard or Central Daylight Saving Time Stations

Saving Time Stations

KD(&A, Pithharph, Pa. (309.1), 8:45 p. m., concert;
18:39. Grand theater,
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WEAR, Giverdand, Ohlo (3984), 7-10 m, program from WEAR, Giverdand, Ohlo (3984), 7-10 m, program from WEAR, Giverdand, Ohlo (3984), 7-10 m, program from WEAR; 10-11, Vincent B. Percy, organist.

WeN, Chicago, Ht. (370-2), 5-30 m, Nekesit three for the children; (3-0-7:0), brake concert encomble. Endoctore artin, quinter; 3-30-3-20, depend outcomed. Children; Wear, Schoenerton, N. Y. (376-5), 1 m, Judge Lynch, WOY Pistra: 1-10, Staphen C. Polyclett, regarder; 5-30, WOY Pistra: 1-10, Staphen C. Polyclett, regarder; 5-30, Dependent of the children of the

9. "Over January 10:30, Stephen E. Dolfstein, Organization, Organization

WAHG TO ENTERTAIN WITH "MIKADO"

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, May 19

rom page 10)

161.2), 4-5:30 g.m., concert acls; Vinton LaFerrera, con-Grassi trio; Burethy Carem, piane arcordian solos, Lina Scotch tenor; Ernest Alwyn, nee Oliver, barlione; Arden 10-1 a. m., Henry Halstead's

19-1 a. m., Henry Halstead's
\$5, 12,30 p. m. Rose Cly
19 N. Orson Agricultural
lecture: 8,20 Woolach &
masle, Multinomah holel.
(465,2), 5,20-50 p. m. Ledghlestra, Jack Crossistes, leader; Or
filtimeer hosel concert, Or
tentral transportation and Sandman;
and Louis F. Klein, autotentri Hill, readings; 7,309,
tentral Hill conclusion Phelips;
reanized by G. Allison Phelips;

club: 7:30, Minerva Komenarski, soprano 8, Traveler shoe orchestra: 8:30, M. B. Coban's half hour nost-ture of the communication of the communication of the WFI. Philadelphia, Pa. (294-25), 1 p. m. Meyer Darfs connect orchestra: 4, Friends School Entsystems; 7, 6:30, Meyer Davis concert orchestra; 7, bedstime

6:30, Meyer Davis Constitution of the States, States, WGBS, New York, N. Y. (315.6), 3-5 p. m., authors' afternoon; Louis Burkhard, violinist; 6:80-7, Elite or-

Wildler, Rew York, N. T. (319), 2-5 br., actions, cheering, Louis Burbinard, victimist; 6:39-7. Elike or cheetirs.

WGR., Buffale, N. Y. (319), 2:30-4:30 p. Br., WGR's atternoom musicale; directed by A. J. E. Hanner, 5-7-7.

The statement of the state of the statement of the st

WJAR. Providence, R. I. (305.9), 10 a. m., household

6:30-7:30, Drake concert ensemble; Blackstone string quintet; 8:30-9:30, classical concert; 10:30-11:30, Drake hotel dance orchestia. V. (376.5), 5:30 p. m., children's proposition of the proposition of

Gleen
WLW, Clorinnati, Ohio (422.3), 12:15 p. m., requised
program, Irene Downling and Mariory Helestresis, 4,
shull in program; 7, dinner hour occur; 10, occur,
instrumental trio; 11, Old World Symphonies, Units
selections, of the program of the program of the program
selections.

MAO. Chicago, 111, (447-5), 4:05 p. m. beauty talk.

siors; 6-6-36, Congress hotel; 7-8. Ann Kelley, soprane: Evelyn Planert, planist; Alim J. Anderson, soprane; 8-12-30, Paul Whiteman's Collections.

The Collection of Collection of

University: School of Music.
WHAD, Milwanker, Wis. (275), 6-7 p. m., twin organ rectral, Arthur Richter; S-16, Wisconsin Roof Garden's 11.30-1276 p. m., indinght request organ hour, School organ hour, London's WHAS, Lonieville, Ky. (389.8), 4-5 p. m., Louisville, Conservatory of Music; 7.30-8.30, Ketth Kannard and



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IV. Silent IYO. CNI KEMQ. CBD. WD GY. WH VMC. WE

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ichmond see and 8-8-15, grling m: 5, Maybel 5:45-16, Smith ar

Smith's littsburgh, William 10:30; e-hifadeiphi con-cri Boy, son: By, 'Care

New York Iltan heal (11:10-1 Ethel Za Child (1:1-1:11 Child et 1-1:15-4:30 of Fleien h McCarr 7-7:30, 30-9, cone-hour: 10: varie's he lew York, of City oston, Ma orchestr immie De

Nemo of Radio, an tist, appears regularly and Broadmoor studios ele Remus (center) as GHJ's third birthday ner of the largest harand plays this upon a this station.

illmore hotel dance orchestra

14.4). 8.50-19 p. m., Puget association musicale. 336, 9). 53.6-615 p. m., Wurnt, 0.50-190, program, Glove, J. 150-190, program, Glove, J. 150-190, program, First National descendent Furniture Manufactic number of the state of

if. (428.3), 1-2 p. m., Rudy orchestan, 3:30-4:39, Palace Ruby Server's Fairmont hotel restauration relation, 17-130, hotel erchestar, 8-9, Bass-9-16, Ladies Philharmonic by Buick's Calertans.

ay, May 20

L for: CFAC. CFCA, CHNC, KAC, CKY, KFDM, KFKU, KOB, WBAV, WBB, WEBW, WFAA, WFI, WGBS, YHAZ, WJAD, WJY, WLBL, WOAW, WOI, WGRD, WRC,

ern Daylight Saving Stations

Stations
V. Y. (315.6), 12-12:35 p. in.,
7.546-8. Cliff Ulrich, Jazz
dle Woodroff, soprano; 8:45arter; 8:36-8:45. Cliff Ulrich;
arter; 8:36-8:45. Striing male
- De Pout, reflix; 10-10:35.
Paramount orchestra; 11-11:30,

hints, Mrs. Wood; 1.05 p. m., orchestra; 7:30, from
New York.
W.J. New York, N. Y. (454, 3), 19-10:20 a. m., Homeviews League menu, Mrs. Julian Meach; 10:23-10:30,
"The Sick Bady," (15tiffic acuss servine, 10:40-10:30,
"The Sick Bady," (15tiffic acuss servine, 10:40-10:40,
"The Sick

band.

Nut.Y. Philisishipita, Pa. (384.5), 12:02 p. m. daily aluninge: Statlar heater organ recital: 2 m. daily aluninge: Statlar heater organ recital: 2 m. daily aluninge: Statlar heater organ recital: 2 m. daily aluninge: Care of Children, Mar. Luita Leve; 7:30. Dream Daddy's heddine stories; S.30, Allanine Choral society; 10, Areatic acts dance

Legislation of the property of

V. J. (315.6). [12-12.5] b. m. object. The control of the control

Madams Emm. 4.30. Commonlism School of Musics 6.
Chicago theaster organ recital; 6:30. mortes for chitdron, Georgens Faulkner; 8. Columbia School of Musics, 6.
Wh86. Chicago III. (29), 7-8:30 p. m., seral-classical
program, J. Indewalk Lampe, director; Carlos Martini,
Wh86. Chicago III. (29), 7-8:30 p. m., seral-classical
programs, J. Indewalk Lampe, director; Carlos Martini,
Uorgan and Trianon orenetra, artists, 39-10:39, Del
WORD, Batavia, III. (275), 8:30 p. m., prayer meetling comments, Oscar A. Olbon.
Worse, "Individuality in Millinery," Mrs. William
Russell; 7-8, concert, Raph Williams and his Rainbo
Garden orchestra; Elise Orr, soprano; Dorothy Egan,
Russell; 7-8, concert, Raph Williams and his Rainbo
Garden orchestra; Elise Orr, soprano; Dorothy Egan,
Williams and his Rainbo Garden Skylarks; Lew Burteror; Helen Reed, accompanist; El-1 a. m., Rajn
Williams and his Rainbo Garden Skylarks; Lew Burler, "The Client of the Art;" Jorg Stool, The Meloalfred Preed, barmonica and sulfar; Fred A. Jacobson, monologue; Hickey and Johnson, Hawalian SulfarMartiniams, and the Stool of the Stool
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Max Jacobs is conductor of the Chamber Symphony orchestra which is heard dut-ing the Everedy hour Tuesdays from 9-10 through WEAF and the chain of link stations. This orchestra, according to applause letters from fans, is well liked.

ham, planist; Myrtie Williams, sopram, or and consumer an

Mountain Standard Time Stations

KOA, Denver, Cote. (322.4), 6:40 p. m., sandman's hour; 8, Fred Schmitt and his Rialto theater orches-tra; 8:10, St. Hiratheth's choir; 10-12, Dave Ginsburg and his Argonant suchesita.

Pacific Standard Time Stations

and his Argonant sembestra.

Pacific Standard Time Stations

KFAE, Pulman, Wash. (384.5), 7:30-9 n. m., Interpretative resuling contest, dramatic students of Maynor and Contest. (1997) of the Love of a Man. Doris Marsolisis. The Second Trial. (2997) of the Love of a Man. Doris Marsolisis. The Second Trial. (2997) of the Contest. (1997) of the Love of a Man. Doris Marsolisis. The Second Trial. (2997) of the Contest of the

(Continued on page 12)

BOSTON OPERA COMPANY GIVES

Index to Popular Concerts

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

Atlantic or Eastern Daylight Saving Time Stations
Saturday, May 16: 7:30, WHAR;
8:15, WEAF; 10, WJZ.
Sunday, May 17: 7:20, WEAF,
WEEI, WJAR; 10, WHN.
Monday, May 18: 6:15, WOR; 7:30,
WEEI, WJAR; 10, WHN.
MONDAY, May 18: 6:15, WOR; 7:30,
WEAF, WHAR; 8, WEEI; 8:15,
WAHG, 8:30, WAEG; 9, WEAF,
WED, WHAR; 10, WHAR; 10, WEAF, WEB,
WEAF, WLIT: 10: 45, WOR, 7:30,
WEAF, WEEI, WHAR; 7:35, WHN;
3:15, WEBJ; 8:30, WCAE, WEAF,
WEEI, WFI; 9, WEAF, WEEI, WFI;
9:15, WIP; 11:30, WGBS; 12; WHN,
Wednesday, May 20: 6:15, WOR;
7:45, WAHG; 9, WOR.
Thursday, May 20: 6:15, WOR;
Thursday, May 20; 6:15, WOR;
THOUSHIP: 10:30, WAF,
WHN; 8:46, KURA; 9, WEAF, WFI,
WHN; 8:46, KURA; 9, WEAF, WFI,
WHN; 8:40, WHAR; 7:45, WAHG;
8:15, WJY; 8:30, WEEI, 9, WEEI;
10, WEAF, WEEI, WHN, WLIT;
10:45, WEAF, WEEI, WHN, WLIT;

Central Standard Time Stations Saturday, May 16: 9, KFRU, WAMD.

Sunday, May 17: 9, WAMD; 11, KFAB.

Sunday, May 17: 9, WAMD; 11, KPAB.
Monday, May 18: 6:30, WFAA; 7:30, KFAB; 8, KFRI; 8:30, KFAB; 10, WO1; 11:46, WDAF.
Tuesday, May 19: 6:30, WFAA; 5:30, WSMB; 9, KFRU; 9: 45, WOAW; 10, WAMD; 10:30, KFRU; 11, YFAB, WMC; 11:45, WDAF.
Wednesday, May 20: 7:30, KFAB; 8, KFRU; 8:30, KFAB, WSMB; 10:30, WCOC) 11:45, WDAF.
Thursday, May 21: 6:30, WFAA; 9; WOAW; 11:30, WFAA; 11:45, WDAF.
Triday, May 21: 7:30, KFAB; 8, WDAF, WGC; 3:30, WCCO, WHAD, WSMB; 9, WDAF, 9:30, WHAD, 10, WAMD, WCCO; 11, KFRU, WMC; 11:45, WDAF.

Eastern Standard or Central Day-light Saving Time Stations

light Saving Time Stations
Saturday, May 16; 8, WEBM,
WECN, WLS, WMAO, WMBB; 9,
WEBM, WECX, WLS, WTAM; 9:30,
WEBH; 10, WBBM, WBCY, WKRC,
WLS, WQI; 10:30, WEBH, WJD,
WQI, WRC; 11; KYW, WLS, WQJ,
WTAM; 11:30, WBBM, WBH,
WJJD; 12, KYW, WLS, WQJ, WSAT; 12:30, WBBM, WJJD; 11, WQJ,
WSCN, 30, WBBM, WJJD; 11, WQJ,
WBCN, 130, WBBM; 9, WECN; 9:30,
WBCN, 10, WBCN; 11, WKRC; 12,
WJJD; 1, WJJD.

Monday, May 18: 8, WKRC, WTAM; 9, WGR; 10:30, WJJD; 11:15, WMAK; 11:30, WJJD; 12, WMAK; 12:30, WJJD.

WMAK 11:30 WJJD; 12, WMAK; 12:30 WJJD, Treeday, May 19:8, WBBM, WBCN, WMBE; 9: WBBM, WBCN, WBB; 9: WBBM, WBCN, WBB; 9: WBBM, WGR, WGR, WGR, WGD; 10:30, WBBM, WJD; 11:30, WBBM, WBCN, WGI; 12:30, WJJD, WGJ; 12: WBCN, WGI; 12: WBCN, WJJD, WGJ; 12: WBCN, WGBM, WBCN, WMBM, WWCN, WBCN, WBBM, WBCN, WMBM, WBCN, WBCN, WBBM, WBBM, WBCN, WGJ; 12: WBCN, WGJ; 12: WBCN, WGJ; 12: WGJ, 12: WGJ, 12: WGJ, 12: WGJ, 12: WGJ, 12: WGJ, 12: WBBM, WBBM, WBBM, WBBM, WBBM, WBBM, WBBM, WBCN, WBCN, WGJ; 11: WGJ, 12: WBCN, WGJ, 12: WBCN, WGBM, WBBM, WBCN, WGJ; 11: WGJ, MGN; 7:15, WGJ, MGN, MGN; 7:15.

WQJ. May 22: 7, WGR; 7:15, Friday, May 22: 7, WGR; 7:16, WGY; 8, WEBM, WBCN, WGAR, WGB; 10, KYW, WBBM, WEAR, WGR; 10, KYW, WBCN, WQJ; 10:30, WJJD; 11, KYW, WQJ; 11:30, WJJD; 12, KYW, WQJ; 12:30, WJJD; 1, WQJ.

Mountain Standard Time Stations Monday, May 18: 8, KOA. Tuesday, May 19: 8, CNRR; 9, CNRR.

Wednesday, May 20: 8, KOA. Thursday, May 21: 9, CNRC: 10.

CNRC. Friday, May 22: 8, KOA.

Pacific Standard Time Statione Saturday, May 16: 7:30, KHJ; 7:45, KFWB; 8, KFI, KHJ; 9, KFWB, KNX; 10, KFWB; 11, KHJ, KNX; 12, KNX.

Sunday, May 17: 9, KFWB; 10, KFI, KFWB

KFWB.

Monday, May 18: 6:30, KFWB: 8
KFWB: 9, KFWB: 10, KFWB, KLX
Tuesday, May 19: 7:45, KFWB: 8, KFI, KHJ: 9, KFWB: 10, KFI,
KFWB, KNX; 11, KNX.
Wednesday, May 20: 7, KFWB; 7:45, KFWB; 8, KFWB; 8:30, KHJ: 9, KFI, KFWB, KNX: 9:30, KHJ: 10, KFI, KFWB, KNX: 9:30, KHJ: 10, KFI, KFWB, KNX: 8:30, KFYWB: 9, KFI, KFWB; 8, KFI, KFWB; 8, KFI, KFWB; 8, KFI, KFWB; 10, KFI, KFWB: 10, KFI, KFWB; 11, KNX.
Priday, May 22: 7:45, KFWB, KHJ;

11, KNX.

Priday, May 22: 7:45, KFWB, KHJ;
9, KFWB; 10, KFWB; 10:30, KGW;
12, KNX; 1, KNX.

Barbara Bess Wellman, contralto, is one of the artists featured this week at KDKA. This is the way she looks when she opens her applause letters.

Christenem, planologues; Rasemany Eugenes, ectiver orchestra. WBCM, Chicago, III. (266), 8-9 p. m., Midway Donelog Gardens orchestra; harmony duo; Pegys O'Ndl, 2017 or 2017 o

Control of the Contro

Idin Emerson. organist; 7:15. (Glenn's Cornhwelers; 125. (utilar) time; 8. E. Wauren Hane's classical pro"L'w. Cincinnati, Ohio (422.3), 12:15. pregram, Mr Phi
Epsilon sorority; 4. Frend lesson, Madame Ida Tdinpidits; plano recitat, Adelaide Apfel; 7. diagnet floor
concett; 8. precis promising, Chorne of Tritty Ladies;
10:43. ord-marker three tritty of the Corner of the Circle Service Deposition of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States Generalized;
10:43. ord-marker three tritty of the Circle States of Circle States of Circle States of Circle States ord Stat

WOLD State II. (273) #30 p. m. must. Ann. Doty Wernicke, director; Sunday school lesson, D. J. Morehouse. Wol. whicago. III. (447.5), 3-4 p. m. "Using Your Pressure Cooker," Helen H. Downling." Let's Go Swil miling. Summer's East Sport, Gerick Scienchino Swil miling. Summer's East Sport, Gerick Scienchino Goldward Scienchino Swil miling. Summer's East Sport, Gerick Scienchino Goldward Swiller, Carlong orchesters; Olia Moore, baritone; Laverne Ham-se, Daintit; Izora Reynolds, musical reddings; 10-1 a. m., Ilis Shannabrook, sonrano; Ned and Ches; Lucas sisters; Marie Writzh, soprano; Lew Builer; Marie Lucas Swiller, Swiller Bowley, Children Swiller, Swiller Bowley, Children Swiller, Swiller Swiller, Swiller Swiller, Swiller Swiller, Swi

WT. 44, Cleveland, O. (389.4), 12:15-1:15 p. ps. Euclid

tausle statice: 0-7, Hotel Stather concerd orchestra. WTAS, Elgin, 311, 332-26; 8-3; taiddight, WTAS or deadler; Island Morris, Francis and Bolte Certanian. Decert is the state of the state or deadlers. Hotel Statter orchestra; 3, Detrall New orchestra; 8, defending colorer; f, cancer from New York.

dinner curent; 7, curect from New York.

Central Standard Time Stations

CKY, Winnipse, Can. (384.4), 8 p. m., Canadian National Railways poptrom.

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Digby Tenatmon, outcome, and the productions of principles and the production of the

Porsythe, pichtist; Misser, quartet; 8:10-8:30, programs flow week; 8:30-9, 3 whee, American Parm burgan; 2:10:20, evening at home; Hellywood Lines; Frank WBAP, Fart Worth, Fesse (475.9), 7:30 p. m., Rainbo Netronader; 9:30, classical program. Tensa Christian WBAP, Fart Worth, Fesse (45.9), 7:30 p. m., Rainbo Netronader; 9:30, classical program. Tensa Christian WGED, Zion, He. Galeb, S. D. m., Junior closic; Mr. and Mrs. R. M. Station, the program on tener; Mr. and Mrs. R. M. Station, the program of the program

Wednesday, May 20

(Continued from page 11)

concert; 8. Western Auto Supply company; 19. Sherconcert; 8. Western Auto Supply company; 19. Sherconn. Cl29; 6. company; 20. Sherconn. Cl29; 7. company; 20. Sherconn. Cl29; 20. Shercon.

Thursday, May 21

Thursday, silent night for: CHYC, CNRT, KFAB, KFAE, KFDM, KFMX, KFOA, KLX, KOA, KOB, KSO, PWX, WAH, WBAY, WCEE, WDAF, WEAD, WBBJ, WEBU, WEAD, WHAE, WH

Atlantic or Eastern Daylight Saving

Time Stations
WAHG, Richmond Hill, N. Y. (315.6), 12-12:55 p. m., WANG, Hemmon ritt;

"Mendela program,

"Mendela pro

Cord orchestra, WCAU, Philadelphia, Pa. (276), 7:30 p. m., N. Snellen-

burg. & Co., gympheny connectra; 8, talk, Chra Zillessen; 8:29, recital; 9, concert; 10:45, Jack Myers' Mustral Architects dance orchestra.

WAF, New York, N. Y. (4813), 11:11:10 a. m., Limy, Dart, panelst; 11:01-11:30, talk, 'Couling Departs, Jack Myers, Myers

isit, Oliver Saylor; 9-0:30, gottar unos, samo un Lambrecht.
CGR. Burfalo, M. Y. (319), 2:30-4:30 D. in. WOR'S afternoon municale; 8-11. Joint broadcasting with a filternoon municale; 8-11. Joint broadcasting with Company of the Co

WHAR, Atlantic City, N. J. (27%, 7.3) p. m. Semide-hotel strip, S. studio rectall; 9, Mebburre hotel considering the strip of the strip

Monday. Wkrc, Wh Walig; 8:35 8:45, Wiz; 9:15, Wor; Walig, Wet Kfoa; 11, 11:45, We Kgo, Kns Ktwh, Kra

(Cent Saturday,

Saturday, Wib; 8:08 Webb, Wig Wolca, Wi Wrc; 10, Walra, W Wkrc; 10:3 18:45, We Kyw, Wij-11:30, West 12, KH, K Kox; 12:7 Kfwb, Khi.

Tuesday,
Wiar; 8:30
9, Wand,
Wmea, Wy
Wgbs; 9:5
Whn: 1
Kfab, W;
Wgbi; 1:
Kgo, Kgy
12:05, Kfe

Wednesd: Wahg, Whi Whig, \$100 Wiz, Wor Weaf, Wor 90:20, Whan 10, Kfl, Wtam; 10: Webh; 11, 11:45, We Khi, Kikeb.

Thursday Chnc, Wear Will, Wint S:45. Wen Weaf, Wh Wro; 9:15 Whn; 10:2 Who; W Wdaf; 12, Khi. Roo; I, Khyb, K Friday.

Friday.
Wilt, Waj
Webh, Rh
8:45, Wal
Wjar, Wq
10, Were,
Wilt; 10:3
Kif, Who,
11:45, KE
Khj; 1, Kf

AIDA" SATURDAY AT STATION WBZ



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Mounta C. Calgar les, Mrs. k Rushloi Denver,

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dra: 16

May 19: 8, Weau, Webh; Wgaf, Wjy, Wret 9:15, 6, Whin: 10, Whow: O, Widal: 12, Kbj, Kpe; 1, Kfwh.

CING

(1 Time)

May 16: 8.05.
Ksd. Klb.,
8. Kll. Wear,
9. Kll. Wear,
, Wre: 9:20,
Roa. Kpo.,
md. Wers,
, Kfoa, Webh;
s. 11. Riab,
Wor. Wir:
11:45. Wiaf;
o, Kgw, Khi
i, Kfoa; 1.

May 18: 8, Wwj: 8:15, Wesf, Wes; 9, KG, Why: :20, Whn: 10; Kyby: 10; Kiwb, Wjid; if: 12, Ffi. Kpo; 1,

f. May 20; x. f. May 20; x. t. Who, wife, Welth, Whn. 9. Wahs, Welth, Wean, 2:45, Who: Ygr. Who. Wijd, Wean, Wijd, Want dt 12, Kil, Kay Kore 1.

May 21: 8.
Wear, Weel, 8:30, Webh: 9. Wand, Wiz, Wqi, Wand, Jn., Webh; 11.
a k: 11:15, Kgo, Rgw. 12:05, 1650a;

\$:30, Weau. 8:30, Weau, , Wiz, Woes, ;; 9, Weaf, ; 9:30, Whn; Wgr, Whn, , Webh; 14, Wjid, Woes, , Wdaf; 12, -lall's Four-celle cyclestra; 9, Rose-fer Standford, dimetor.
(433,5), 430-5 M. mpdman's visit; WEAF 71-12, Lesis Connor and his estra; Peter Markthur, barltone, 1), 12:30 p. m., "Principles of Cull-Months," Prof. W. H. Lapp; 8:15,

. (428.3), 5-6 p. m., Vic Myers drime story, Ronnie Barnhardt; 8-9, 15, Charles A. Sheldon, organist.

tandard Time Stations
n. (430), 7 p. m., beddime travel
jest; 9, Hazel Campbell, violinis;
obtains: Holden's Academy orchestra.
(322.4), 8 p. m., mattnes for house-

andard Time Stations
Calli, (467), 5:00-6 p. m., Examirin; (5-45), Webarles' nichtly detotorial talk; 7-8, Glendale concert
Felst-on, contratio; Julia Leland,
ke, pianist; 8-9, Southern California
data, pieces, Kutherin Thompson,
rean, Chickering, half, Southern California
men, Chickering, half, Southern California
Demonate, Examiner program,
m. Permoner, Examiner program,

rism, Chickering man, community, Chickering man, Company; 18-11, Examiner program, in Primonier, and Primonier, in Primonier, in Control State of the Control Control

nic dance owinestra, Mel Pedesky.

[1. (361.2), 4-5:00 p. m., concert or Francis; Vision La Ferrera, contract of the contract

(384.4), 10:30-12 inlimight, "Keep (364.4), 10:30-12 intuning t., Acep for in the Bis 30-6:15 p. m., Wur-indio: 915, results of tests made in ratus testing laboratory: 6:30-1:30, 5 one-set play. Edward Murphol-13, one-set play. Edward Murphol-13, south Grove dance orchestra; 11-12, idents of University of Califorola,

1. Calil. (428.3) 1-2 p. m., Rndy botel orrhestra; 3:30-1:30, Palace us Trebbe, director; 6:30-f. States a; 7:7:00, Rndy Seiger's Faltmoni d, Threaber J. Irwin, organist; 9-tees Dan Lee-Cadiliae company; 10-scaping as a company; 10-

lay, May 22

Index to Classical Concerts

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

Atlantic or Eastern Daylight Sav-

White, Wilm, 8:30, WORD; 8:39, KDKA; 9, WGR; 10, WGR, WLW; 11, WLW.

Thursday, May 21: 6, KYW,

Central Standard Time Stations

Central Standard Time Stations
Saturday, May 16: 6, WHAD; 6:05,
WCCO; 6:38, KFNF; WSMB; 7, KSD;
CCO; 6:38, KFNF; WSMB; 7, KSD;
WCCO; 9:38, KFNF; WSMB; 7, KSD;
WSMB; 8:49, 8:37 WSCO; WKCO,
WSMB; 8:49, 8:37 WSCO; 9:30,
WGO, WOC; 9:05, WCCO; 9:30,
WGO, H1:15, WOAW, 9:15, WCCO; 9:30, WOC.
Monday, May 17: 7:30, WHO; 8: 7:30, WHO; WGO; 9:30, WGC,
MONDAY, FROM WGO; WFAA, WHO; WHO; 8:50, KFNF; WOAW; 7:30, WHO; 8:50, KFKX; 11:15, WHO; 9, WOAW; 9:30, KFKX; 11:15, WHO; 9, WOAW; 9:30, KFKX; 11:15, WHO; 9, WGAW; 9:30, KFKX; 11:15, WGAW; 9:30, KFKX; 9

WOS. 9. WOAW, 9:30, KFKX; 11:15, WHO.

Thesday, May 19: 6, WHAD; 6:06, CCO; 6:25, WOAW; 6:30, WOC
WSMB; 7, WCCO; 7:30, WHAS, SWHO; 8, WCCO; 8:15, CKY; 8:30, WFAA, WMC; 9, WOAW; 11, WFAA, WWCMOSAM, MAY 20: 6, WHAD; 6:30, WHO, WSMB; 7:30, KFNF, WEMC, WOS: 8:36, WDAF; 8:15, WEMC, WOS: 8:36, WDAF; 8:15, WEMC, WGS; 8:36, WDAF; 8:15, WEMC, WGS; 8:36, WDAF; 8:15, WEMC, WGS; 8:30, WFAA, WHAS, WHO; 8:30, CNRW, WFAA, WHAS, WMC; 9:30, KFKX; 10:30, KFRU, Priday, May 22; 6, WHAD; 6:15, WCCO; WGFAA, WSMB; 7:30, KFNF, WHAS, WHO; 8:14, CKY, WOS; 8:30, KFNF, WHAS, WHO; 8:14, CKY, WOS; 8:30, KFNF, WHAS, WHO; 9, WEMC, WGAW, WHAS, WHO; 9, WEMC, WGAW, WHAS, WHO; 9, WEMC, WGAW, WHAS, WMAS, WMC; 9, WEMC, WOAW, SANGAR, SANGAR, WMAS, WMC; 9, WEMC, WGAW, WAS, SANGAR, WMAS, WMC; 9, WEMC, WOAW, WMC, SANGAR, SANGAR, WAMC; 9, WEMC, WOAW, WMC, SANGAR, SANGAR, SANGAR, WMC; 9, WEMC, WOAW, The SANGAR, SANGAR, SANGAR, WMC; 9, WEMC, WOAW, The SANGAR, SANGAR, SANGAR, SANGAR, SANGAR, WMC; 9, WEMC, WOAW, SANGAR, S

Mountain Standard Time Stations Monday, May 18: 8, CFAC; 8:10, KOA.

KOA. Tuesday, May 19: 6, KOA; 7:45, CFAC. Wednesday, May 20: 8:10, KOA. Thursday, May 21: 9, CFAC; 10, CFAC.

Priday, May 22: 8:10, KOA.

Pacific Standard Time Stations
Saturday, May 18: 6, KFOA, KGW,
KGO, KNNX, 8:38, KGO, KNNX; 9, KFI,
KGO, KNNX, 8:38, KGO, KNNX; 9, KFI,
KGO, KNNX, 8:38, KGO, KNNX; 9, KFI,
KGO, KNNX, 8:38, KGO, KNNX; 9; KFI,
KGO, KPO, 8, KFI, KNNX, KHJ, KNY, 7:38,
KFO; 9, KFI, KNNX, KHJ, KNY, KFO; 8:30,
KFO; 9, KFI, KNNX, KFO, KIX, 6:30, KNY, 8, KFI, KNX, KFO; 8:30, KFOA, KGW, KIX, 6:30, KNX; 8:45, KFOA, KGW, KJR; 9, KFI, KGO, KFO, 8:30, KFOA, KGW, KJR; 9, KFI, KGO, KFOA, KGW, KJR; 9, KFI, KGO, KFOA, KGW, KJR; 9, KFI, KGO, KFOA, KGW, KHJ, KLX; 6:45, KFOA; 7, KFI; 8, KFI, KGO, KFOA, KGW, KHJ, KIX; 6:45, KFOA; 7, KFI; 8, KFI, KGW, KHJ, KFI, KGW, KFI, KGW, KFI, KGW, KHJ, KFI, KGW, KFI, KGW, KFI, KGW, KHJ, KFI, KGW, KGO, FFIday, May 22: 6, KFOA, KHJ, KLX; 6:45, KFOA; 7:30, KNX; 8, KFI, K:30, KFOA, KJR; 9, KGW, KNX; 9:15, KJR; 9:30, KJR; 10, KFI, KNX, KNX; 9:15, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KKIL, KNX, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KKIL, KNX, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KKIL, KNX, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KKIL, KNX, KJR; 9:30, KJR; 10, KKIL, KNX, KNX; 9:15, KKIL, KNX, KJR; 9:30, KJR; 10, KNX; 8, KKIL, KNX, K Pacific Standard Time Stations

7-15. Hotel Lorraine orchestra.

Eastern Standard or Central Daylight
Saving Time Stations

CNRT, Teranto, Can. (357), 6-30 p. m., Lules Romenthi
and his consect orchestra: 8:30, studio program, Frank
Converse Smith, director: 8, address; 10-30, dance
orchestra.

on this concet orthosiz: 8:00, studio Engrand, Frank Converse Smith, director: 8, address; 10:33, dance occhestr. Smith, director: 9, address; 10:33, dance occhestr. Smith, director: 8, address; 10:33, dance occhestr. Smith, s

WGA. New York, N. Y. (341), 6:38-7:39 p. m. Ernis
Golden and Hotel McAiple archestrs.

WO. Philadelphia, Pa. (568) 23, 11 s. m. organ yearly,
Mary E. Vogt; 12:30, p. m., Golden's crystal test from
orchestrs 4:45, organ restfal, Mary E. Vogt; 12:30, rectal?; 9,
A Candelor's concert orchestrs; 8:39, rectal?; 9,
WO. orchestrs, direction. Robert E. Golden; 10:36,
organ rectal, Mary E. Vogt; 10:30 Vinect Bizzo's
wOR, Newark, N. J. (625), 6:15-6:30 p. m., Hotel
Lorraine orchestrs, 6:39-7: Man in Moon stories; 77-15, Hotel Lorraine orchestrs.

Eastern Standard or Central Daylight

WO. Chisagn, III. (370.2), 6:39-7:30 p. m., Dick
WG. Newark, N. J. (625), 6:15-6:30 p. m., Hotel
WG. Newark, N. J. (625), 6:15-6:30 p. m., Hotel
Lorraine orchestrs, 6:39-7:30 p. m., Hotel
Lorraine orchestrs.

Eastern Standard or Central Daylight

Mooseheart children; 5-39-7:13. Amerc birms, Organit; 7:15-5. musle, Mooseheart children; 10:39-1 a. m. m.; 7:15-5. musle, Mooseheart children; 10:39-1 a. m.; 7:15-5. musle, Mooseheart children; 10:39-1 a. m.; 7:15. Chicage, III. (344.6). J. p. m. Martha Meley (14): M. W. S. Chicage, III. (344.6). J. p. m. Martha Meley (14): M. Raiph East-stoo, organis; 7:15: Millamson Brothers; 18:15. drams; 9. R. F. D., program; 10:16. Bethary Bible school; Harmony quarter; 7:16-16. Bethary Bible school; 10:16-16. Bethary Bible school;

May 16, 1925

An Evening at Home with the Listener In

STATIONS IN ORDER OF WAVE LENGTHS USED Call Meters Call Meters Call Meters Call NRA 361.2 KGO 405.2 WOR 468.5 WRC FDM 361.2 WHN 406 WBAR 475.9 WBAP A10.7 CKAC 475.9 WEAP A10.7 CKAC 475.9 WFAP A Call | Meters | Call | Meters

| Meters | Call |

INSTRUCTIONS FOR USE OF TABLES

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The "Evening at Home with the undecided as this goes to press, whether or nor they will use daylight saving time, there is an opportunity for some errors of Radio Digest. It is presented here in three different standard times; Eastern, Central and Pacific. Listeners using one of the three kinds of time named, should utilize the table printed in that time and so designated by its headline.

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

Listeners using Mountain time: Use table for Pacific time but add one hour to every figure given.

Listeners using Eastern daylight saving time duestions. Above is given a list of all stations in order of the wave length used for no revery figure given.

Listeners using Eastern time table by adding one hour to every figure given.

Listeners using Central daylight saving time: Use Eastern time table by adding one hour to every figure given.

Listeners using Central daylight saving time, there is an opportunity for some errors would not be there. This will be remedied on the daylight saving time question. The periods given in the "Evening at Home" tables are only representative of each station's evening sign-ou and sign-off som sign-on and sign-ouf. If a station has an intermittent rather that each station's evening at Home" tables, arranged in order of the wave length used for the other tables. The "Evening at Home" tables are corrected every week. The number of corrected every week. The number of cent of the whole. Keep the "Evening at Home" tables from the current issue at the side of your receiver.

Friday, May 22

(Continued from page 13)

Garden orchestra; Adelade Steer, contralto; Amella Sause; "fasiski; Kane McDoffe, whittler; 10-1 a. m., finet ansièresare cala program, artists; 1-2, Botty Tozy horz, Gingerman, Little Skylarks. (Fig. Washington, O. G. (68-5), 1-2; n. unchoon, finetime developments, Elesnor Guns; 4-10, Elesnor Glynn, planist; 4-20; "Bestoy and Personality," Elesnor Glynn, planist; 4-20; "Bestoy and Forest Company and Forest Company

music studio; 5-7, austra wyre mu ins are account of the will of t

Glodkette's Victor Recording ornestra.

Central Standard Time Stations

CKY, Winnings, San. (384.4), 8:15 p. m., concert, Naidana Modella, San. (384.4), 8:15 p. m., concert, Naidana Modella, San. (384.4), 7:39-8:30 p. m., William Buffer, Darttone: Alma Febrice, plantic: instrumental quartet; 3:30-9:30, Grace Judner, minglum, KFKX, Hattlas, Nebr. (286.3), 12:39-1 p. m., Radio (FKX, Hattlas, Nebr. (286.3), 12:39-1 p. m., Radio (FKX, Hattlas, Nebr. (286.3), 12:39-1 p. m., Radio (FKX), Hattlas, Nebr. (286.3), 12:39-1 p. m., Radio (FKX),

farm school.

KFNF, Shenandosh, 1owa (266), 7:30 p. m., concert,
John Greeley, director.

KFRU, Bristow, Okla. (394.5), 11-1 a. m., Brown Derlay

KSAC, Menhattan, Kans. (341), "Use Night Pasture," J. W. Llun; "Mash All the Year 'Round," D. J.

T. W. Linn; 'Mach All the Year Advance, Taylor, K\$0. St. Louis, Me. (543.1), 7:30 p. m., National Bank of Commerce; John Elsik, violinist; 9, program; 10, program, Ederman high school ordering, 9, 8:40-9 p. m., volo specialities; 9:20-10, Meyer Davis, or chestra; Lon Chasty, director.
KYW, Chizago, Ill. (330), 6 p. m., children's bedtime story; 6-6:30, Congress hotel; 6:30-7, program; 9-12:30, which is the control of the control of the chasts; or chastelling the chartest of the chartest of

story; 6-6:39, Cornered that, midnight revue. WBAP, Fort Worth, Texas (475.8), 7:30 p. in., classical grogram, Junior Hormany club; 9:39, Southwestern

w BAP. Fert Worth, Texas (475.0), 7.20 p. n., clasted rorgan, Junior Barmony (ed.), 5:30, Southwestern Four quartet.

GOG, Almery sell-St. Paul, Minn. (448.4), 6:15 p. m., GOG, Almery sell-St. Paul, Minn. (448.4), 6:15 p. m., GOG, Minney sell-St. Paul, Minn. (448.4), 6:15 p. m., GOG, Minney sell-St. Paul, Minn. (448.4), 6:15 p. m., GOG, Minney sell-St. Paul, Minney sell-St. Paul, Minney sell-St. Paul, Minney St. Paul, Minney St

Conservatory of Music; 7:30-8:39, A. Whenmarie Noreity orchesters; 3:30-0:30, concert, auspike ex Citizens Uniton orchesters; 3:30-0:30, concert, auspike ex Citizens Uniton orchesters. WhO, Des Melnes, lowa (526), 7:30-9 p. m., program, Neol Logan, director; 1:122 Recent Fughes orchesters. WhO, Memphis, Tenn. (69,71, 12:30 p. m., maslact Lang, 3:30 Britling, 4:40 February, 12:30 p. m., art. Lander Lang, 3:30 Britling, 4:40 Miller, 19:30 p. m., Art. Lander Langer, 1:40 Britling, 4:40 Britling, 4:4

tions," Mrs. Henry Kreiter; 8-9, Edward and Louis Crowder, Hawellan nombers; Paul Vipperman, tener; Ann Braidfald, reader.

Woll, Ames, 4a. (270), 12:30 p. m.. "Selection and Caro of leggs for Marieta," Prof. W. H. Lapp.

Wester, W. W. M. Lapp. "Getting of the Selection of the

Mountain Standard Time Stations

Mountain Standard I ime Stations NRE, Edmonton, Can. (516.39, 7:39) n. p. bedlime story; 8:30, special request program; Moonlight sernaders, W. wooll, director; Magas Wimifred and Evelyn Hedson, song and planotorte dugate. (OA, Denvey, Golo. (32.4), 8 p. m., Fryd Schmitt and his Riallo disease ordestra; 8:10, feegagine; J. C. matte sorden Conley, director; In R. Bains, drawatte sorden. Conley, director; In R. Bains, drawatte sorden.

matic soprano.

OB. State College, N. M. (346.6), 7:30-8:30 p. m., popular science course, Dr. D. S. Robbins; "Timberland Trails," C. A. Long.

Pacific Standard Time Stations

Pacific Standard Time Stations

KFAE, Pullman, Wash. (348.6), 7:30-9 p. m., Lilian McBerlde, reader; Scotch songs and reading, James Band Markey De Courses, planlats, look chat, Alley Burdenany; "What Shall We Do About Farm Tenancy," George Secretary.

Burdamany; "What Shall We Do About Farm Tenancy," George Secretary.

KFI, lass Anselses, controlled the Stationary of t

(JR. Seattle, Wash, (384.4), 7-8:30, musicale, 8:30-9:15 Chamber of Cammerce program; 9:15-10, Post Intelligencer studio jecthal. CX, Oakland, tailf. (508.2), 6-7 p. m., organ recital, 7:45-9:45, studio program; 9:45-10:30, Sweet's ball-

135-945, studio program; 9:30-10:30, Sweet's Sali-Won.

150m.

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(FOR PACIFIC TIME)

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l	Call	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Met.	Call
l	AT9 CFCA	435 356.9	Silent	3:00- 4:00	Silent	Silent	Silent	5:00- 7:55	gişlent	435 356.9	OFC.
l	CFCN	434.5	9:00-11:00	4:00- 5:00 Silent	Silent Silent	5:15~ 6:15 Silent	5:15- 6:15 Silent	5:15- 6:13 7:00- 8:00	s lent	434.5	CFC
l	CHNC	356.9 516.9	Silent 8:00-10:00	Silent 6:30 - 7:30	5:30- 6:30 6:30- 8:30	Silent 6:30- 7:00	Silent 5:00- 7:00	Silent S:00-10:00	7:00-11:00	356.9 516.9	CHC
l	CKAC	410.7 384.4	4:30- 9:30 Sileni	1:30 - 2:30 5:00 - 6:45	Silent Silent	4:30 - 9:30 5:30 - 9:00	Si lent	4:30 - 9:30 6:00 - 7:00	Silent 5:30- 8:00 4:30- 5:30	410.7 384.4	CKA
l	CNRA	313 434.5	Stlent 4:30- 9:30	Silent Silent	Silent	4:30- 5:30 Silent	Stlent 4:30- 9:30	Silent	4:30-5:30 Silent	313 434.5	CNR
l	CYB	370	6:30- 7:00	Stlent	Silent	6:30- 7:00	Silent	7:00- 9:00	Silent	370	CY
١	CYL	480 330	Silent	Sllent Sllent	Silent 7:00-10:00	8:00- 9:30 Sllent	Silent	Silent	8:00-9:30 6:00-9:00	480 330	CY
ı	KDKA KFAB	309.1 240	4:45-6:55 9:00-10:30	12:00 - 4:30 2:00 - 3:00	4:45- 6:55 5:30- 8:00	5:00- 9:30 Silent	4:45- 6:55 5:30- 8:00	4:15- 9:00 Silent	4:45- 6:55 5:30- 8:00	309.1 240	KDK
ı	KFAE	348.6 275	Silent	Silent	7:30 - 9:00	Silent	7:30- 9:00	Silent	7:30-9:00	348.6	KFA
ı	KFDM	315.6	Silent Silent	Silent Silent	7:00- 8:00 Silent	Silent 6:09- 7:00	Silent Silent	Silent 6:45-11:00	6:00 - 7:00	275 315.6	KFDI
ļ	KFI KFKU	467 275	6:45-11:00 Silent	4:00-11:00 Silent	6:45-12:00 4:50-6:45	6:45-12:00 Silent	6:45-12:00 SHent	4:50- 6:45	6:45-12:00 Silent	467 275	KFK
Ì	KFKX	288.3	Silent	Silent	7:30- 9:00 Sileni	7:00- 8:00	Silent	7:30-9:00	Silent	288.3	KFK:
ŀ	KFNF	336.9	Silent	5:00- 6:50 4:30- 7:30	Silent 5:30- 6:30	8:00 9:00	7:00- 8:00	Silent 5:30- 6:30	5:DE1- 6:30	336.9	KFM:
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ı	KFRU KFUO	545.1	5:30-10:00 Silent	3:00- 5:00 7:15- 8:15	5:00- 8:00 Silent	\$:30-10:00 Silent	6:00- 8:30 7:15- 8:15	Silent	9:00-11:00 Silent	394.5 545.1	KFU
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	K18	293.9	Silent Silent	7:00- 8:90 7:15- 9:30	6:00-10:00 Silent	Silent 8:00- 9:00	8:30-10:00 Silent	10:00-12:00 8:00- 9:00	Silent	384.4 293.9	KJ.
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1	KTW	455	6:30 - 7:45 Silent	7:00- 9:30	6:30- 9:00 Slient	6:30- 8:45 Silent	6:30 - 8:45 Silon(Silent	6:30- 3:45 Silent	374.8 455	KTV
1	KYW NAA	535.4 434.5	4:00-10:30	1:00- 5:00 Silent	Sitent 4:45- 5:00	4:00 - 8:30 4:45 - 5:00	4:00-10:30 4:25- 5:40	4:00-8:30 4:45-5:00	4:00-10:30 4:45- 5:00	535.4 434.5	KYV NA
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۱	WBZ WCAE	333.3 461.3	3:30- 5:55 4:00- 5:50	3:00-6:08 Silent	3:30- 5:55 4:30- 8:00	3:30 - 5:55 4:30 - 7:00	3:30- 7:05 4:30- 7:30	3:30 - 8:45 4:00 - 7:00	\$ilent 4:30~ 5:30	333.3 461.3	W B
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	WCAU WCBD	278 344.6	Silent	1:00- 3:00	Silent 5:00- 7:30	3:20-7:30	3:00 - 7:10	3:00- 7:45 5:00- 7:30	3:30 - 6:40 Stlent	278 344.5	WCA
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ı	WEBH	370.2	Silent 4:30- 9:30	6:00- 7:00 4:00- 6:00	4:00- 5:00 Silent	4:00 - 8:00 4:30 - 9:30	3:45- 4:45 4:30- 9:30	4:00-8:00 4:30-9:30	4:00- 3:00 4:80- 9:30	389.4 370.2	WEB
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ı	WEEL	475.9 285.5	Silent	3:20- 6:20 6:15- 7:15	4:00 - 7:00 6:15 - 7:J5	1:00- 7:00 Silent	4:00- 7:00 6:15- 7:15	4:00- 7:00 Silent	4:00-7:00 7:00-8:00	475.9 285.5	WEE
ı	WFAA	475.9 272.6	6:30-10:00	4:00- 9:00 1:00- 8:30	4:30- 7:30 7:30- 9:80	4:30-10:00	Stlent	4:30-10:00	4:30- 7:30 7:30- 9:30	475.9 272.6	WEM
l	WFI WGBS	394.5 315.6	3:00- 9:00 4:00- 7:00	Silent	SHent	7:30- 9:00 4:00- 6:00	3:00- 9:30 Silent	3:00- 8:30 4:00- 7:00	Silent	394.5	WFB
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	WGN WGB	370.2 319	3:30- 8:30 Silent	6:00- 7:00 3:15- 4:30	Silent 4:80- 7:30	3:30- 8:30 4:00- 7:00	3:30 - 8:30 4:00 - 7:00	3:30- 8:30 4:00- 7:00	8:3(1- 8:30 4:4(i- 7:00	370.2	₩GI
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	WJAS	275.3	Stlent	Silent	5:30- 8:00	5:30 - 8:00	5:30- 8:00	4:30- 7:00	4:30- 7:00	275.3	WJA
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	WLS	344.6 422.3	4:45-10:00 3:09- 5:00	4:30- 5:55 3:30- 5:30	Silent 6:00- 8:00	4:00-10:00 4:00- 6:00	4:00-8:30	Silent 4:00- 5:55	3:30- 9:00 4:00- 3:30	344.6 422.3	WLI
	WMAK	265.5	Silent	Silent	5:00- 6:00	Silent	3:00- 7:00 Sifent	7:00 - 8:30	Silent	265.5	WMAI
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	WMC WNAC	499.7 280.2	6:30 - 7:30 6:00 - 7:00	Silent	6:30- 7:30 3:00- 7:00	6:30-10:00 5:00- 7:00	Silent 3:00- 7:00	6:30 - 7:30 5:90 - 7:00	6:30-10:00 3:00- 7:00	499.7 280.2	WM
	WNYC	526 394.5	2:30- 6:20 Stlent	4:30-6:30 5:00-7:00 5:30-8:30	3:00- 6:20 SHent	3:20- 6:20 6:30- 8:30	3:30- 6:30	Silent	3:30- 6:20	526 394.5	WNY
	WOAW	526 240	4:00-10:15	4:00-8:00	4:00- 9:00 Stlent	4:00- 9:00	Silent Silent	7:30-8:30 4:00-9:00	Silent 4:00- 9:00	526	WOAV
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	WORD WORD	405.2 275	Silent 5:00- 6:30	Silent 3:45- 5:00	2:15 - 7:00 4:00 - 6:00	Silent 5:00 - 7:00	2:15- 6:45 5:00- 6:00	Silent	5:00 - 7:00	405.2	WO
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An Evening at Home with the Listener In

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Salu	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Call
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Vol. XIII

Saturday, May 16, 1925

Is Radio Advertising on the Wane?

Is Radio Advertising on the Wane?

Is Radio Advertising, that is advertising by means of broadcasting stations, on the wane? The question is highly discussed pro and con by newspapers, advertising agencies and advertisers. The general public seems to be the deciding factor, and, according to a recent report of a newspaper trade journal, the public are expressing their displeasure at what is being served them by certain advertising stations.

The newspaper trade journal claims that Secretary Herbert Hoover has a huge pile of letters from listeners, some of whom protest the vulgarity and others the advertising of several broadcasting stations. The stations complained of are located in or near New York, Chicago, Boston and San Francisco.

The conclusion of the newspaper journal is that as soon as a station engages in direct advertising it will lose prestige, its listeners will protest or tune it out, and that the result would be to discourage the advertising policy in a short time. "Good will," says the journal, "is the broadcaster's only real asset it seems, and as such should be preserved."

We do not entirely agree with the observations of this highly respected newspaper journal. The point of difference is the definition of what is direct and what is indirect advertising. It is our belief that nearly all forms of indirect advertising are suitable for broadcasting and, what is more, that the time is approaching when a special form of direct advertising will be broadcast.

In this connection it is interesting to note that a survey of broadcast advertising is now being made

when a special form of direct advertising will be broadcast.

In this connection it is interesting to note that a survey of broadcast advertising is now being made by the American Association of Advertising Agencies to determine whether it really pays to advertise-directly or indirectly—by means of Radio. The results of the survey will be made public for the benefit of advertisers in general, so that they may save their money if broadcast advertising proves wasteful. In the hands of this august body, we are sure, the study will be unbiased and worth while.

In this connection we note that destructive criticisms from the public are by far more easily obtained than comments endorsing any form of broadcasting. Human nature reacts thus. The Radio committee of the A. A. A. A. and the newspaper journal should take this fact into account when perusing the huge pile of communications in Secretary Hoover's possession.

Character Vs. Straight Announcing

Character Vs. Straight Announcing

Not long ago several stories came to our desk portraying the work of the Radio Voice Technique committee, a more or less self-appointed body which delegated to itself the task of setting standards by which Radio announcers should be judged. After agreeing on a complete set of specifications, these were released through the press. They included everything an announcer should have, according to the committee, except the factor X, which was personality.

The committee agreed that the personality factor was one which could hardly be specified, but that it was absolutely necessary. In omitting the personality factor and its value to an announcer, the voice technique committee left out the chief requisite of the character—humorous or interesting—announcer, as opposed to the straight announcer.

Suffice to say, the most difficult kind of announcing does not require the extemporaneous wit, the quick thinking and the knowledge of human nature that character announcing does. The straight announcer might well be a parrot or machine. Very little thinking is required.

But both types of announcers have their place. The

But both types of announcers have their place. The most heavy classic musical compositions and serious speeches can hardly be appropriately announced in character style. Here is where the character announcer scores, for, providing he is acquainted somewhat with the various musical compositions, he can usually discard his mantle of wit and humor, and draw a much eloser picture for the listeners than the straight announcer at his best. The opening for the straight announcer comes when the character announcer cannot discard his mantle or does not know music sufficiently well to handle the heavier type of program material. is required.

RADIO INDI-GEST

Famous Trio at BLAH



WALLA WALLA—The three popular boys shown above are, reading from left to right: Willie Bazoo, tenor; Sam Umpah, bartone, and Jim Crow, bass. They were the first to broadcast on the program last tear-bringing little ballad, entitled, "Properly Adjust Your Grid Blas with Your Fotentiometer M'dear, for I'll Broadcast to You on Electromagnetic Wavas When You're Gone." (A trust song: Wotta we care about the trust?)

The above picture was taken of the boys, just as Willie throw the dice on his parting shot. He parted with everything he had, but it's warm in Walla Walla. (Well, what do you know ahout that?)

The Walla Walla chamber of commerce is planning a drive for a greater Walla Walla. Of course, the Indicest broadcasting station will come in for a large part of the advertising campaign. C. F. Jenkin's invention. Radio movies, will be used to exploit and broadcast the beauties and grace of the unbleached and uneducated youthful maiden dancers.

A bottle of three star vanilla extract will be presented for the best slogan submitted for this station. To avoid unnecessary correspondence on "where didja get the vanilla?" let it suffice to say that the latter is still condensed by Dielectric. Send him all the orders and Indi-Gest, the cash 'remittance.

You Name It

You Name It
The day was cold and dark and damp.
The sitting now by the Coleman lamp.
May Radio set will sing to me
Of life and times beyond the sea.
I'll hike my heels up on a chair
And let the old loud speaker blare.
Old time music or Jack and Jill
Or any durned old thing it will.
And I will glide into a doze.
And all the neighbors will declare
There's two loud speakers on the air.
And when they come to make complaint
And find one is and 'other ain't,
It won't take long for them to plot
Which is the one they ought to swat.

swat. A. M. GRAY.

A Letter to KSD

Please, if you know anything, will you tell me why I don't always sometimes get you so good like the Beachwater Edge hotel from Chicago, or the Eastinghouse Electric station by West Spitzberg, Pencitvania. I don't see why it should be hardly at all, if any, as I am using a low-life very near condenser which the dealer told me was the best because it has got built-in Michael Farads and everything, if not more so. Of these condensers of which I speak there is one of each. Maybe it is because one of these condensers is more as two miles from my house.

The first dairy is just across the street, like the crow files, but the dealer he told me I must put the condenser across the second dairy, which, as I am telling you, is two miles away. Would it be better if I move closer to the second dairy which, as I am telling you, is two miles away. Would it be better fif I will be better if I will be better of the second dairy, but it didn't seem to improve the cowstieks of my sct.

Would the condenser work better across a second dairy where they make condenser across the second dairy but it didn't seem to improve the cowstieks of my sct.

Would the condenser work better across a second dairy where they make condensed milk? I wonder, like the feller said when the star twinkled. I have read in the Powder magazine, or somewhere, that maybe it would be better if I should have some radium frequency. Now I have asked one of our misleading osteo-practors about this, and from what he tells me, radium is so expensive that I couldn't use it with frequency. Another feller he said everything would be all right if I tapped my coil. Believe me, last night from 8 of clock until Eastern Standard Time I sat in front of that set and tapped the coil with a tack lammer, but it didn't do any good. Would it have been better if I had used a beer mallet?

I have about reached the conclusion that all the sell activity was in the dealer, and not in the set. If you are capable of thinking about this, please let me know the answer.

A Letter to KSD

Why Announcers Go Crazy

The staff of WMC, Memphis, is enjoying a hearty laugh at the expense of Ferry Dearing, who announcers all programs broadcast from the station. Fans are in the habit of forming opinions as to the appearance of announcers from the voices. How near they come to the truth can be guessed from the following incident which provided the laugh for the studio force.

WMC was broadcasting by remote control from a special studio in one of the downtown stores. The public had been invited to attend and the studio was packed with curious. Three women entered as a group and addressed Joe Kabakoff, assistant operator at WMC.

"Is that," asked the first, indicating Jerry, who was announcing. "Jerry?"

"Uh-huh," remarked Joe.

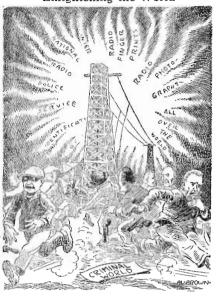
"We've always wanted to see him, we've heard him so often." remarked the second of the trio.

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"We've always wanted to see him, we've heard him fusic, worthy incident which is the comment of the third.

Enlightening the World



Condensed

By DIELECTRIC

WTAM, the Willard storage battery station in W.I.A.I., the Willard storage battery station in Cleveland, presented a sort of allegorical number on a recent program, which may have brought pleasure to many listeners. The music was fairly descriptive and lines plainly spoken. This style of feature might bear repitition. Many are clamoring for a break from the "usual" programs.

Our old friend down in Atlanta, Georgia—WSB—manages to find some quartet of singers around closeby where they can be called into the studio. The Criterion Harmony Four held the center of Mike with their popular songs for an entertaining program.

It is doubtful that listeners are impressed by the title, "little symphony orchestra," and certainly the music rendered by such styled musical bands often falls short of any suggestion of symphonic. However, it is the place here to record the excellent playing of the Little Symphony orchestra of Station WIP, in Philadelphia. The ensemble was good and the Victor Harbert symbols and a distriction program. Herbert numbers made a distinctive program.

KDKA, Pittsburgh, crosses the line separating good KDKA, Pittsburgh, crosses the line separating good from indifferent features so gently as to be deceiving. You revel in the excellence of an instrumental number only to suddenly find yourself calmly listening to some male voice, stamped "tenor," reaching for notes unobtainable. Then, with no further reference to the incident, you are carried off into a blissful meditation inspired by the tones of a violin in capable hands. Not every number may be perfect, but you find a happy average.

An unusual feature on the program of WGN, Chieago, was a ladies' trio whose voices harmonized beautifully. Generally, one or another voice will rise above the chorus and spoil the effect, especially if it is a duet, trio or quartet. No such incident as this happened to mar the real beauty of a delightful program.

While tuned to WEEI, Boston, we had an opportunity to listen to the Howell entertainers with the ever faithful saxophone directing attention to the fact of a dance program on the air. If you felt inclined to choose a partner and swing to the rythme of lively

If you tuned in to WOC, in Davenport, Iowa, during the contest of old fiddlers, you heard some "chunes" not often produced in these days of syncopation and dizzy glides. You heard nusic characteristic of a certain age and locale which it is just as well we Americans perpetuate, in order to keep fresh in mind the simplicity and ruggedness of early American stock.

WJZ, New York, broadcast from the Engineer's club a program of interest to music lovers when it put the Women's university glee club on the air with a splendid program artistically rendered. It is a real pleasure to be able to hand a bouquet to this R. C. A. station, since such are seldom donated by the writer.

There is still another glee club to register on the roll of honor, this one being the City club glee club of St. Louis, Mo., and heard through Station KSD. Music, voices and technical modulation are all praiseworthy so we hereby group them and bestow a single

Underground Antennas for Summer Reception

How to Make Installation for Limited Space

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

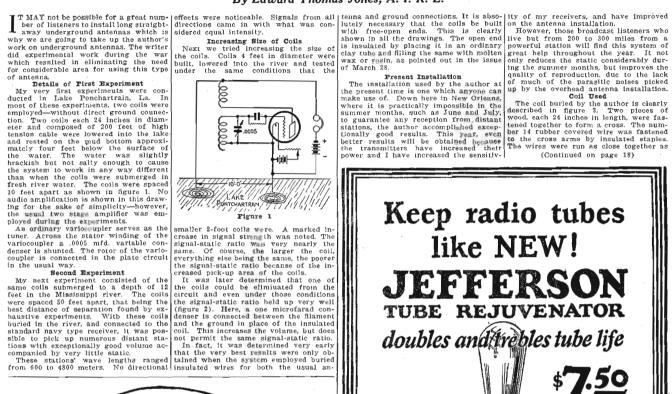
T MAY not be possible for a great num-ber of listeners to install long straight-away underground antennas which is why we are going to take up the author's work on underground antennas. The writer work on unerground another. The war did experimental work during the war which resulted in eliminating the need for considerable area for using this type

of March 28.

Present Installation

The installation used by the author at the present time is one which anyone can make use of. Down here in New Orleans, where it is practically impossible in the summer months, such as June and July, to guarantee any reception from distant stations, the author accomplished exceptionally good results. This rear, even better results will be obtained because the transmitters have increased their power and I have increased the sensitiv-

(Continued on page 18)





wners of radio sets long have hoped for such a device as this—a "tube rejuvenator" for home use to keep radio tubes at full efficiency and greatly increase their length of life.

Weak tubes mar radio reception just as much as weak batteries. Keep your radio rubes like new with the Jefferson Tube Rejuvenator! Get from your radio the one thing you paid for—satisfactory reception at all times.

All radio tubes deteriorate with use; the Jefferson Tube Rejuvenator "brings them back" in 10 minutes! Attach it to a convenient electric light socket. Used once a month, it adds months, even years, to the life of every tube. Takes large or small tubes—201-A,301-A,UV-199,

Improves Summer Reception

You cannot expect satisfactory warm-weather reception with "run-down" tubes. During spring and summer you will appreciate the Jefferson Tube Rejuvenator most of all. Get yours now.

At its small cost of \$7.50 the Jefferson Tube Rejuvenator soon pays for itself many times over in its saving of tubes and batteries. It's wasteful to be without one; it's economy to own one. Sold by leading dealers in radio supplies, and fully guaranteed. See it today.

If your dealer can't supply you, send \$7.50 to

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Makers of famous Jefferson Radio. Bell Ringing and Toy Trans-otmers; JeffersouSpark Coils for Automobile, Stationary and Ma-(ne Engines; Jeferson Oil Burner Ignition Coils and Transformers



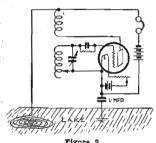
COMBINED SALES OF 13 OTHER Qesemann LICENSED atome NEUTRODYNES IN 1924 48,295,960 2507/30 reed-Eisemann Garod Gilfollan Howard King-Hinners Murdock Stromberg-Carlson R. E. Thompson Ware Worktite FIGURES TALK! Why does the American public accord such overwhelming approval to one receiver? FREED-EISEMANN RADIO CORPORATION

UNDERGROUND AERIAL

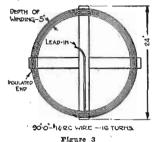
(Continued from page 17) possible, the ninety feet of wire making a coil with a fivo-inch depth of winding as shown. There are sixteen complete

The coil was buried under the house and two feet deep, placed directly under the refrigerator so that the water drip-ping through the floor would keep the soil surrounding the coil, moist at all times.

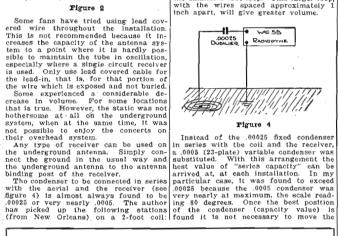
The receiver used is connected to the coil through a .00025 condenser, the ground connection going directly to the water works.



KDKA Pittsburgh, WHAS Louisville, condenser again. Simply permit the con-WOS Jefferson City, WBAP Fort Worth, WLS Chicago, WSB Atlanta, WMC Mem-phis, WSAI Cincinnati, and KFKX Hast-ular setting before beginning to operate, phis, WSAI Cincinnall, and KFKX Hastings. All of these stations were received with sufficient volume to operate a large loud speaker. The receiver employed throughout the tests comprised one stage of tuned radio frequency, detector and two stages of audio amplification (four tubes).



For those who have the space, it is suggested that a 4-foot loop (open ended) be constructed and "planted" instead of the smaller 2-foot loop. This larger loop, with the wires spaced approximately 1 inch apart, will give greater volume.



ways see to it that it is at that particular setting before beginning to operate, because the settings of the receiver dials will be slightly off.

For those desiring to make a permanent installation let me suggest the use of Packard high tension cable, or a similar good grade of high tension cable. The Packard company made some of this "special" cable for the navy department during the war for underground installations and will no doubt be able to furnish this, or a similar grade wire, at this date. It is best to make uso of this high grade wire because the installation can be relied upon for a nuch greater length of time. There is very little possibility of a ground developing within a period of five years or longer.

of time. There is very little possibility of a ground developing within a period of five years or longer.

Those with five tube receivers can expect much after reading what Mr. Parks Johnson, vice president and general manager, United Development company of Atlanta, Ga., wrote the author:

"The buried aerial is wound 21 turns instead of 16 and is 9½ inches wide instead of 5 inches as you suggested It is just 2 feet in the ground, constantly moistened by the refrigerator drain.

"I have used it but three nights, having heard WLW, WFAA, WSAI, WGY, KDKA, KFIKX, and tonight PWX at Havana, Cuba. Each night the static was so bad as to make it impossible to distinguish a word even from KDKA, which is very strong here, when using the aerial. However, while static was still present, when using your buried coil, it was not sufficiently loud to cut out a single word in reception. Hence, I'm naturally grateful for your suggestion."

That is typical of the letters received. There is no doubt but that this system will receive widespread use this year and continually increase in favor among Radio fans.

continually Radio fans.

Two Stages Amplification
Two stages of audio amplification
should be quite sufficient for anyone, and
the addition of the third stage may cause
you a lot of trouble. Once in a while
some experimenter will succeed in making the third stage work, but as a rule,
failure is certain. Unless you have the
time and money to do experimenting, it is
advisable to stop with the second stage.
At this point, if the amplifier is properly
made, the resulting signal will be quite
sufficient to work almost any loud speaker
at capacity.

Soldering Leads to Tinfoil

Soldering Leads to Tinfoil

It is difficult to solder leads onto tinfoil with ordinary solder, owing to the thin body of the foil, and its melting point being so near that of the solder used. If you have trouble in doing this, try the following: Clean your tabs hy spreading them apart as shown at A, and dipping them for a moment in solder acid. Clean and dip the end of your lead wire also. Melt a little "fusible metal," the kind used in setting crystals, in an old tablespoon, and dip the end of the wiro into this, tinning it to a distance a little greater than the width of the tabs.



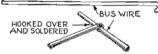
Press the tabs together tightly and roll the wire into them, as shown at B. Bend the wire back along the body of the condenser, so that it will be out of the way, dip the rolled end first into solder acid, then into the melted fusible metal deep enough to completely cover the rolled up

Leave it for a moment, to allow the tabs to get warmed to the same temperature as the liquid metal, which will insure a better "stick." Withdraw and you should find the whole roll coated and soldered together by the fusible metal. If the Job is not thorough, moisten the surface with acid and dip again, having the metal barely melted.

In this way, an easy, neat and permanent joint is made, both mechanically and electrically. Cbas A. Fease, Monrovla, Calif.

Soldered Joint

For a quick and easily mado connection that will be solid between the hook-up wires, either bus wire or flexible, the hook muchod is about the best. The terminal wire is hooked, slipped over the other wire



as shown and a firm pull is exerted while the joint is soldered. Such a joint has greater strength and less resistance and it gives a neat appearance.—P. L. Shelton, Galesburg, Ill.

"Last night we heard the sweetest voice!"

FEW boast of having heard a powerful voice. Radio has grown up. It is now something to listen to, not to marvel at. We are now in the cycle of TONE!

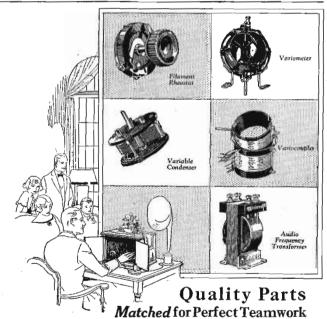
The other day a man said he was just realizing that he had a hundred dollars worth of set and a dollar's worth of horn! His next move is to balance up his set with a good speaker.

The BRISTOL has all the volume you will ever want, but its fine point is TONE. It is good to listen to. The notes come in in tune. You receive a wealth of music from which the cream of tone has not been

For \$20, \$25 or \$30 you can get a Bristol Speaker, and there are others for less. Ask your dealer to send one out to the house. And let us send you folder No. AY-3022; it tells why the Bristol is the horn of

THE BRISTOL COMPANY, WATERBURY, CONN





Your "pet" hook-up needs first quality parts-perfectly matched-to give you real radio.

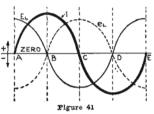
Every Federal Standard Radio Part is designed, made, matched and guaranteed by Federal. That is why you find Federal parts in all the better hook-ups—that is why you should insist on Federal parts when purchasing.

FEDERAL TELEPHONE MANUFACTURING CORP Products

A. B. C. Course in Radio Fundamentals

Chapter VIII—Action of Inductance and Capacity in A. C. Circuits

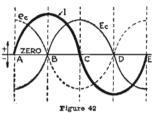
By David Penn Moreton



depends in turn upon the direction of the current rical pressure in phase. The following explauation may assist the reader in understanding why there is the above phase relations between the current and the electrical pressure and capacity.

Let us assume that there is an alternating current in a coil whose inductance is very large in comparison to its resistance, and we will then determine the alternating current pressure required to produce this current and the phase relation between the current and the pressure. As a result of the coil having inductance, there will be an enganetic field will vary in strength with the value of the current, and in direction as the direction of the current changes. The direction of the current in the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined the current in the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined the current in the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic lines compined to prevent and the pressure induced in the coil contracting there will be an electrical pressure induced under the current in the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic field is expanding, there will be an electrical pressure induced in the coil due to the current of the cycle represented by the current in the coil may he represented by the current in the coil may he represented by a curve such as the one shown by I in figure 41. The magnetic fi

In one of the previous chapters, the statement was made that capacity caused the current to lead the electrical pressure in phase and that induced clearing pressure in phase. The following caused the current to lag the electrical pressure in phase. The following capacity of the induced clearing pressure in phase. The following capacity of the electrical pressure in phase. The following capacity of the electrical pressure in phase. The following capacity of the electrical pressure in phase. The following capacity of the electrical pressure in phase. The following capacity of the electrical pressure in phase and that induced clearing pressure in phase. The following capacity of the electrical pressure in phase and that induced clearing pressure in phase and the electrical pressure in phase. The following capacity of the current in the coll will always be in such a direction of the induced clearing pressure in the coll will always be in such a direction of the induced clearing pressure in the coll will always be in such a direction of the induced clearing pressure in the coll will always be in such a direction of the induced clearing pressure in the coll will always be in such a direction in the coll will always be in such a direction of the current pressure required to the current pressure induced in the coll with a direction of the current pressure required to the



represented by a curve such as the one marked e_L in figure 41. The ordinate, or heights, of the curve e_L at any instant

RADIEDYNE THERMIODYNE ULTRADXNE MURDOCK Super-Het **OZARKA** Builders! Pfanstichl the "Best OCycleSupe Reterod RADIO" sther les MICHIGAN Deresnadyne MALONE LEMON MASTER RADIO ROYAL fine set **builders** Proof they're Best!

-after stiffest tests-by the majority Onosem—after stiffest teste—by the majority of quality set builders. Not surprising, however, when you remember they're made and amountainally guaranteed by the world's clidest and largest exclusive transformer manufacturer. Follow the lead of the leaders —buildor replace with Thordarsons. Recommended by best dealers. Andlo frequency: 3-1,8:34-1,84:6-1,84:50. Power Amplifying, pair, \$18. Interstage Power Amplifying. Transformer, \$8. Write for latest buildeting. THORDARSON ELECTRIC MFG. CO.



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Without obligation send me your book. "Blei Resertd in Badio." which cills all about the operunning of Radio, how spare time study at home will qualify me quickly as a Certifich Radio-frictian so I can get one of being the control of the c

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The name ALL-AMERICAN and the serial number on the base are your best guarantee of uniform quality when you buy a transformer.

A new edition of the Radio Key Book, just off the press; illustrates an eight-tube set which is the sensation of the year. Send 10 cents for it now, coin or stamps.

ALL-AMERICAN RADIO CORPORATION E. N. Rauland, President

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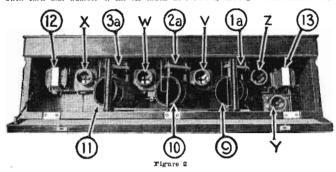
MERICAN Largest Selling Transformers in the World

HOW TO OPERATE SET

(Continued from page 7)
brilliancy of the first two tubes. The small dial identified as 5 controls the brilliancy of the renaining three tubes, namely the detector V and two audio amplifiers. Head receivers may be connected to this set by inserting a plug into the jack identified by the number 8. The jack identified by the number 8. The settings are always the same for a given station and can be received and tuned in again by merely setting the dials. Then turn dial number 4, till its index

degrees, then 62 degrees, etc., until a sta-tion is received. Then move each dial separately either up or down the scale, slightly, until the broadcast music or speech is loudest.

Dials 4 and 5 should be readjusted till



mark also points to about 75 degrees on the dial.

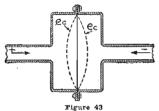
Set the "2nd neutrostage" dial, number 3, at, say 70 degrees, and the "1st neutrostage" dial, number 2, at 70 degrees, (This setting 1s approximately correct for receiving broadcasting on 492 meters. Movo "antenna tuning" dial, number 1, slowly from about 0 degrees to 90 degrees. If there is any broadcasting on 492 meters, it will be heard at some setting of the "antenna tuning" dial.

If no broadcasting is heard, set each of the "neutrostage" dials at 68 degrees, and readjust "antenna tuning" dial, number 1. Continue this tuning operation, always commencing by setting the two "neutrostage" dials at the same setting and then rotating the "antenna tuning" dial, number 1. Continue this tuning operation, always commencing by setting the two "neutrostage" dials at the same setting and then rotating the "antenna tuning" dial, mendown B batteries, or to a reversed with the "neutrostage" dials at 68 degrees, then 64

A. B. C. RADIO COURSE

(Continued from page 19) to the induced electrical pressure in the coil

The applied electrical pressure may be represented by a curve E_L figure 41. The applied electrical pressure is displaced in



phase with respect to the current by 90 degrees, and the current lags the pressure, since the current passes through zero value in the positive direction after the pressure passes through zero value in the same direction.

the pressure passes through zero value in the same direction.

Determining Phase Relation

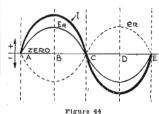
The phase relation of the current and electrical pressure in a condenser may be determined as follows: The current through a condenser connected to an alternating-current source of electrical pressure may be represented by the curve marked I in figure 42. The relation between the current and the electrical pressure set up in the dielectric of the condenser may be investigated by making use of the hydraulic analogy of the condenser shown in figure 43. When the current in the condenser is zero, the dielectric has been strained to such an extent that the stress set up in the dielectric is equal to the applied pressure acting on the condenser.

Now assume that a movement of liquid to the right corresponds to a positive current and likewise a recoverant to the

Now assume that a movement of liquid to the right corresponds to a positive current and likewise a movement to the left corresponds to a negative current. The current will he positive in direction while the diaphragm is moving from its extreme left position to its extreme right position. Let us start with the diaphragm in the extreme left position, which corresponds to zero current and the point A on the eurrent curvo shown in figure 42. As the liquid moves to the right, the strain in the diaphragm is acting in the same direction as the current until the diaphragm reaches its mid position,

when the current is a maximum and the straiu in the diaphragm is zero. Further movement of the liquid to the right results in the diaphragm being displaced to the right of its zero position and a strain will be produced in the diaphragm whose direction is opposite to the direction of the current. As this displacement of the diaphragm to the right continues, the straio increases, the current decreases and finally the current reaches zero value when the strain in the diaphragm is equal to the applied pressure. to the applied pressure.

The liquid then starts to move to the left or in the negative direction and the strain in the diaphragm acts with the current until the diaphragm reaches its current until the diaphragm reaches its zero postion, where the strain is zero and the current is a maximum. Further movement of the diaphragm to the left results in a strain in the diaphragm opposite in direction to the current, the current decreases in value and finally becomes zero when the strain in the diaphragm is equal to the applied pressure. This completes one cycle and the operation is repeated as the applied electrical pressure changes in value and direction.



The strain set up in the diaphragm or dielectric, may be represented by the curve $\mathbf{e}_{\mathbb{C}}$ in figure 42. Now in order to produce the current I in the condenser, neglecting any resistance in the circuit, an electrical pressure must be applied to the circuit whose value at each instant is equal to the ordinate of the curve $\mathbf{e}_{\mathbb{C}}$ is equal to the ordinate of the curve e_C at that instant and whose direction is opposite to e_C . Such a pressure may be represented by the curve E_C in figure 42. The applied electrical pressure is displaced in phase from the current by 90 degrees and the current leads the pressure since the current leases through zero (Continued on page 21).

(Continued on page 21)





"Recommend It" SAYS R. W. COTTON

Designer of Cotton "Super-Het"

R. W. Cotton, famed designer of the Cotton Superheterodyne, March 10, 1925, as follows: wrote us

Gentlemen:

A had the pleasure hat night of trying out one of your Center Tay Leeps in conjunction with the "Cottom" Supers. The results of the stained were very subfination and for the stained were very subfination and or the laboration of the stained were very subfination and the laboration of the

Lincoln Center-Tapped Loop \$6.50

For any set employing radio frequency amplification. Particularly adapted for "Super-hets" requiring a center tap. Lincoln 4-Point Tapped Loop \$8.00

The only moderate priced Loop of the type on the market. Fine for all types of "Super-best"—and neutroduse and tuned radio requency sets, where an outside Aertal is impractical. For the requirements of any set where it is desired to vary the inductance of the loop.

BUY A LINCOLN LOOP Sold by good dealers everywhere. If yours cannot supply you order direct giving your dealer's name.

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The "Goode" Two-o-One





QUARTER AMPERE

RADIO TUBE

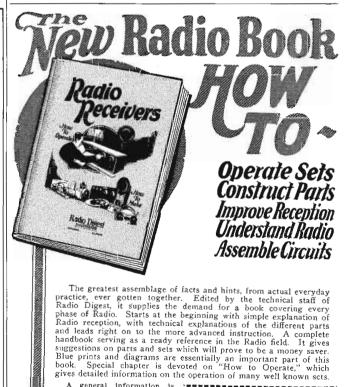
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A general information is vital to the knowledge of anyone interested in Radio. It gives a complete list of all broadcasting stations with a colored map showing their location. The workshop kinks will save you time and money. Now is the time to take advantage of this exceptional offer. Mail coupon today! RADIO DIGEST, 510 N. Dearborn Street, Chicago, Illinois. Enclosed find \$5.00 for one year's subscription to Radio Digest. The new Radio Beck, "Radio Receivers," will be mailed FREE, postage perspaid. This offer only good on subscriptions sent directly to this office, not through agents or semnies. Address ... City 5-16-25

Direction Finder for Loop Aeria

Indexing Dials to Set Loop on Your Station

The loop should be provided with a rotative standard, so that the loop van beturned without moving the base. The base should be of a fair size, to allow

WORKSHOP KINKS EARN A DOLLAR-

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

RADIO KINKS DEFARTMENT Radio Digest,
510 North Dearhorn St., Chicago

room for the index circle or circles—12 inches will do, but 16 inches is better. The base should preferably he square, merely because it is simpler then to orient it right by setting the side square with the room. If it is to be used with a portable outfit, a small, cheap pocket compass should be set into one corner, where it will not interfere with the circles, or some other means provided to set it "square with the world," with the north and south line pointing in the right directical, as upon this depends the entire efficiency of the direction index.

On the upper face of the base, describe a circle t inch less in diameter than the face of the base, thus leaving a ½-inch margin at edges. Of course this and any other circles, should have their centers at the center of the rotary loop-support. It is necessary to have two "orientation lines," one running across the center for a north and south line, another running at right angles to the first, for an east and west line.

For a loop to be used mainly with a portable outfit, or in a room setting "square with the world," these orientation lines should run across the center paraltet with the sides of the base, but if to be used mostly in a room where the walls are not square with the points of the compass, it is better to make these lines at the slight necessary angle to the sides of base to as to allow the sides of base to set square with all of the room, when the north and south line points in the proper direction.

set square with walls of the room, when he north and south line points in the proper direction.

The best and simplest way is to lay out the index circle or circles on a large sheet of cardboard, also laying out at the center a circle large enough when cut to fit over and snugly around the aerial loop-support seeket, (but don't cut this out till later,) cementing this eard to the face of the base when completed. Place orientation lines on this card, as above directed, and draw your circle or circles.

If you have a fairly powerful set, it is well to make 2, 3, or more concentricircies, as your room will allow, decreasing the size so as to leave 1 inch to 1½ inch hetween circles. You can then use the inner circle for local stations, say up 100 miles, the second circle for stations 100 to 500 miles distant, and the outer that of DV stations can be considered.

100 to 500 miles distant, and the outer circle for DX stations, over 500 miles, or such arrangement as you wish.

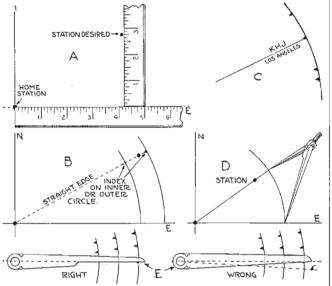


Write for free copy of Premier Bulletin No. 34 giving full description of the many new features of this remarkahle low loss condenser, as well as particulars of all Premier Quality Radio Parts. "CROFOOT" has lowest minimum capacity; only five minute phase angle loss; tuning ratio of 1 to 74. Made of brass and hard rubber throughout, for low resistance. \$2.75 to \$3.75. Vernier complete with dial, 75 cents extra. Write for bulletin and FREE HOOK UPS.

Premier Electric Co., 3810 Ravenswood Avo., Chicag

PREMIER Quality

SIMPLE METHOD TO SET LOOP



Now take a good Radio map, and rule a north and south, and an east and west line upon it, both passing through the point representing your own position. From this map, you are to set off on your circles, the angle which each station you wish to record, bears to the orientation lines already drawn.

The quickest way to do this, is with a protractor, but if you do not have one handy, you can proceed in either of two different ways: You can make an emergency protractor, by drawing two lines at right angles on a piece of stiff cardboard; with their juuction as a center, and with your eompasses spread about 3 or 4 inches, strike an arc of a quarter circle between the two lines, and then mark off equal spaces, say of \(\frac{1}{2} \) inches and then mark off equal spaces, say of \(\frac{1}{2} \) inches, and then mark off equal spaces, say of \(\frac{1}{2} \) inches, and then mark off equal spaces, say of \(\frac{1}{2} \) inches, and then mark off equal spaces, say of \(\frac{1}{2} \) inches, and then mark off equal spaces, say of \(\frac{1}{2} \) inches, and then mark off equal spaces, say of \(\frac{1}{2} \) inches east, and the card, and the curve, numbering every \(\frac{1}{2} \) the order on the first ruler, and position of the foot of second ruler on the first ruler, and position of the station of the station your care shown, this is \(\frac{1}{2} \) inches east, and the sate one handy. You down from the protein the case shown, this is \(\frac{1}{2} \) inches east, and the aprotractor, but if you do not have one handy. You can proceed in either of the other the position of the section of the station the station that is a protractor.

In the dil card hand center, and make a point at proper position of the stations of the station of the station to the dil card, measuring from the center along, and up or down from the protein the station to the station of the station to the station of th

tractor.

tractor.

The other way, by "coordinates," requires the use of two rulers, each graduated to 8ths, or better to 16ths, of an Inch, (or, of course, any reasonably fine scale of equal parts.)

A little care is required in using this method, but it is not at all difficult, and gives with reasonable care, very accurate results.

Lay the first ruler along the orientation line nearest the desired station, with the

line nearest the desired station, with the end of the scale or ruler at the intersection of the orientation lines representing your own location.

Place the end of the second ruler square against the first, and slide it along the first ruler until the edge of the second ruler moets the desired station on the map, as shown in sketch A.

the straightedge, as shown at B. This is the index mark for this station.

Inside the circle, opposite this index mark, set down, preferably radially, the designating letters of the station; (and if you have room, it is nice to get down also, the location and name of the station.) The appearance of one index is shown at C.

Having transferred and indexed all the stations you desire, to the index card, trim the same to the outer circle, cnt out the center for the antennae-support hub, place the card in position on the base, and glue or cement it down, taking care that the north and south line is properly oriented, as explained in the first part of this article.

Adding Stations Later

This may be done by a slight modification of the above indexing directions. Lay the angle out as before, but on a separate piece of paper. Set compasses to same radius as the circle on which it is desired to index the station. Be very careful that you get this radius the right length, as otherwise the result will be luaccurate.

With this radius, and with center at the junction of the angle, strike an arc. From the foot of this are, set the compasses to space to the index point on the paper, thus obtaining the "chord" of the angle.

Transfer this distance to the index card, being sure you start from the correct orientation line, and go in the right direction, as shown at D.

An index arm is now to be made and attached to the rotative loop-support, so that it will stand in line with windings of

that it will stand in line with windings of the loop.

If only one index circle is used, the index should come to a point, just inside the circle. If more than one circle is used, the index should reach across all the circles, and have a straightedge as a pointer, which edge should be in line with center of the support, as shown at E, not to one side of this line.—Chas. A. Pease, Monravia. Cal.

HOW TO OPERATE SET

Continued from page 20)
sibly produce noise. All soldering is done
with rosin core solder and all condensers
and transformers are tested.
If there is any noise, it is caused by
something external to the receiver, such
as B battery, thoe's local induction that
is picked up from leaky telephone lines,
or lighting circuits in the house, etc., etc.
Distortion in the loud speaker may he
due to overloading the dotector tuhe, and
this overloading can be eleminated by
detuning the detector and antenna circuits
as explained in the instruction booklet
under "Tuning."

If there is any mushiness, it is un-

under "Tuning."

If there is any mushiness, it is undoubtedly due to the fact that the two stages of radio frequency are so powerful on nearth proadcasting that you are overloading your detector tube. This may happen on stations even 250 miles away. It so, get all three dials in tune and then turn the right hand dial, number 3, slightly, to decrease the input into the detector tube. turn the ri slightly, to detector tube

detector tube.

If each circuit of your receiver tunes, and there is gain in amplification as you switch from one to two stages of amplification, the set is positively capable of receiving distant stations. When the dry batteries are run down and need replacement, a howl may sometimes be heard when the switch connects the 2nd audio stage and all tubes are lighted. To overcome this condition, use new B batteries.

A. B. C. RADIO COURSE

Continued from page 20) value in the positive direction before the

Phase Relation with Resistance Only

Phase Relation with Resistance Onty
The phase relation of the current and
electrical pressure in a circuit containing
resistance only may be determined as
follows: Assume there is a current 1, #8,
shown in figure 44, to be produced. The
counter electrical pressure at each instant
will be equal to the product of the current at that instant and the resistance
of the circuit. This counter pressure may
be represented by a curve eg as shown
in figure 44. Now in order to overcome
this counter electrical pressure must
be applied to the effective pressure must
be applied to the effective whose value at
each instant is equal to the resistance
drop at that instant and whose direction
is opposite to the resistance drop. Such
an applied pressure may be represented
by the curve Eg in figure 44. In such
a circuit the current and applied pressure
are in phase since they pass through zero
value in the same time.

(Editor's Note.—The eeries and parallel

(Editor's Note.—The eerles and parallel alternating current circuits will be ex-plained by Professor Moreton in his next installment.)





Questions and Answers

Shielding Receiving Set

Shielding Receiving Set

(13424) JH, San Jeronimo, Cuha.

I live 30 miles from PWY, a powerfui
spark government station, and when it is
on the air it produces terriffic disturbance.
My set is a four tube inverse duplex,
very sensitive with three steps of Radio.
Sometimes I can tune it very broad but
I made some experiments by adding regeneration using the method of a threeplate condenser from the plate of the
first tube to movable plates of the variable
condenser. As I wanted great selectivity
I finally added an oscillatory circuit just
like the hetduogen circuit and I Improved
the set, making it as selective as a super.
I use an aerial system in my set, but when
disconnecting the aerial and ground the
coil picks up the interference from PWY.
The signals do not come in but there is
a disturbing hum. I am only able to
get the signals from the distant spark
stations. For this reason I am sure that
this hum in my set is from some outside
source. Let me know if there is any
method to tune out these offending stations? I have tried out loop aerials and
find it useless. I do not believe a wave
trap wilt help. Please tell me if the selectivity of a super het will suffice to tune
out PWY or any other spark station down
here. I have in mind to build a super-het
this year but the troubles coming in from
Cuban government spark stations discourage me. Cuban government spark stations dis-courage me.

courage me.

A.—Since the coils in your set are picking up the interference you mention the only possible solution with any type of receiver is to shield the set by putting a sheet of copper or aluminum on the back of the panel, and by lining the inside of the cahinet of this same material. The panel should have all holes around shafts or mounting fixtures cut at least \(\frac{1}{2} \) the indicate that the shaft itself. The shielding should be grounded.

Fading Signals in a Three Tube Set

Fading Signals in a Three Tube Set (13242) RS, Stoughten, Wis.

I have an Echophone three tuhe receiver, Armstrong patents, and I have trouble in tuning, as the signals suddenly fade away, not entirely, but low enough to be only a whisper. All the stations above the wave length of WOS, Jefferson City, Mo., are the same, hut all the stations with lower wave lengths are just as loud as ever, if not louder. What do you think is the trouble?

A.—The chances are that the trouble in A.—The chances are that the trottole in your case is one of a worn out A or B battery. If the battery is low the set will refuse to oscillate on the higher wave, which will of course diminish the signal volume. On the lower waves the set always oscillates more easily, therefore you do not notice the low battery on the lower waves at once.

Reaching High Wave Lengths

Reaching High Wave Lengths
(13287) DK, Grank Rapids, Ohio.

I have a one tube set that gives good results but I cannot possibly get bigher that 500 meters and not tower than 250 meters. I would like a hook-up using a 199 tube, II plate variable condenser and preferably a tapped coil with rotor to give results of from 580 meters to 180 meters.

A.—Your trouble is because you have too much inductance and not enough capacity. If you will lower the number of turns and increase the size of your condenser you will have no trouble in covering the range you desire.

ZELLERS RADIO LOG EOOK, 25 Cents Zellers Company, Hooper, Nebraska.

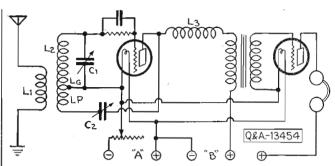


Regardless of the Crystal You Are Using-

You Ain't Heard Nothin' Yet-

"Rocky Mountain Steel Galena" Mounted Without Heat YOUR DEALER OR DIRECT 30c Postpaid

The Reynolds Radio Co., Inc. Denver, Colorado



MacMillan 20-Meter Receiver

(13454) ER, Fort Worth, Texas.

In connection with the announcement of the Artic expodition to be made hy MacMillian and a party of explorers in the near future and their intention to use exclusively a 20-meter transmitter, I am very anxious to know if the Digest is to feature in coming issues an efficient and stable "MacMillan 20-meter receiver?" There are but few diagrams available of a receiver that will actually "work" efficiently on such a short wave length, and in view of the fact that the explorers are seeking the co-operation of amateur operators and others in connection with the communication feature, it seems that an article on such a receiver would not be amiss.

A.—The accompanying hook-up is now In connection with the announcement

an article on such a receiver would not be amiss.

A.—The accompanying hook-up is now used for receiving these signals by the amateurs. The coil L2 consists of ten turns of number 18 wire wound in the basket fashion and it has a dlameter of 3 inches. It is tapped three turns from one end. The part of the coil LG is the grid coil and it is tuned by a low loss condensor Cl. This condenser should consist of about seven plates. Since there are not so many of these condensers on the market it may he necessary to purchase a larger one and remove some of the plates to make four stationary and three rotary plates. The LP part of the coil consists of three turns and this is the plate coil. Condenser C2 controls the feed back and it should be a small condenser it is very important that the condensers are connected as shown with respect to the rotary and the stationary plates. The coil L2 and of the same wire. This coil should be arranged so that it can be varied in its distance from coil L2. It should never be brought closer than 2 inches from coil L2. In the average amateur set it is about 4 inches from the coil L2. Consists of about three to four turns of wire wound in the same fashion as coil L2 and of the same wire. This coil should be arranged so that it can be varied in its distance from coil L2. It is consists of about 10.2 Lit is necessary because this is a shunt fed affair. It consists of about 150 to 200 turns of number 30 wire on a 1-inch tube.

Will buy or rent for the summer season, one 500-watt Western Electric Broadcasting Set. Fred G. Smith, 302 S. Christina St., Sarnla, Ont.

BUILD RADIO SETS

Many fans are earning money building our high-grade Super-Selector set. We provide apparatus, blue prints and export advice. Very profitable. Address
The Langbein-Kaufman Radio Co.

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SEND IN YOUR Paralyzed Tubes to be Restored to Health in Our Laboratory

be nestored to reash in 100 Laboratory

of your worn-out tubes can
be put in first class condition.

We can REACTIVATE UV-201A. C-301A.

UV-199, C-299 and any other thortated filament
when as Alass, Magnaton, De Forest, etc.

We cannot reactivate UV-200, C-300, WD-11

or WD-12 tubes, nor can we reactivate burned out

tubes. It Costs You Only \$1.00
If we can restore your tube so that it operates satisfactorly. If we are not secressful, our charge in the secretary of the secretary of the secretary pay the price for new tubes when we can make yours as good as new for only \$1.00.

MAIL IN YOUR TUBES TO US FOR PROMPT RETURN, PATER Port, C. O. 0.

O'CONNOR & COMPANY

tubes should be either UV-201A's or UV-199A's. Only one rheostat is necessary. Since this is a shunt fed set there is no need for a by pass condenser. It may be of advantage to remove the base from the detector tube. At any rate both the detector tube and the amplifier should be mounted on either spring or cushion sockets. You will not need more than one stage to cover the country with this set well made.

one stage to cover the country with this set well made.

Located where you are yon can construct this receiver and you should have no trouble in getting stations such as 6TS and IXAM in daylight. This set will not be of nuch use at night as the 20-meter signals do not travel as well at night as in the day time. You will, of course, need a knowledge of the code because these stations, as well as WNP, use code exclusively in their tests and otherwise.

Current from Farm Lighting Flant (125t4) LKP, Somerset, tsy.

I am a regular reader of your magazine and I prize it for the information, programs and "how to huild" articles. I have made many of the sets described therein and all have worked good. I would like to use the direct current from a 32-volt storage battery farm lighting plant to furnish the filament current for my five tube set I am now using. Would you be kind enough to send me the proper way to do this. I desire to connect it to the socket the same as for a light bulb.

How much and what kind of resistance should I use? I would like to do this the easiest and most economical way possible.

A.—You may use a lamp hank for a resistance to cut down the voltage to 6 volts. While this is a good way it is not forcomorical. The best way is to tap off three ceils of the battery for your Radio use. They will give yeu the destred 6 volts.

Harkness Circuit Using Dry Cell Tubes (13432) JWM, Macon, Ill.

I am making up a two thbe Harkness set and I would like to know the value or

PATENTS

Time counts in applying for patents. Don't risk delay in protecting your ideas. Send sketch or model for justructions or write for FREE book, "How to Obtain a Patent" and "Record of Invention" form. No charge for information on how to proceed. Communications strictly confidential. Prompt, careful, efficient service. Clarence A. O'Brien, Registered Patent Attorney, 2009A Security Bank Eldg. (directly across street from Patent office), Washington, D. C.

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FEDERAL RADIO CO. 167 East 13th St. Kansas Kansas City, Mo.

capacity of all the parts, also what voltage B battery for each tube? I intend to use UV-199 tubes. Can I wind this coil for the receiver? My idea would be to commence at one end of the tube, a 2½-inch tube or larger if necessary, and wind a wire two strands at a time nntil 1 get the right number of turns for the primary, then continue with the other wire until I get the right number of turns for the secondary. How many turns for the primary and secondary for each coil? What size wire is best for theso transformers?

A.—We would discourage the use of 199 tubes in reflex sets of any kind. These tubes are very efficient when used as either radio or audio frequency amplifiers, but they will not handle very much energy and few builders of sets have found them very satisfactory when reflexed.

We have published the Harkness reflex circuit for use with 6-volt tubes including the data for the winding of the colls. However, it seems that this circuit requires critical value of inductance, transformer impedance and losses for stability and satisfactory operation.

It you want to build a reflex we unhesitatingly recommend the Knox reflex which contains two tubes and for which complete data was given in the issues of February 7, 14 and 21. In this, oscillation is completely under control and the selectivity is exceptionat.

Resistance in Battery Charger

Resistance in Battery Charger
(18407) RKB, Wautoma, Wis.
What size lamp is usually employed
with a common glass jar rectifier for
charging two 40-volt B battery, also for
charging two 40-volt B batteries hooked
together? The charger is a plain glass
jar with one lead and one aluminum plate,
Where do you place the lamp in the circuit? cuit?

A.—A 25-watt lamp is required for charging a 40-volt B hattery. If you have two 40-volt hatterles and wish to charge them at a higher rate it would be better to use a 40-watt lamp. The lamp can be placed before or after the rectifier as desired.

Men to build radio sets in spare time. Leon Lambert, 501-H Kaufman Bldg., Wiehita, Kansas.

\$10 IS ENOUGH

You can hear programs from cities 400 to 1,000 miles away on Lambert Crystal Sets and you won't need tubes or batteries.

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501-A Kaufman Bldg., Wichita, Kansas





Radiophone Broadcasting Stations

Corrected Every Week-Part I

Canton, O. 425 meters. Hdqts. 185th Fleid tillery O. N. G. Førl Brags, N. C. 435 meters. 750 watts. U. S. revenment. Announcer, Lieut. James Y. LeGelste. Sagan, The Florest Broodessiting Station of the Sagan, The Florest Broodessiting Station of the Ris, bents, flatts. Sun, 3-9:55 pm, service, Eastern, S. F. Paul, Minn. 400 meters, 6th 15th Minn. 4th Goard, St. Paul Armory, Irregular schedule.

Na'l Gasrd, St. Paul Armory. Irregular schedule. Central, no. O. McCook Field, U. S. Army. ExperiAWS. Daywork only occupied by the schedule. Central for the schedule. Centr

ASSIST. TRUE'S, SUR, 5-9 ph. ASSIST. sermon. KF BE, San Luis Oblipo, Calif. 215.7 meters, 50 wests. Rom 6. Wilson. West. 250 meters, 50 watts. First Wilson. West. 250 meters, 50 watts. First Wilson. The Company of th

KFBL, Devector, R. B. Lesse, 19 watts. InFrom Announcer R. B. Lesse, 19 watts. InFrom Announcer Williams of Watts. Michon
KEGB, Phoenix, Ariz 288 meters. 50 watts. Nichon
KEGB, Announcer, E. A. Nickon, Signan,
KEGB, Announcer, D. A. Nickon, Signan,
Timo Down Here. Daily 7-7-130 ph. beditae sidnisk
Mountain. 424 8 meters. 10 watts. The

Time Down Here." Daily 7-7130 pb, bottles stories. Mountain.
KFCC. Helena, Mont. 247.8 meters. 10 was it. The First Congressional church. Announcer Goorge C. Pirst Congressional church. Announcer Goorge C. Berrick. Mountain. Congressional C

KFOH, Toeson, Ariz. 200 merca. Ariz. Amouncer, Max Voss Kuchler. Irregular zebodule. Ariz. Amouncer, Max Voss Kuchler. Irregular zebodule. Ariz. Amouncer, Max Voss Kuchler. Oregon KFUM. Beaumont, Tex. 318.6 melers. 500 watts, Max-nolla Petroleum Co. Amouncer, Maxmolene Mike. Shogan, "Kall for Dependable Magmolene." Twes. Fri. 12:30.1 pm, bard concert; 7-7.30, children's Noor. 8, concerts. Every there Gun 9 pm. watter Noor. 8, concerts. Every there Gun 9 pm. watter Noor. 8, concerts. Every there Gun 9 pm. watter Noor. 8, concerts. Every Concerts. Every

FGQ, Bone, Ja. 226 meters. 10 watts. Cray Hardware Co. Annuneer, Harold E. Wilcox. Slogan: "Dantel Bones Estation." Wed. 10-11 pm. Sun. 3-4 pm. Cestral. FHA, Gunnison, Colo. 252 meters. 50 watts. West-ern State College of Colorado. Announces, E. Ras-el Wightman. "Where the Sun Stites Every Day."

United States

0. 425 meters. Edgat. 185th Fleid

(S. N. C. 435 meters. 750 watts. U. S. R. Announcer, Lieut. James T. LeGiste. Collecte. Announcer, Lieut. James T. LeGiste. Collecte. Research, Allan. 400 meters. 510 watts. U. S. Third. Said. 8-9:55 pm. dance muck. Announcer, Lieut. Said. 8-9:55 pm. dance. Said. 8-9:55

(KFVH, Manhattan, Kan. 218.8 meters. 10 watts. Whan Radio Shop.
KFWI, Bouscon. Tenas. 248 meters. 10 watts. HeadKFWI, Bay Ton. 248 meters. 500 watts. First
KFWI, Sar Ton. 2416, 228 meters. 500 watts. First
Bapilst church. (KFW, Sacramento, Calif. 248 meters. 560 watts.
KFWI, Vancouver, Wash. 221 meters. 5 watte. Richard
KFWA, Ogfein. Utsh. 261 meters. 500 watts. Browing Brothers Co.
KFWB, Hallywood, Calif. 252 meters. 500 watts. Warmer Brothers Co.

KFWA. Orden. Utsh. 261 meters. 500 watts. Browling Broubers Co.

KFWB. Hollywood, Callf. 252 meters. 590 watts. Warner Brothers. 261ff. 211. meters. 109 watts. L. E. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds Pri. Sat. \$12. Pattle. C. S. Myors. Mon. Weds. \$11. Pattle. C. Myors. Sat. \$12. Pattle. C. Myors. Sat. \$12. Pattle. C. Myors. Sat. \$12. Pattle. C. Myors. Myors. \$14. Pattle. Sat. \$12. Pattle. C. Myors. Myors. \$14. Pattle. Sat. \$15. Pattle. C. Myors. Myors. \$14. Pattle. \$15. Pattle. C. Myors. \$15. Pattle. \$15.

Pacific Mark. 273 meters. 100 watts. Louis Wassier. KHQ, Sentile, Wash. 273 meters. 100 watts. Steele Co. Slogan, 'Far from the Maddening Crowd.' Mon, Wed. Fri, 's p.m. Sun, 2-3 pn. Control & Wassier. KLOS, Bar Francisco, Calif. 236 meters. 5 watts. Cartney. Co. Apponency, A. B. McCartney. Julius Branton & Sons Co. Announcer, A. R. Mc-Cartney.

(Note—The second part of the station data list will appear next week.)

Mon. These. Pri. Sat. 8 p. m. Mon. These. West, The State 10 parts of the State 10 parts of the State 10 parts of the State 10 parts. State 12 rections must be certified by the sta-tions themselves, and NOT by com-parison to other so-called accurate Radiocast directories and lists. Sta-

parison to other so-caned accurate action verifications must accompany corrections.

That's just how sure Radio Digest is that this Radiophone station directory is correct! To make the challenge fair for everyone, Radiocast stations and their employes are barred from this offer. Why? Because the Radiocasters are the source of all the data given herein. They are for should be) interested enough to answer the inquiry sent them every time data on their station appears. This inquiry contains a proof of their last listing and must either be corrected or O K'd as correct and returned to the Digest. Nevertheless,

Field Sed Co. Announcer, Henry Field. Slogan, Friendly Station in a Friendly Town. Daily as one of the control this directory that this challenge is made unconditionally.

With reference to the directory: It appears in five parts, serially continuously: the first four parts are station data listings, arranged alphabetically; the fifth part is a state, city index of stations. The information contained in each station data listing is given in the following order: Call letters, city, state, wave length used, watts antenna input, owner's name, annuneer's name, slogan used if any, name of listener in "club," schedule of operating hours, and kind of time used, as "Central," "Mountain," etc.

Five successive issues of Radio Digest will give one the most complete and accurate list of Radiocast stations obtainable. This service is original with this publication, and has been maintained from the start. Right of reproduction without permission of any or all of the data contained berein is dexied.

KFKA, Greeley, Colo. 273 meters. 50 watts, Colorado Siste Teachet College. Announcer, Brewer Boardwan, KFKO, MILLOGA, Kant. 275 meters. 500 watts. Brink-ley-Jones Hospital Asso. Of the sir for the summer. KFKO. Conway. Ark. 250 meters. 100 watts. Conway Radio Lab. KFKO. The Conversion of the College of Kransa. Announcer, John E. Patt. Slogan, 'Up of Kransa. Announcer, John E. Patt. Slogan, 'Up of Contract on the Kan.' Mon. Thurs. 6:501-8:35 p.lic.

of Kansas. Antonuner, John E. Patt. Singan, "Up at Lawrence on the Kan." Mon, Thurst, 50:55-55. Dr. Lawrence on the Kan." Mon, Thurst, 50:55-55. Dr. Lawrence on the Kan." Mon, Thurst, 50:55-55. Dr. Lawrence on the Kan. "The Kangassas of the Alr." The Honorer Se Broodeastins Sasion of the World." Mon. Phinner Se Broodeastins Sasion on the World." Mon. February Sections of the Alr." The Fromer Se Broodeastins Sasion on the World." Mon. February Section 1988. The World. "Mon. The Fig. Mon. Mon. The Sasion Section 1989. The World. "Mon. Section 1989. The Sasion Central Commencer, Philip S. Donnell. Slogan, "The Sasion Section 1989. The Sasion Central Commencer, B. W. Thacket Slogan, "Heart of the Magic Valley." Mon. Thurs. Sat. Science Central. (1989. Section 1989. Sect

shut-ing (Swedish): 9-39, service (English). Contral, KFLX, Galveston, Texas, 240 meters. 10 watts. Gorarl, KFLX, Allantic, Iowa 273 meters. 100 watts. Adantic Automobile Co. Singan, "The Garden Spot of Jown." Week, 6-7-18 pm. dinner program; 9-1, minch. Sait. Week, 6-7-18 pm. dinner program; 9-1, minch. Sait. Contral, pm. dinner program; 5-1, minch. Sait. Contral, pm. dinner, 250 watts. U. of Arkaness. Announcer, C. V. Buller, Tines, 9 pm. Thors, 7-70 pm. Contral, meters, 100 watts. Morningstie College. Announcer, Dr. Owatts. Morningstie College. Announcer, Dr. Gorge W. Young. Sait. 12:10 pm. Wed, 10:15 pm. Sun. 10:30 ann. 7:15 nm. watts, Dr. Gorge W. Young. Announcer, Dr. George W. Young. Sait. 10:30 pm. watts, Dr. Gorge W. Young. Announcer, Dr. Gorge W. Young. Sait. 10:30 pm. 9:10; Wed, 6:7 pm. 7-3; 326-10:30; Tuse, 7:6 pm. 9:10; Wed, 6:7 pm. 7-3; 326-10:30; Tuse, 7:6 pm. 9:10; Wed, 6:7 pm. 7-3; XEFMW, Houghton, Mich. 256 meters, 50 watts, M. C. Saterce (announcer). Now. 3-4:30 pm. 50. Oratic. Source, 10 pm. Ved, 9 pm. Sun. 7 pm. Central, KFNF, Shenandoab, 1a. 206 meters, 500 watts. Henry

KFPG, Los Angeles, Calif. 238 meters, 100 watts. Garretson and Gooden.
Garretson and Gooden.
Baster, announcer.
KFPM, Greenville, Tex. 222 meters. 15 watts. C. C. Baster, announcer.
KFPM, Greenville, Tex. 222 meters. 10 watts. The New Furniture Ob. Announcer, Dave Ablowich, Jr. Gooden.
Furniture, Tex. 242 meters. 10 watts. Ob. Control of C Central Control of the Control of the Control of Central Centr

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GROSLEX

SIASO SIASO SIASO Add 10 per cent west of Rocky Mountains of Rocky Mountains of Rocky Mountains of Rocky Mountains

Crosley owns and operates station WLW, Cincinnati, the first remotely controlled super-power broadcasting station

2-Tube Crosley 51
Same as wonderful Crosley 50 with additional tube amplifier. Local and nearby stations on loud-speaker always and distance up to 1500 miles under average conditions. Much greater range with head phones.

Special Sloping Front 2-Tube Crosley 51
Same as Model 51, with cabinet holding all dry A and B batteries. \$23.50.

2-Tube Crosley 51 Portable

The Crosley 51 in a black leatherette case, with nickel trimmings. Space for batteries. \$23.50.

Crosley Musicone

A marvelous new development of loud-speaking principles. Diffusion of sound creates perfect reproduction of all tones. \$17.50.

3-Tube Crosley 52

A larger set for those who want greater reception range on the loud-speaker. Operates on three tubes, using wet or dry batteries. Consistent loud-speaker.

Special Sloping Front 3-Tube Crosley 52 Cabinet contains dry A and B batteries. Same efficient detection and reception as regular 52. \$35.

range 1500 miles or more.

3-Tube Crosley 52 Portable.

Same as other 52 models, but in a black leatherette case. Easily carried. All batteries inside. \$35.

Prices quoted above do not include accessories.
Add 10 per cent west of Rocky Mountains.

Crosley, the world's largest manufacturer of radio receiving sets, offers radio's wonder—the Crosley Model 50, one-tube genuine Armstrong regenerative receiver at \$14.50. With tube, phones, batteries, antenna wire complete, less than \$25.

This momentous announcement means that every home in America can at last have the enjoyment and the entertainment of high class radio—the thrill of long distance reception as well as local—on a basis of real economy.

It means a further tremendous stride toward achievement of the Crosley aim and ambition to build radio for the millions.

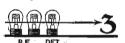
Already, with hundreds of thousands of Crosley receiving sets placed in American homes last year alone, Crosley is sweeping on toward that great goal.

For all time, Crosley has taken the high cost out of quality radio by quantity production, the surest road to lower costs in a manufacturing plant.

But Crosley has gone even farther, by providing simplicity, certainty, reliability—reception as perfect and sure as it can be made in the present state of radio science.

This Crosley 50 is the latest refinement and perfection of the set which brought MacMillan's North Pole messages in to Leonard Weeks, at Minot, N. D. when all others failed though they cost ten times as much.

This is the set which gets the stations from coast to coast; which gives you more for your money by far, because it is the genuine Armstrong circuit, built by Crosley.



This little diagram shows three tubes using the ordinary radio frequency and detector circuit. Signals pass straight through the three tubes without extraordinary increase in their strength. The tube value therefore is 3.



But Crosley's Armstrong regenerative set, with one tube, passes the signals several times through the single tube, each time increasing their strength and giving you, much more than the three-tube ordinary circuit, or a tube value of 3+.

That is why the Crosley onetube set is so much more satisfactory and efficient.

Already, with this perfected Crosley 50, Andie Edmondson, at Stella, Mo., heard 2BD, Aberdeen, Scotland; Paul J. Hall, at Osceola, Neb., heard 2LO, London, England; Eugene Barnhouse, at Brookfield, Mo., hears Winnipeg and Montreal, Can., and Springfield, Mass.; James Gordon, at Fremont, Neb., hears them from coast to coast, from Canada to Texas, even picking up 10-watt KFNG at Coldwater, Miss., and 100-watt WFBL, at Syracuse, N. Y.; Mrs. J. E. Martin, at East Palestine, Ohio, hears KGO, Oakland, Calif.; O. W. Bryant, at Sunset, Tex., gets Hollywood, Calif., 1425 miles; Crosley Station WLW, Cincinnati, 1094 miles; Pittsburgh, Pa., 1361 miles.

These are only a few examples out of many. Can money buy you greater distance or wider range?

Get your Crosley 50 now and learn that fine radio is not costly and difficult, but low - priced, simple, easy and reliable. A Crosley dealer is near by.

Crosley manufactures receiving sets which are licensed under Armstrong U.S. Patent No. 1,113,149, and priced from \$14.50 to \$65, without accessories.

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