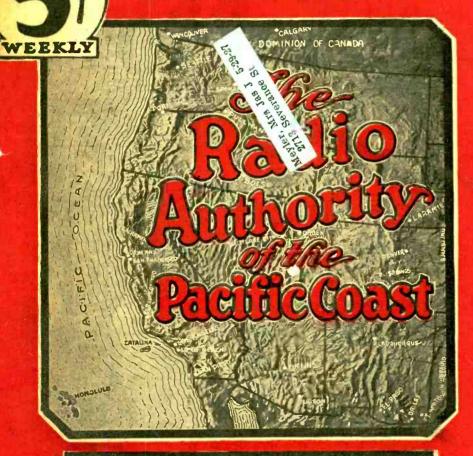
# RADIODOINGS

THE RED BOOK OF RADIO

COPYRIGHTED TIME TABLES OF THE LEADING BROADCAST STATIONS -- DETAILED DAILY PROGRAMS --- LATEST RADIO NEWS



THIS WEEK

Does Radio Lack Humor?

Vol. IX

**AUGUST 15-21, 1926** 

No 7

# WESTPORT RADIO \$950

COMPLETE LESS "A" BATTERY

# Equally Adaptable for Home or Camp

WESTPORT is just as much at home in an attractively furnished living room as it is in a camp, miles from civilization. The satinfinish of the American Walnut cabinet harmonizes with the other home furnishings. The sturdy construction will stand up under rough usage.

Compare the tone, volume, selectivity and range of this five-tube set with other portables selling at a much higher price. Hear it at your "Western Auto" store today.

Set may be had with small tubes and dry A, B and C Batteries at the same low price—\$89:50.

To use with Car Storage Battery simply plug into dash light socket.

-More than 125 Stores in the West-

Western Auto Supply Co. z

Main Store ~1100 South Grand Ave-LOS ANGELES



# Radio Doings

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BAN FRANCISCO 406 New Call Bidg. Douglas 1388

#### "The Red Book of Radio"

**HUBERT C. CHARLES** General Manager

H. C. CHARLES, Editor N. E. BROWN, Technical Editor MAJ. LAWRENCE MOTT, Signal Corps, O.R.C., Associate Editor FRED L. HALL, INC., San Francisco Representative 507 Montgomery St. J. W. HASTIE, Eastern Representative

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Vol. IX

Los Angeles

AUGUST 14, 1926

San Francisco , No. 7

#### THIS WEEK'S FEATURES

EDITORIAL COMMENT

Broadcasters for Fair Play

"KGO." OAKLAND, CALIFORNIA (Illustrated)

"Behind the Scenes" of the popular Pacific Coast Station

"MUSICAL GOLD FISHES"

A resident of Florida succeeds in getting music from her gold fish bowl

"BROADCASTING AS USUAL"

Very little, if any, difference noted in the broadcast situation. Also list of new licenses granted during the past week

"KOA HEARD IN ITALY"

A long distance achievement by the mile-high station of the General Electric Co.

"ARMSTRONG PATENT CANCELLED"

Decision of Judge J. J. Thompson cancels patent of Edwin H. Armstrong on the feed-back regenerative circuit'

STATIONS REQUESTING NEW WAVE LENGTHS

"RADIO LACKS HUMOR"

Will Rogers, the comedian, gives his opinion on this subject

LISTENERS-IN CORRESPONDENCE

"WHY OF RADIO" (Fifty-Ninth Installment)

QUESTION AND ANSWER DEPARTMENT

THE SARGENT INFRADYNE (Diagram and Description)

N. E. Brown, A. I. E. E., A. S. M. E. and I. R. E.

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Have RADIO DOINGS mailed to your home every week. Fill out blank below. Either mail to us, or your dealer will be glad to take care of it for you Please indicate whether NEW or RENEWAL.

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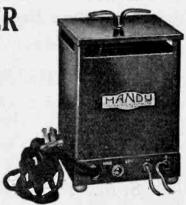
TRICKLE-BOOSTER CHARGER

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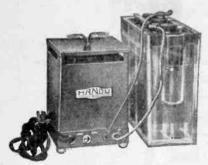
For Either 6 or 4-Volt Storage Batteries

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The Handy Trickle-Booster Charger with its "slow and fast" rate feature, gives the radio fan two chargers in one compact unit at a price lower than the standard battery charger. Should be permanently connected.

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Selectivity—Volume—Tone Quality

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Using Interchangeable Coils for All Wave Bands
Kit \$53.00

Also Silver Marshall's Latest Equipment now in Stock.

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Will operate any set and handle all power tubes-\$39.50

# THE 220 AND 221 AUDIO TRANSFORMERS

These are the last word in Audio Amplification. Designed for all types of tubes, old type and new. Put two 220 and one 221 in your set. Priced at \$6.00 each.

The 275 Short Wave Choke Coil, 60c

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OPEN EVENINGS TILL 9 O'CLOCK Send for Our New Catalogue—Just Out

# THE NEW INFRADYNE

#### IS HERE

This 10-tube set is the talk of the radio world. Tunes very sharp, very good on distance—very quiet and absolutely no harmonics. This means that you get the station at only one place on your dials.

Complete instructions and blue prints only \$1.00. We carry the complete kits as specified by Gerald M. Best. Write us for particulars.

# Silver-Marshall

#### 7-TUBE SUPER HETERODYNE

## RADIO CABINETS AND TABLES

A large assortment of different styles and finishes to fit any home. Prices very reasonable. We deliver.

# RADIO TUBES

Unconditionally Guaranteed

201-A TYPE, \$1.00—199 TYPE, \$1.25 All These Tubes to Fit Either the Old or New Style Sockets

## We Are Crosley Authorized Dealers

A complete line of these popular sets and speakers in stock at all times.

Terms if desired.



# Editorial Comment

# Broadcasters for Fair Play

NE of the greatest romances of American industry is being written by the broadcasters of the country. In response to the appeal which was made to all broadcasting stations on July 19th, to sign a Certificate of Promise, assuring The National Association of Broadcasters, that the station would continue to operate under the assignments made by the Department of Commerce, prior to the Attorney General's opinion, more than 150 stations have returned the signed agreement already, and each mail brings more. Many of them are doing so at the sacrifice of their individual interests, which are born of deep convictions.

So fine has been the immediate response to this call, that so far as existing broadcasters are concerned, we feel assured that the situation is well in hand, and no one needs to fear any kind of chaos due to the operations of those now in the field. However, attention should be directed to the long list of applicants who desire to get into the broadcasting business.

It costs from \$50,000 to \$250,000 to build, equip and place a broadcasting station in operation. There are already 536 stations operating on the 89 available wave length. Simple arithmetic shows how these stations must be dividing time to avoid interference. Obviously, it is impossible to put 600 more stations on the available wave lengths and justify even the minimum investment. It becomes necessary for someone to say who may and who may not broadcast, and there is no doubt that as soon as Congress convenes in December, adequate legislation will be provided, placing this power in the hands of either the Secretary of Commerce or a separate radio commission. When this takes place, many will certainly be shut out, and it is logical to believe that those who have pioneered in the art, and who have maintained adequate and improving service, should be given prior consideration.

Some may say that they will take their chances and go ahead with the erection of a station, gambling entirely on what their position may be after the passage of the new law. This would prove to be the wildest kind of speculation, and it is believed that very few, if any, will take the risk.

## "KGO" Oakland, California

"Hello, powerhouse! Give us the carrier!" An operator in the control room of KGO speaks these words into a telephone and gives life to the giant broadcaster of the General Electric Company, at Oakland, Calif.

An instant later switches click in the powerhouse and signal lights flash.

Back in the studio before a microphone stands the announcer watching for the green signal light flashed by control room operators, which will tell him that all is ready.

Instantly over the continent and beyond the air is filled with electrical energy radiated from KGO's antenna

Again the switch is moved. This time to concert, and the concert microphone is now in circuit. The program follows. From three different studios the different numbers of a single program may be broadcast without waiting, so quietly that listeners will not be aware that part of their program is coming through wires laid for several miles under water of the San Francisco Bay. Two of



KGO Studio Building at Night

The green light! The announcer raises his arm. "All quiet, please!" Conversation ceases. Deftly the announcer moves a tiny switch to "announce," bringing the "announcer microphone" right in front of him into the circuit.

Speaking slowly and distinctly, he is heard to say: "Station KGO, General Electric, Oakland, California." these studios are located on the second floor of the main building in Oakland. The other is in the Hotel St. Francis, San Francisco, ten miles away. At this point let Ray Koernig, assistant engineer in charge of KGO, tell the story:

"Three operators are on duty in the KGO control room during programs. The senior operator controls the groupings of the amplifiers, operates the gain

#### "KGO"-Continued

control and monitors the radio output. The second man takes the various meter readings at the beginning of each selection and records them in a log: The third man listens in continuously on a wave-length of 600 meters for distress signals from ships at sea and enters in a log ship and shore stations heard.

"Two operators in the power house are always on duty during a broadcast. The senior operator supervises the operation of the power equipment and sees that the set is tuned to the exact frequency 830 kilocycles before the start of the program. Careful watch is maintained during broadcasts to make sure that frequency is constant. Frequency, constancy and continuity of program output are two vital things about KGO's broadcasting. With a receiver the senior operator listens in. He also watches the voice wave in the oscillograph. By watching the voice wave the percentage of modulation is maintained at the proper point.

"Directly over the power house building is the antenna system. It is the multiple tuned type and is strung between two towers, 150 feet high and 250 feet apart. Beneath the antenna is the counterpoise, consisting of twelve wires parallel to it, fifteen feet off the ground, coverin gan area of 150 by 300 feet.

"Every part of the equipment of KGO is built in duplicate so that should any part break down during a broadcast, a corresponding part may immediately be switched into the circuit.

"Besides the regular programs from the KGO studios, twenty-one remote control connections furnish broadcasting material for the listening public.

"KGO operates normally at 5000 watts, on a wave-length of 361.2 meters on 830 kilocycles."

#### KNRC's Announcer

We are pleased to publish below the photograph of that popular vocalist, studio manager and announcer, Tom Mitchell, a most necessary and vital part of Station KNRC, Los Angeles. owned and operated by the Kierulff & Ravenscroft Company, Seventeenth and Los Angeles streets. Mr. Mitchell, who has been very appropriately termed "Los Angeles' Premier Baritone," while having been associated with Station KNRC, but a comparatively short time,



TOM MITCHELL

has, through his untiring efforts, pleasing personality and, above all, his high ability, made thi sstation one of the foremost in its class today. "Tom" has had considerable theatrical experience. having been on the Keith and Orpheum circuits for eleven years, was engaged for four consecutive seasons at the New York Winter Garden, and occupied a

(Continued on Page 22)

## Broadcasting As Usual

There were 537 active stations on the air on July 29th, as against 528 on July 1st, the Department of Commerce official lists show. This means that ten new stations were licensed and one, the Owl Battery Co., WOWL, at New Orleans, dropped out. To be sure, it is reported that several other changes are contemplated but no official reports are yet in. WCAP, at Washington for example, will close shortly.

A few other changes in wave lengths, power and ownership are recorded by the Radio Section of the Commerce Department, but nothing like the general shake-up anticipated in some quarters has taken place since the decision of the Acting Attorney General was an-Broadcasting goes forward nounced. practically as usual. Doubtless a dozen or two new licenses will be issued during the next month and from thirty to forty other stations will designate new normal wave lengths in their renewed The list of applicants relicenses. mains the same-646-as it was nearly a month ago. Little trouble is anticipated unless fifty or more new stations start broadcasting.

New licenses issued during the past week are as follows:

KGBU, Roy R. Thornton, Ketchikan, Alaska, 228.9 meters, 1310 Kcs.

WKBA, The Arrow Battery Co., of Chicago, Ill., 288.3 meters, 1040 Kcs.

WMBI, Moody Bible Institute, Chicago, Ill., 288.3 meters, 1040 Kcs.

WJAF, J. A. Fenberg Radio Co., Ferndale, Mich., 400 meters, 749.6 Kcs.

WJBV, Union Course Laboratories, Woodhave, N. Y., 469.9 meters, 638 Kcs. KGBS, A. C. Dailey, Seattle, Wash., 209.7 meters, 1430 Kcs.

Four other stations licensed recently bring the total to ten. A temporary license to KRCA, Radio Corp., San Francisco and Los Angeles, to operate on 305 meters, has also been granted.

The following changes in rado broadcasting stations have been announced by the Department of Commerce:

WGHB, Fort Harrison Hotel, 265.5 meters (change of ownership only; formerly licensed in the name of George H. Bowles Developments).

WNAC, Shepard Stores, Boston, Mass.; changed from 280.2 meters to 430.1 meters.

WNAB, Shepard Stores, Boston, Mass.; changed from 250 meters to 280.2 meters.

WRNY, Experimenter Pub. Co., N. Y. C.; changed from 258 meters to 374.8 meters.

WBNY, B. A. Ruchome Corp., N. Y. C.; changed from 209.7 meters to 322.4 meters (formerly licensed to Miss Shirley Katz).

WEW, St. Louis, Univ., St. Louis, Mo.; changed from 247.8 meters to 360 meters.

Heard in Florence, Italy!

This is the newest long-distance achievement of KOA, mile-high General Electric broadcasting station at Denver.

This information was contained in a letter from Liverpool, Eng., written by Mrs. Harry Fugate of Waxahachie, Tex., on June 24.

"We heard KOA the other morning at 3 o'clock, while in Florence," her letter read. "My friends asked many questions about Denver and the Rockies, and I gave them all the information possible."

The DX range of the Rocky Mountain broadcasting station previously extended from New Zealand, on the west, to Birmingham, Eng., on the east, and as far south as Lima, Peru. The most northerly radio report, it was said, comes from a point 160 miles within the Arctic circle.

#### Armstrong Patent Cancelled

Involving what is said to be the second most valuable basic patent in the history of the radio art and industry, Federal Judge J. J. Thompson, of the Eastern District of Pennsylvania, today handed down a decision cancelling the patent of Edwin H. Armstrong for the widely used "feed-back regenerative circuit," which automatically declares Lee de Forest to be the actual inventor.

This decision is a signal triumph for Dr. de Forest and the DeForest Radio Company and marks the final stage of the bitterly fought series of legal battles as to whether he or Major Armstrong was the actual inventor. The case was submitted early in 1925 by Attorney Samuel E. Darby, Jr. of New York for the De Forest Radio Company in an action for cancellation of the Armstrong patent directed at the Westinghouse Electric and Manufacturing Company to whom the Armstrong rights had been assigned.

"The feed-back regenerative circuit has been aptly termed 'the heart and soul of radio.' Without it broadcasting would be impossible, "Mr. Darby said. "Dr. de Forest's regenerative transmitter with its novel circuit was held to be the original invention of this essential device when in September, 1924, the District of Columbia Court of Appeals reversed the Commissioner of Patents and granted priority of invention to Dr. de Forest over Major Armstrong. Patents were issued to de Forest. Despite the Westinghouse Company, through its licensees, continued the manufacture of hundreds of thousands of radio sets using the infringing Armstrong circuit.

"The De Forest Radio Company's suit for cancellation was necessitated by the contention of the Westinghouse interests that the United States Court of Appeals in New York had sustained the Armstrong patent, and the licensed manufacturers under it included the Radio Corporation of America, General Electric Company and nearly a score of other radio manufacturers. It has been estimated that this essential circuit is in use in over one-half of all the radio sets or receivers built and sold in the United States since Dr. de Forest's invention of the three-electrode audion.

"The profits accruing to the De Forest Radio Company from the infringing use of this circuit by the Westinghouse Company and its licensees will be enormous as a result of today's decision," Mr. Darby predicted, "and it will bring to a close litigation that has been fought in various United tSates courts since 1917. In addition, this action of Judge Thompson will automatically release the De Forest Radio Company from any and all liability for infringement which was charged in parallel suits filed to sustain the validity of the Armstrong circuit patent."

Seven remote control stations are being operated in conjunction with KNX, the Evening Express, Los Angeles. This is the largest number that any station boasts in this city.

The panels that are used are located at the Cocoanut Grove, Ambassador Hotel; Edgewater Club of Santa Monica; Westlake park; Leighton's Arcade Cafeteria; First Presbyterian Church of Hollywood; Carthay Circle Theater, and the Hollywood Legion Stadium.

All of these have regular time on the air and a diversity of music is offered.

Henry P. Hayes of Boston, Mass., is the builder of the largest receiving set in the world. It has 14 tubes and cost \$750 for the construction.

#### Radio Lacks Humor

"That radio programs are improving in quality, even the most lugubrious crepe-hanger must admit," opines John Wallace in the Radio Broadcast maga-"This healthy condition of comzine. petition existing where several hundred broadcasters are daily vieing for the listeners' cherished ears has, of necessity, resulted in a considerably higher level of entertainment. Many stations, however are just as bad as they were two, three, or four years ago. But the stations that have progressed have done so by such leaps and bounds that, even though a minority, they have greatly boosted the average rating of broadcast fare.

"Real music is being heard more and more frequently. A fair smattering of the best symphony orchestras are regularly on the air. The roll of opera stars and concert artists who have been heard once or oftener has reached amazing proportions, and sports announcing is another program item that has evinced great progress. Others could be enumerated.

"But tossing aside, for the moment, our horn, and picking up our hammer, we point with tears behind our eyelids, to one type of program that has improved nary a whit. And that is the humorous program.

"In speaking here of humor, we have in mind specifically monologues and wit-and-repartee skits, and do not mean to include humorous songs or humorous musical skits, which get by partly on the strength of the music. The contagion that sweeps a laugh through a vaudevile house is denied the listener-in. Efforts of the radio clown to inject the element of rapport by laughing with his audience, invariably meet with dismal failure. To learn what the humorists themselves had to say about the matter, we were fortunate in obtaining interviews with that prominent come-

dian, Will Rogers," continues Mr. Wallace.

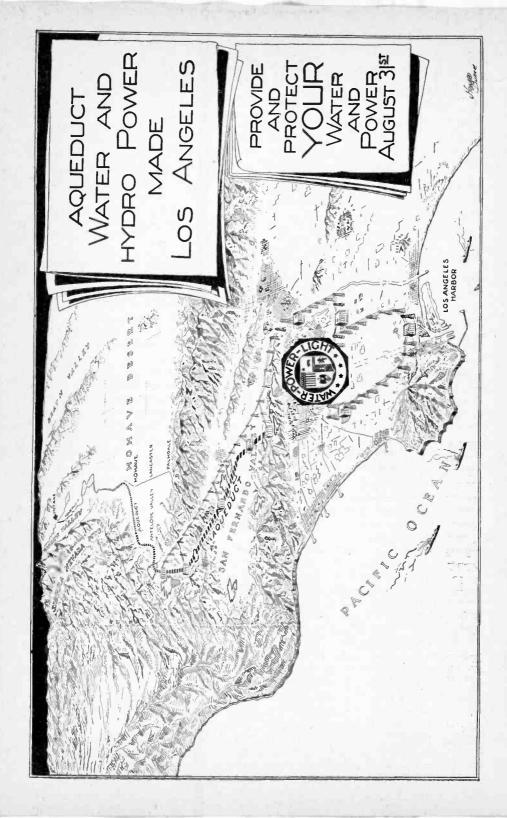
The statement made for Radio Broadcast magazine by Will Rogers is as follows: "Talkin' over radio is like talkin' over the footlights," he says. "When I'm most serious, people think I am tryin' to be funniest. Lots of times, gags I could swear would be a big laugh, fall perfectly flat. You never can tell what is going to strike the public funny. Generally I make up my gags as I go along. Best ones I ever pulled came to me all of a sudden while I was killin' time tryin' to think of something to say.

"'Swinging a rope is all right,' I remember saying, 'when your neck isn't in it. Out West, where I come from, they won't let me play with this rope. They are afraid I might hurt myself.' Well, the audience started to laugh and forgot to look at the lariat. I was saved. After that, I started to make remarks regularly until the time came when I hardly did anything at all with my lariat.

"Now, when I talk over the radio, I sure don't need a rope. Course, I can't hear whether the folks are laughin' at my gags, but that's a pretty good thing after all. I jest imagine they laugh, whether they do or not, and that way puts some heart in my act. If I was to hear them not laughin', it'd break my heart."

KNX, the Evening Express, claims the distinction now of having had the first boulevard named after its call letters. In the new subdivision known as Glendale Highlands, California, there is now a KNX Boulevard.

The men in charge of this tract are firm believers in radio and give regular programs over KNX every week. The naming of one of the streets is being considered quite a tribute by the station.



# Stations Requesting New Wave Length

Meters WNAB Boston, Mass..... Shepard Stores......280.2 to? Providence, R. I.....Outlet Company......305.9 to 352 or 370 WJAR Orono, Maine...... Univers. of Maine.....234.2 to 252 WGBX WNBH New Bedford, Mass.. New Bedford Broadcasting Co......242 to 261 (may not change) Worcester, Mass.... Worcester Tel. Pub. Co.268 to 545.1 (change made) WTAG New York, N. Y.....Gimbel Bros......315.6 to 450 WGBS Nor. Plainfield, N. J. Bor. of N. Plainfield .... 261 to 275 or 300 WEAM New York, N. Y..... Experimenter Pub. Co. 258.5 to 322.4 WRNY Philadelphia, Pa....Berachah Church, Inc. . 267.7 to ? Baltimore, Md......Con. Gas. Elec. Light WBAL and Power Co.....246 Philadelphia, Pa....Lennig Bros. Co......250 WNAT Haverford, Pa.......Haverford College.....261 WABQ Charlotte, N. C..... Charlotte Ch. of Com. . 275.1 to WBT Pensacola, Fla.....City of Pensacola.....222.1 WCOA Asheville, N. C..... Asheville Battery Co...254 WABC College Sta., Tex.... A. & M. College of Tex. 270 to361 or 461 WTAW Texarkana, Texas... Buchanan-Vaughn Co.. 209.7 KFYO Nashville, Tenn.... National Life Ins. Co...282.8 WSM Birmingham, Ala....Bell Radio Corp.......247.8 to? WBRC Auburn, Ala..........Alabama Poly. Inst....247.8 to 300 or 375 WAPI Dallas, Texas......City of Dallas......246 to 312.3 WRR Shreveport, La.....W. G. Paterson......261 Ft. Worth, Texas.... Searchlight Pub. Co....263 KFQB San Antonio, Tex.... Southern Radio Corp.. 263 WCAR Oakland, Calif......Associated Broadcasts. 239.9 to 333 KFWM Berkeley, Calif.....Berkeley Daily Gazette. 256 KRE San Bernardino, Cal. L. E. Wall...............211.1 KFWC San Diego, Calif.....W. K. Azbill.........215.7 to 550 KFBC San Jose, Calif.....1st Baptist Church....231 KQW Los Angeles, Calif . C. B. Juneau......208.2 KNRC Hollywood, Calif.... Warner Bros. Pictures. 252 to 383 KFWB Laramie, Wyo......Bishop N. S. Thomas. . 270.1 KFBU Yakima, Wash..... 1st Methodist Church.. 256.3 KFIQ Walla Walla, Wash. Blue Moun. Radio Assn. 256 KOWW WIBX Scranton, Pa......Scranton Times......250 WQAN Kansas City, Mo.....Kansas City Star.....365.6 to above 400 WDAF Kansas City, Mo.... Sweeney School Co.... 365.6 to 412 WHB Des Moines, Ia..... Bankers Life Co......526 WOD Shenandoah, Ia..... Henry Field Seed Co... 263 to 352.7 or 408 KFNF Vermillion, S. D. .... Univ. of South Dakota. 278 KUST Muscatine, Ia...... N. Baker................256 to 361.2 or 348.6 KTNT Ft. Wayne, Ind..... Main Auto Sup. Co....227.1 wowo Chicago, Ill...... Atlass Investment Co..226 WBBM WKBB Chicago, Ill. . . . . . Amer. Bond & Mort. Co. 250 Shenandoah, Ia ..... May Seed & Nurs. Co. . 252 KMA Brookings, S. D. . . . . S. D. State College KFDY

of A. & M. Arts.....273 to 316



#### WHO CAN HELP?

Santa Barbara, Calif. 1426 Garden St., August 7.

Listeners-in Club:

I have a Freshman Masterpiece, and am not getting much distance. I am not a DX fan, because I cannot get the DX stations. I get KFSD, KFI, KPO, KGW, KTCL, CNRV, KFAD, KOB, and other Los Angeles stations. If any of my friends in Radioland have got other stations on a Freshman I wish they would write me. I hope you write me. Waiting, I remain,

ROBERT HOLMAN.

P. S.: Also tell me the dial the stations are on.

#### INFORMATION WANTED

East San Gabriel, Calif., Augst 9, 1926.

Listeners-In Department:

May I ask when Station KFWC first came on the air, who are they, what is their power and why aren't they in the daily column of Who's Who in the weekly "Doings"?

They are located in San Bernardino, broadcasting from the Pickering Park Ballroom, on about 217 meters every night, from 9 or ten on, so I get from the announcer, but owing to the lack of power or proper facilities or engineering or something, they fade worse in forty-three miles than Walla-Walla, in a thousand. I first heard them Saturday night, June 19th.

May I hear from owners of Silver-Marshal Supers (seven tubes), as to trouble, if any, and bright ideas on power tube additions. Never satisfied with ordinary reception. Am reaching Toronto and Kansas City in June.

Friend King: L. V. KING.

Station KFWC came on the air regularly about one month ago; it is located at San Bernardino, Calif., and broadcasts nightly from Pickering Park. It is operating on 100 watts and 211 meters. Its schedule of broadcasting hours can be found in our time tables. Communication should be addressed to L. E. Wall, care Station KFWC, San Bernardino, Calif. We will leave the remainder of your inquiry for your fellow club members to think over.

EDITOR.

#### NOT SO BAD!

R. 4, Box 285, San Diego, Calif., Listeners-in Club: July 31, 1926.

I have read about a lot of doings by one-tube set owners. I've had my onetuber about seven months and I've done pretty well, if I do say it myself.

How's this from San Diego: KMMJ, KFCB, KDYL, KFEL, KFWA, WCAR, KFBU, KLZ, KFKX, KSL, KTCL, KDKA, WSAI, KOA, KOB, WJAD, KJR, WOAI, WCCO, WLW, WBAP, KGW, WHO, KYW, WLS, CZS, KMOX, KFH, WENR, KFPY, KFAD, KLDS, KFUR, WGHB, WOC, KFOA, WSBC, WOK, KFVR, WORD, KHQ, CNRV, KFJF, WSMB, KVOO, KWSC, KFAU, WHT, KOWW, CFCF, KOIN, KQP, and 30 stations in California. WGHB and KDKA are rarefled, as most of the other more distant stations are. K. M. TOZER. Radio.

P. S.—Although I am not a regular subscriber, I have not missed many copies since October, 1923. This is my first letter to Listeners-in Club, so I would like very much to see it on that page soon. Thank you.

# The Why of Radio

By N. E. BROWN, Radio Technician
Institute of Radio Engineers—American Society of Mechanical Engineers; American
Institute of Electrical Engineers

EDITOR'S NOTE—This is the fifty-ninth installment of RADIO DOINGS' complete Course in Radio. It began with the issue of July 4th, 1925, and will cover every phase of radio from the basic principles to and including every device and set now in use. This course will be continued from week to week.

The object of either of these changes resulting in carrying a higher grid bias, allowing a great grid swing before its potential becomes positive, for when the swings positive, a grid current flows, and it is not material whether a magnetic change in the core density is the result of ampere turns of the primary or secondary, the net effect will be the same.

Now, other things being equal, the higher the ratio (turn ratio), the higher will be the impedance of the grid winding and the greater will be the effect of this grid current. It is therefore quite evident that a rather low turn ratio should be used as the second trans-Now you see this argument former. means that the low turn ratio (unless the design and materials are both unusually good, with consequent increased cost), is the best bet in general. tI is generally accepted that the degree of amplification is quite, if not exactly, proportional to the turn ratio. That a 6-1 transformer will put a higher voltage on the grid of the next tube than a 3-1 transformer, other things being equal, and while this may be true in some cases, it does not follow that it will always be found true.

To one giving a little thought to the matter, it will be clear that given a certain secondary winding (number of turns and relative position with reference to the core) the voltage at the terminals will be proportional to the degree of magnetic change in the core in a given time. We can safely make this assumption and proceed to the next step. Given a certain tube, plate voltage and variation in grid voltage what

winding will insure the greatest change in magnetic density in the core above mentioned? That is the problem, and to eliminate all mathematics, we will discuss it from a purely common-sense point of view. In the first place, if we multiply the number of turns by the plate current in mills we will have the milliampereturns, and it is quite clear to all that if the turns are too great, either the resistance of the winding will become so great that little plate voltage will be impressed on the plate of the tube or saturation of the transformer core MAY be too nearly approached, or both. And so if we go too far in having the number of primary turns great we will defeat the purpose of the primary winding entirely and the net results will be nil.

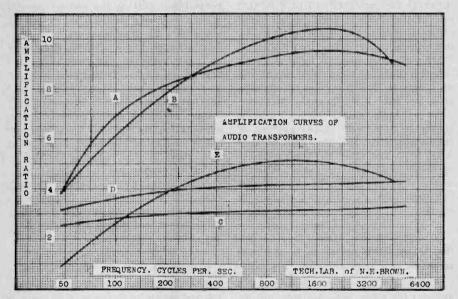
Now let us turn the telescope around and look through from the other end: Suppose we have just one turn, why, of course, anybody knows one turn would have no value, but if both these assumptions are true, and they are, there is some definite number of turns that would with a given set of conditions render the greatest difference of voltage at the terminals on the secondary winding. When the impressed voltage is nearly always the same as can safely be assumed, when dealing with power transformers, getting current from the light and power circuits, the voltage will be quite nearly proportional to the turn ratio when the magnetic density is held within practical working limits, and this same thought has been applied to transformer problems in both audio and radio circuits without taking into account that the in-

#### The Why of Radio—Continued

put or primary potentials applied to the windings ARE NOT constant. Then at these higher frequencies the electrostatic capacities begin to play such an important part and when in connection with inductance produce results that are most unexpected except to those who are by education and experience prepared to anticipate them. It is this electrostatic capacity that is responsible for the undesirable curve forms at the higher frequencies while it is the lack

500,000 ohms.

A great deal can be done b yarranging to make all volume adjustments as near the antenna as possible, which will leave all the audio amplification operative at all times. This will insure the nearest equal load on the detector an daudio amplifier at all times, and such adjustments as have been found to give the best quality will not have to be disturbed. Again, if you will permit me, the quality is not in any one



of sufficient primary impedance that causes the loss of the lower tones in so many of the receivers one hears.

There is another caprice of capacity coupling between the primary and secondary winding of audio transformers when under some conditions the primary winding acts like an auto transformer greatly increasing the amplification at the higher frequencies this can somettimes be nearl yall removed by placing a noninductive resistance in the grid circuit in series with the C buttery of the order of from 100,000 to

part of the equipment without reference to all of the integral parts. A 100-horse-power motor, a transmission designed for a 20-H.P. drive and a real axle, designed for less, carrying a ten-passenger body on 3-inch tires, would make a combination just about like some of these gotten together with odds and ends of radio equipment. Careful thought and planning, careful selection of transformers, tubes, batteries, speaker and etc., with care in assembling, WILL give results of a high order.

(To Be Continued)

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#### Questions and Answers

By N. E. BROWN, A.I.E.E. and A.S.M.E. Technical Editor, Radio Doings

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QUESTION—H. J. Hanson, Taft, Cal., asks which I prefer, the five-tube radio frequency or the four-tube universal.

ANSWER-It depends upon the individual critter; I have seen a lot of either that were not worth the solder on them, and I have seen a few of each that were whizbangs, in general, I prefer those that are CAREFULLY BUILT and of PROPER PARTS. Don't build either if you must slight the work or use poor ports, or those that NEARLY SUIT. It costs more to build the fivetube by about \$10.00 to -15.00, but if you do it rightly, it will be worth the extra cost, but USE THREE CONDENSERS. don't use one tandem for two stages. It can be done with proper spacing of the condensers, but the regular dual ARE NOT and CAN NOT be properly Stick to the three separate condensers, or build the four-tube if you must have two controls (tuning, of course).

QUESTION—Mr. Harris Opp of Dillon, Mont., asks advice as to the construction of a cage antenna.

ANSWER—If you are building the antenna for a receiving antenna, put up a carefully insulated and isolated No. 14 solid or stranded singe wire, remembering that the higher the greater the erlation of noise to signal, and the longer the less selective. Better use a small antenna and couple tighter to your grid coil. If you are to use the antenna for transmitting, do not use the cage; it is found by the fellows that know to be poor. It puts the effective capacity too near the ground, or too near the tuning coil, and of course this applies also to the receiver. The verti-

cal or the flat top is the best, the best use them only except for some special condition of multiple tuning, etc.

QUESTION—Gilbert I. Doble, Jasmine, Cal., says that on his receiver (6-tube Radiola Super), there is a rheostat and a volume control and wants to know if using the rheostat for volume control and putting the volume control dial in the loud position there will be any difference in upkeep, etc.

ANSWER—There will be less drain on your batteries and less wear and tear on your tubes if you place the volume control in the loud position and control volume with the rheostat. BUT—there will be a position near the lowest point on the rheostat where you will notice distortion beginning, and here is the place to stop reducing voltage on all of the tubes but up to that point volume control by the rheostat IS THE LOGICAL thing to do, and I believe you will be the one to judge when distortion shows itself to a degree that is unpleasant.

QUESTION—Mr. L. Penn of Clear Lake Highlands, Cal., has a five tube set and wants to know why 90 volts B gives a higher amplification than 45 and why his set roars at times.

ANSWER—In the construction of some receivers particular details are designed for 90 volts and less than that, of course, does not meet the conditions and the results are less amplification, but in other receivers which are just assembled in which no particular design is used, the volume is not so much effected by the change you mention. The noise you refer to is, no doubt, mechanical, acoustic, coupling between

#### Questions and Answers—Continued

the speaker and the detector tube. This can be remedied either by trying other tubes in the detector socket until a combination is found that will not respond, or by turning the filament of the detector either up higher or lower (if it has a separate rheostat, which it should have), or last by moving the speaker to some other locality with respect to the receiver, each case his its own idiosyncrasies.

QUESTION—Fred Lawyer of Monrovia asks how many turns to use for the primary of a neutrodyne he is building and should they be space wound.

ANSWER-Try fifteen for short antenna coupling and either cut down the antenna or take out turns until the degree of selectivity is had, preferably the former. You do not say that you will use large or small tubes and this means a good deal of difference, but try eight turns on the first and fifteen on the last and cut down until you can control the oscillations. I wish I could make everybody understand that it IS IMPOSSIBLE TO tell the usable and proper number of turns for a given size coil even if nearly all the other conditions of use are known because the relations of the parts and the care of the builder varies so much that the optimum number might vary as much as four or five hundred per cent; you MUST WIND ON A FEW AND TRY MORE OR LESS if you want to get the right number, as trial only will give you the critical winding and if you have not that you have NOTHING.

QUESTION—Henry Harrison of Los Angeles asks how to connect a four-volt Willard storage battery to his Radiola 25. Why the third tube is the only visibly effected when changing volume; what is each tube for and why do they

all remain lighted when I have my phone jack in the second stage.

ANSWER-If you look over the cable that connects to the round dry A batteries you will find a single black wire with a yellow marker. This should be connected to the negative of your fourvolt storage battery, and you will find a single all black and a yellow wire with a red marker connected to another terminal; this should connect to the positive of your battery. The first tube from the right is the first detector and one of the reflexed radio amplifiers; the second tube is the second harmonic oscillator and one of the radio ampliflers; the third tube is purely a radio amplifier and the one whose filament current is varied by the volume control, while the fourth is the second detector and the fifth and sixth is the first and second audio amplifier respectively. You undoubtedly mean the last tube remains lighted when you plug into the first stage jack (not the second as you have stated), and I will explain that the sixth and last tube, the power tube, remains lighted so as not to take the heavy filament load off the rheostat when the voltage would jump up and the tubes would be, in most cases, damaged, due to the higher voltage on their filaments as when jumping from one to the other jack most people would not think to cut down on the rheostat. This is in line with the writer's advice, many times repeated, to USE ALL THE AUDIO STAGES all the time and make volume control with the VOLUME CONTROL provided for the purpose. The jack in the first stage is to be used ONLY when a power amplifier like the Radiola 104 is used when the impedance of the UV120 tube would not result in satisfactory tone quality, being too low and the lower tones would be too prominent.

#### The Sargent Infradyne

By N. E. BROWN, Radio Technician Institute of Radio Engineers—American Society of Mechanical Engineers; American Institute of Electrical Engineers

A set was built up hurriedly by an assistant of the writer's, following carefully the suggestions of the designer, after which changes were made and the effect carefully noted.

We would suggest using grid modulation of the first detector in place of plate modulation; it is believed that grounding the can of the intermediate amplifier greatly helped to stabilize its operation, and that voltages less than 90 on the amplifier seemed to give better results, it is believed that around 60 volts will be found most useful here. The tuning of the intermediate amplifier was found very critical and the width of a line was all required to effect a vast change. The oscillator worked out O. K., but do not think it wise to use any other condenser here than the Remler, on account of body capacity effects. The one thing important to get the most out of the equipment is a firstclass neutrodyne radio amplifier at broadcast frequencies, for if this is not sharp and stable, the results will leave a great deal to be desired. In fact, the writer believes the most profitable proceedure in building the receiver would be to finish the broadcast frequency and audio amplifier first (making all preparations for the insertion of the short wave amplifier), and get it to working as a first-class neutrodyne, being sure it is sharp and controllable before connecting the Infradyne amplifier.

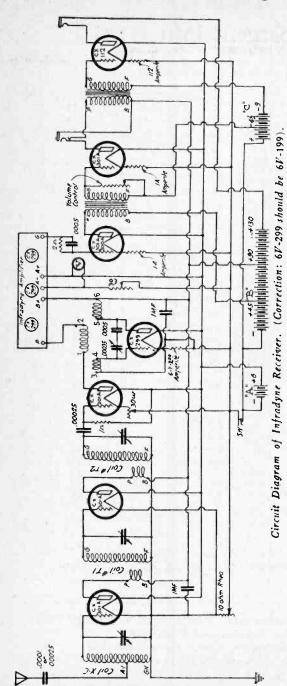
One should test out the audio amplifier and see that everything is working O. K. before the set, as a whole, is connected up. In fact, the writer thinks it would be advisable to install switches which would convert the receiver to a straight five-tube neutrodyne, cutting out the short wave amplifier entirely.

This would greatly help in running down troubles that might creep into the receiver from time to time, as well as greatly facilitating the getting in shape of the whole outfit, and too much stress cannot be placed upon the goodness of the tuned R. F. amplifier that is to work ahead of the short wave amplifier, and the careful workman will be rewarded with a receiver that is as sharp as a razor, giving fine reproduction and as sensitive as could be desired.

In making up the convertable set, as suggested, one anticapacity switch can be made to cut out the oscillator, short wave amplifier and the second detector connecting the output of the first detector directly into the first audio transformer and caring for the filaments as well. This should make a very flexible and useful receiver, using the short wave amplifier on distance reception only where maximum amplification is desired and switching over by a twist of the anticapacity switch to a straight neutrodyne for locals and less distance. (List of parts to be used in this circuit, appears in last week's edition.)

#### "KNRC"-Continued

prominent role in "The Three Twins," and "A Knight for a Day." Prior to associating himself with Station KNRC, he was an exclusive KNX artist. later serving as program manager for Station KMTR. Kierulff & Ravenscroft are fortunate in obtaining the services of a man of "Tom's" calibre, so tune in on KNRC and prove for yourself that all we have said, is putting it very mildly, as to both Tom Mitchell and and Station KNRC, "The Station with a Smile."



Circuit Diagram of Infradyne Amplifier Unit. DONE DODGOOD 10000

#### SUNDAY TIME TABLE

ALL TIME TABLES ADJUSTED
TO PACIFIC TIME
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# MONDAY TIME TABLE ALL TIME TABLES ADJUSTED TO PACIFIC TIME (X) Indicates Station Is On the Air

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## TUESDAY TIME TABLE ALL TIME TABLES ADJUSTED TO PACIFIC TIME (X) Indicates Station Is On the A

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## WEDNESDAY TIME TABLE

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THURSDAY TIME TABLE ALL TIME TABLES ADJUSTED TO PACIFIC TIME (X) Indicates Station Is On the Air

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# FRIDAY TIME TABLE

ALL TIME TABLES ADJUSTED
TO PACIFIC TIME
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THE RESIDENCE OF THE PROPERTY

# SATURDAY TIME TABLE ALL TIME TABLES ADJUSTED TO PACIFIC TIME (X) Indicates Station Is On the Air

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	10.3	=	11.3	12 0	12.3	-	1 30	2 00	2 30	3.0	33	4	4 3	5.0	5.3		Wav	Power		-00 9	9	-00 2	7 30-	œ	8	6	6	2	2	=	旦
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12	XI	X	Y	-	^		-	1^	1	1^	I X	X		^		KFSG	275		Los Angeles	<u>×</u>		^	X		X	X	-	^			-
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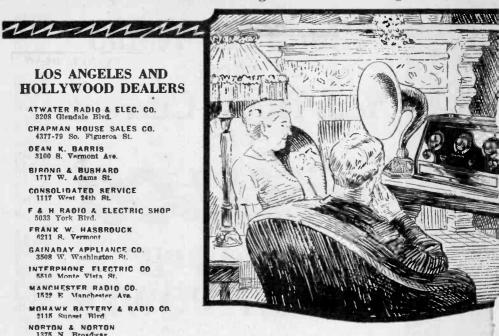
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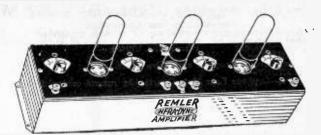
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# DAILY EXCEPT SUNDAY-6:00 p. m.—KFI Nightly Doings. 6:15 p. m.—KFI Radio Travel Guide. WEEK COMMENCING SUNDAY, AUGUST 15, 1926 SUNDAY, AUGUST 15— 10:00 a.m.—Morning service under the L. A. Church Federation. 11:00 a.m.—Temple Baptist Church. 4:00 p.m.—Vesper Services, arranged by Federated Church Musicians. 6:30 p. m .- KFI Nightly Doings. 6:30 p. m.—Music Appreciation Chat and Father Ricard's Sun Spot. 7:00 p. m.—Zez Confrey's Orchestra. 8:00 p.m.—Aeolian Organ Recital, Dan L. MacFarland at the console. 9:00 p.m.—Lake Arrowhead Orchestra; Mert Denman and his uke. 10:00 p.m.—Packard Six Orchestra, direction of Bill Hennessy; Dolly MacDonald. MONDAY, AUGUST 16— 11:10 to 11:30 a.m.—Agnes White presenting a talk for the Standard Nut Margarine Co. 5:30 p.m.—Norman Rathert and his Trojan Tooters. 6:30 p.m.—Wally Wallenius, tenor; Victor Trevice. 6:45 p.m.—George Wilder Cartwright. "Talks on the Constitution." 7:00 p.m.—Owen Fallon and his Californians; Jackie Lucas. 8:00 p. m.—Program arranged by Lou Parker. 9:00 p. m.—Program by Walter M. Murphy Motors Company, Los Angeles, and Stanley W. Smith, Inc., San Francisco, featuring Virginia Flohri, Robert Hurd, Gamut Male Quartet, Hollywood String Quartet, broadcast simultaneously by KFI, Los Angeles, and Quartet, Hollywood String Quartet, broadcast simultaneously by KF KPO, San Francisco. 10:00 p. m.—Program by Meiklejohn Bros. TUESDAY, AUGUST 17— 5:30 p. m.—The Original Victorians Orchestra. 6:30 p. m.—The Original Victorians Orchestra. 6:45 p. m.—Dr. John T. Miller, "Human Nature Around the World." 7:00 p. m.—Virginia Ballroom Orchestra; Park Sisters. 8:00 p. m.—Screen Artists; Quartet; Robert Hurd, tenor. 9:00 p. m.—Truth Tyler Plock, pianist; Roy Bessler and Flo Ellsworth. 10:00 p. m.—Packard Radio Club. WEDNESDAY, AUGUST 18— 11:10 to 11:30 a. m.—Agnes White presenting a talk for the Standard 11:10 to 11:30 a.m.—Agnes White presenting a talk for the Standard Nut Margarine Co. 5:30 p.m.—Bob Bottger and his Venetians Dance Orchestra. 6:45 p.m.—E. C. D. Price, "Gossip." 6:45 p. m.—E. C. D. Price, "Gossip." 7:00 p. m.—Westerland Trio. 7:30 p. m.—Nick Harris, Detective Stories: William MacDougall. 8:00 p. m.—Program by California Petroleum Corporation: Calpet Orchestra: Paul Roberts. 9:00 p. m.—Patrick-Marsh Orchestra: Betty Patrick. soloist. 10:00 p. m.—Program arranged by Charles Beauchamp. THURSDAY, AUGUST 19— 5:30 p. m.—Wheeler's Hot Springs Orchestra. 6:30 p. m.—Minnie Petrie: Art Meyer. 6:45 p. m.—KFI Radiotorial Period. 7:00 p. m.—Radio Boys' Orchestra. 8:00 p. m.—Radio Boys' Orchestra. 8:00 p. m.—Richard Sterling in the one-act play, "Nettie," by George Ade. 9:00 p. m.—Program of Hawaiian music arranged by Charles Dimond. 10:00 p. m.—Azure Music Club; Edna Cook and Billie Henderson. FRIDAY, AUGUST 20— 11:10 to 11:30 a. m.—Agnes White presenting a talk for the Standard Nut Margarine Co. 11:10 to 11:30 a.m.—Agnes White presenting a talk for the Standard Nut Margarine Co. 5:30 p.m.—Drake's Orcehstra. 6:30 p.m.—Carol Maier, mezzo sontano: Garnet Davis, whistler. 6:45 p.m.—Rurr McIntosh, "The Cheerful Philosopher." 7:00 p. m.—George Finney, baritone. 7:30 p. m.—Feline Delgado: Media Hora Espanola. 8:00 p. m.—Aeolian Organ Recital. Dan L. MacFarland at the console. 9:00 p. m.—Ponular program; Stan Larson's Forest Home Five; Al Caro and Dorothy Cleveland, soloists. 10:00 p.m.—Packard Ballad Hour. Gretchen Garrett, soprano; Joseph Taccati, baritone. SATURDAY. AUGUST 21—

5:30 p. m.—Tack Smith and his Dance Orchestra, with Winnie Parker and Lois Whiteman. 6:30 p. m.—Tack Smith and his Dance Orchestra, with Winnie Parker and Lios Whiteman. 7:00 p. m.—AFR Padiotorial Period.
7:00 p. m.—AFR Padiotorial Period.
8:00 p. m.—Angelus Quartet: Carrie Donaldson Kraft. soprano.

9:00 p.m.—lewish Synagogue music service with Armin Rosenberg, Cantor and choir, 10:00 p.m.—Packard Radio Club.

11:00 p. m.-KFI Midnight Frolic. th Frolic. Carey Wilson. Master of Ceremonies. Copyright, 1926, Earle C. Anthony, Inc.



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DAILY EXCEPT SUNDAY-

12:30 to 1:30 p.m.—Studio Program and News Items. DAILY EXCEPT MONDAY—

6:00 to 6:30 p.m.-Orpheus Four Male Quar' , by remote control from Biltmore Hotel.

#### WEEK COMMENCING SUND, ', AUGUST 15, 1926 SUNDAY, AUGUST 15

10:00 a.m.-Sermon from the studio of KHJ by Dr. H. C. Culbertson, pastor of Mesa Congregational Church.

10:30 a.m. to 12:30 p.m.—Morning services from the First Methodist Episcopal Church, 7:00 to 8:00 p.m.—Evening services from the First Methodist Episcopal Church. 8:00 to 10:00 p.m.—News items. Program presenting Frederick MacMurray, viola; Mr. and Mrs. Arthur Farrwell in readings and musical numbers; Orpheus Four Male Quartet, Silent after 1:30 p. m.

Silent after 1:30 p. m.

TUESDAY, AUGUST 17—
6:30 to 7:30 p. m.—Children's program presenting Queen Titania and her Sandman; Charles Leslie Hill, 4-year-old reader, "Honey Boy;" Louis F. Klein, harmonica and auto harp: George Kerr. 12 years of age, mandolin, and Sylvia Cohan, 10-year-old pianist.
7:30 p. m.—Scripture reading.
7:40 p. m.—H. M. Robertson will talk on "Dogs."
8:00 to 10:00 p. m.—News items. Program presenting Stewart-Warner Quartet: Ethel Glasmann Clark, soprano; Mona Content, pianist, and others.
10:00 to 11:00 p. m.—An hour of dance music by the Los Angeles Railway Orchestra.
WEDNESDAY, AUGUST 18—
2:30 p. m.—Fred C. McNabb will give his weekly talk on "Gardens."
6:30 to 7:30 p. m.—Children's program, including Dick Winslow, screen juvenile reporter; Patricia R. Eccleston, "Little Daffodil;" Vivian Marple, "Blue Bell of KHJ;"
7:30 p. m.—Scripture reading

Patricia R. Eccleston, "Little Daffodil;" Vivian Marple, "Blue Bell of Krij;
7:30 p.m.—Scripture reading
7:40 p.m.—Dr. Mars Baumgardt will lecture on "Astronomy."
8:00 to 10:00 p.m.—News items. De luxe program.
10:00 to 11:00 p.m.—Program of dance music by Jerry Grant and his orchestra.
THURSDAY, AUGUST 19—
6:30 to 7:30 p.m.—Children's program, featuring Margaret Smith, 16-year-old 'cellist;
Betty Ruth Vincent, 4-year-old singer; Arthur L. Sisson, 5-year-old reader; Dickie Brandon, screen juvenile, and others.

don, screen juvenile, and others.

7:30 p. m.—Scripture reading.

7:40 p. m.—Dr. Philip Lovell will tak on "Care of the Body."

8:00 to 10:00 p. m.—News items. Frogram presenting Zoellner Quartet,

10:00 to 11:00 p. m.—Dance music by Al Johnson's Marigold Gardens Orchestra.

FRIDAY, AUGUST 20—

6:30 to 7:30 p. m.—Children's program, presenting Roberta Bush, "The Firefly;" Marguerite Bringham, "Nightingale of KHJ;" Catherine Cotter, "Sweetheart of Radioland;" Billy Lord, "Police Comrade;" Margaret Bond, 12-year-old violinist, and other juveniles.

7:30 p. m.—Scripture reading.

8:00 to 10:00 p. m.—News items. De luxe program.

SATURDAY, AUGUST 21—

1:30 p. m.—Art Pabst, "Pacific Electric Art."

130 p. m.—Art Pabst, "Pacific Electric Art."
6:30 to 7:30 p. m.—Children's program, including Nancy Nolen, II-year-old singer, pupil of Winifred Pollard; Nona Clapp, "Sunshine Fairy:" Baby Blossom LeMori, "Baby Blossom of Radioland;" Rosetta Lewin, 4½-year-old reader.

7:30 p. m.—Scripture reading.
8:00 to 10:00 p. m.—News items. De luxe program, including Mr. and Mrs. Benjamin F. Sears, old-time fiddler and pianist; Karl Brandenburg, tenor; the Los Angeles Railway Hawaiian Quintet, and others.

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PAUL GD BOCERS Manager and Program Director GLEN RICE, Asst. Manager Paul G. Hoffman's Studebaker Building, 6116 Hollywood Blvd., Hollywood . Phone NAYLOR ROGERS, Manager and Program Director GLEN RICE, Asson DAILY EXCEPT SUNDAY—

7:30 a.m.—KNX Morning Gym, directed by J. C. Casey, Physiotherapist.
8:00 a.m.—Inspirational talk and morning prayer.
8:55 a.m.—Time signals from Washington, D. C., followed by birthday notices.
9:00 a.m.—Radio Shopping News.
10:00 a.m.—Town Crier of the Day's Morning Message.
10:30 a.m.—Kate Brew Vaughn,
12:00 m.—Leighton's Arcade Cafeteria Orchestra.
1:30 p.m.—The Book Worm.
4:55 p.m.—Market reports.
5:30 p.m.—Market reports.
5:30 p.m.—Leighton's Arcade Cafeteria Orchestra. 5:30 p.m.—Leighton's Arcade Cafeteria Orchestra.
6:00 p.m.—The Town Tattler.
6:15 p.m.—W. F. Alder Travelogue.
6:30 p.m.—Atwater Kent Orchestra, courtesy Ray Thomas, Inc., WEEK COMMENCING SUNDAY, AUGUST 15, 1926 SUNDAY, AUGUST 15 10:00 a.m.—First Presbyterian Church of Hollywood, Rev. Stewart P. MacLennan. 2:00 to 4:00 p.m.—City Park Board musical program. 4:30 p.m.—Half hour of Cinema Chit-chat by Helene Sullivan. 2:00 to 4:00 p. m.—City Park Board musical program.
4:30 p. m.—Half hour of Cimema Chit-chat by Helene Sullivan.
6:30 p. m.—First Unitarlan Church.
7:00 p. m.—Circle Theater Concert Orchestra, Carli D. Elinor, director.
8:00 p. m.—First Presbyterian Church of Hollywood, Rev. Stewart P. MacLennan.
9:00 p. m.—First Presbyterian Church of Hollywood, Rev. Stewart P. MacLennan.
9:00 p. m.—Little Jean and the Town Crier of the Day.
4:30 p. m.—Blue Monday Frolic—Howard Clark.
7:00 p. m.—MusicArts Studio Building courtesy program.
8:00 p. m.—Vereil Furniture Company courtesy program.
8:00 p. m.—Julian Petroleum Corporation courtesy program.
9:00 p. m.—Julian Petroleum Corporation courtesy program.
11:00 p. m.—M. Weinstein & Company courtesy program.
11:00 p. m.—Hotel Ambassador; Ray West's Cocoanut Grove Orchestra.
TUESDAY, AUGUST 17—
2:00 p. m.—Mothers' Hour; an hour of music and educational talks.
4:00 p. m.—Radio Matinee with Louise Howatt, contratlo.
7:00 p. m.—John A. Vaughn Corp. courtesy program.
8:00 p. m.—Builders' Finance Association courtesy program.
9:00 p. m.—Western Auto Supply Co. courtesy program.
10:00 p. m.—Edgewater Club Orchestra by remote control from Santa Monica.
WEDNESDAY, AUGUST 18—
2:00 p. m.—Walter Butterly, baritone, accompanied by Herb Henning.
3:00 p. m.—Musical readings by Claire and Pierre Mellonino.
4:00 p. m.—Feature program.
8:00 p. m.—Talk on care of children by Dr. Wayne B. Burr.
7:00 p. m.—Estewart-Warner Radio Dealers of So. California courtesy program.
8:00 p. m.—Edgewater Club Orchestra by remote control from Santa Monica. 8:00 p.m.—Stewart-Warner Radio Dealers of So. California courtesy program.
9:00 p.m.—El Sereno Country Club musical program.
10:00 p.m.—Edgewater Club Orchestra by remote control from Santa Monica.
11:00 p.m.—Hotel Ambassador; Ray West's Cocoanut Grove Orchestra.

THURSDAY, AUGUST 19—
2:00 p.m.—Paul D. Hugon, handwriting expert.
2:30 p.m.—Reading by Edward Murphey.
7:00 p.m.—Carthy Circle Theater organ recital by Fred Scholl.
8:00 p.m.—Rigali & Veselich courtesy program.
9:00 to 10:00 p.m.—Feature program.
10:00 p.m.—Edgewater Club Orchestra by remote control from Santa Monica.
11:00 p.m.—Hotel Ambassador; Ray West's Cocoanut Grove Orchestra.

FRIDAY, AUGUST 20—
10:30 a.m.—Talk on "Proper Foods and How to Prepare Them," a Virginia Tappan talk.
2:00 p.m.—L. A. District Federation of Women's Clubs musical program. 2:00 p.m.—L. A. District Federation of Women's Clubs musical program.
4:00 p.m.—Boy Scouts' musical program.
7:00 p.m.—Feature program.
8:00 p.m.—Feature program.
8:00 p.m.—Davis Perfection Bread Co. courtesy program.
10:00 p.m.—Dickinson & Gillespie, developers of Griffith Park Manor, courtesy program.
11:00 p.m.—Hotel Ambassador; Ray West's Cocoanut Grove Orchestra.
SATURDAY, AUGUST 21—
3:00 p.m.—Town Crier of the Day and his pals.
4:45 p.m.—Joyce Coad giving a resume of her screen work.
7:00 p.m.—Stories of insect life by Harry W. McSpadden.
7:15 p.m.—Announcement of Sunday services of the leading Los Angeles churches.

7:10 p. m.—Stories of insect life by Flarry W. McSpadden.
7:15 p. m.—Announcement of Sunday services of the leading Los Angeles churches.
7:30 p. m.—Dearden's Furniture Co. courtesy program.
8:00 p. m.—Broadway Department Store courtesy program.
9:00 p. m.—Rondith Corporation courtesy program.
10:00 p. m.—Hotel Ambassador; Ray West's Cocoanut Grove Orchestra.
11:00 p. m.—Saturday night frolic by remote control from Edgewater Club.

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DAILY EXCEPT SUNDAY—
6:00 to 7:00 p.m.—Pontiac Six Dinner Hour.
8:00 to 8:10 p.m.—News items.

10:10 to 11:00 p. m .- Warner Bros. Frolic.

MONDAY, TUESDAY AND WEDNESDAY—
4:45 to 5:00 p. m.—Agnes May Allen on Home Economics.
5:00 to 6:00 p. m.—Children's Hour by Big Brother.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15—
9:00 to 11:00 p. m.—June Parker, Albert Keglovich, Julius H. Phillips, Art Pabst and his banjo, Peggy Mathews, Warner Bros. Syncopators. News items at 9:00 and 10:00 p. m.

MONDAY, AUGUST 16—

7:00 to 8:00 p. m.—Program courtesy Dr. Ralph Mitchell and the Associated Dentists, featuring Bill Blake, June Parker, Friendly Dentists Orchestra.

8:00 to 8:10 p. m.—News items.

8:10 to 9:10 p. m.—Program presented courtesy The Sealy Company, featuring Raquel Nieto, Edward Novis, Art Pabst and his banjo, The Sealy Tutless Mattress Orchestra.

9:10 to 10:10 p. m.—Program courtesy The American Dye Works, featuring Dan Gridley. Esther White, Ashley Sisters, The American Dye Works Orchestra.

TUESDAY, AUGUST 17—
8:00 to 8:10 p.m.—News items.
8:10 to 9:10 p.m.—Bill Blake, Esther White, Bill Hatch's Orchestra.
9:10 to 10:10 p.m.—Esther White, Bill Blake, Art Pabst and his banjo, Bill Hatch and his orchestra.

WEDNESDAY, AUGUST 18—
7:00 to 8:00 p.m.—Program courtesy Corduroy Tire Stores, Inc., featuring Julius H. Phillips, Esther White, The Corduroy Cord Tire Orchestra.
8:00 to 8:10 p.m.—News items.
8:10 to 9:10 p.m.—Program courtesy the Velvetone Corp., featuring the Dare Sisters, Peeggy Mathews, Dan Gridley, Velvetone Orchestra.
9:10 to 10:10 p.m.—Edward Novis, Esther White. Ashley Sisters, Irma and Thelma; Bill

Hatch and his orchestra.

sound like "tootin"

THURSDAY, AUGUST 19—
8:10 to 9:10 p.m.—Program presented courtesy McGavin Bros., featuring Edward Novis, Ann Grey, The McGavin Bros.
9:10 to 10:10 p.m.—Program presented courtesy Chapman Ice Cream Company, featuring Raquel Nieto, Peggy Mathews, The Chapman Trio, The Chapman Ice Cream Orchestra.

FRIDAY, AUGUST 20—

8:10 to 9:10 p.m.—Program courtesy Bert Farrar, Inc., featuring Raquel Nieto, Julius H. Phillips, Ray Kellogg and Bill Hatch, violin and piano; The Chevy Chase Orchestra.

9:10 to 10:10 p.m.—June Parker, Julius H. Phillips, Bill Hatch's Orchestra.

SATURDAY, AUGUST 21—

8:00 to 9:00 p.m.—Dan Gridley, Ann Grey, Ashley Sisters, Bill Hatch and his orchestra.

9:00 to 10:00 p.m.—Esther White, Bill Hatch and his orchestra, Julius H. Phillips.

### See your favorite announcer in next week's issue.

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10:30 to 11:30 a.m.—Sunshine Hour. 11:30 a.m. to 12:30 p.m.—Noonday Musical.

DAILY EXCEPT SUNDAY, WEDNESDAY AND SATURDAY—

2:30 to 3:30 p. m .- Gray Studio program.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15

10:30 a.m. to 12:30 p.m.—Regular morning worship, Temple Auditorium, by Aimee Semple McPherson. Charlotte Tyson Foljambe, soprano. Temple Choir. Quartets and solos. Angelus Temple organ and chimes played by Esther Fricke Greene.

2:30 to 4:30 p.m.—Afternoon dispensation service and message by Aimee Semple Mc-Quartets and

Pherson.

6:45 to 8:00 p.m.—Musical Hour. Temple band and choir directed by Gladwyn N. Nichols. 8:00 to 9:45 p.m.—Revival service by Aimee Semple McPherson, assisted by the 22-year-old Canadian Evangelist, A. Watson Argue.

10:00 to 11:00 p.m.—Music Lovers' Hour. Organ recital by Esther Friscke Greene.

TUESDAY, AUGUST 17—

3:30 to 4:30 m.m.—Vester Hour! Organ recital by B. Forgat Balland.

3:30 to 4:30 p.m.—Vesper Hour Organ recital by B. Earnest Ballard. 6:30 to 7:30 p.m.—Angelus Hour. Bible School band and soloists. 7:30 to 9:30 p.m.—Services by Student Evangelists.

WEDNESDAY, AUGUST 18—

2:30 to 5:30 p. m.—Divine Healing service by Aimee Semple McPherson and Mother Kennedy. Fanny Ashby Leen, soprano. Ladies' chorus. 6:30 to 7:30 p. m.—Angelus Hour. Organ recital by B. Earnest Ballard.

THURSDAY, AUGUST 19—

3:30 to 4:30 p. m.—Vesper service. Organ recital by B. Earnest Ballard.

7:30 to 9:15 p. m.—Regular Water Baptismal service by Aimee Semple McPherson. M. Daisy Thompson, song writer and composer, soloist.

9:15 to 10:00 p. m.—Gray Studio program arranged by John Kennedy.

10:00 to 11:00 p. m.—Organ recital by Esther Fricke Greene, assisted by Kathryn Thompson and Lewis D'lopllitto. saxophone duets and solos

son and Lewis D'Ipollitto, saxophone duets and solos. FRIDAY, AUGUST 20-

FRIDAY, AUGUSI 20—
3:30 to 4:30 p. m.—Vesper Hour. Organ recital by Esther Friscke Greene.
7:30 to 9:30 p. m.—Crusaders' Rally by Esther Fricke Greene.
SATURDAY, AUGUST 21—
3:30 to 4:30 p. m.—Children's Orchestra, directed by Helen McNaughton, featuring 5-yaer-old Doris Simmons; Freddy Thea, II-years-old violinist, and Richard Kelly, boy pianist. Genevieve Wagner, soprano. Alice Frazer soprano and pianist.
7:30 to 9:30 p. m.—Divine Healing service by Aimee Semple McPherson and Mother Kennedy.

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8:30 to 9:00 a.m.—Devotional Hour.
2:00 to 3:00 p. m.—Inspirational Hour.
DAILY EXCEPT FRIDAY AND SUNDAY—
7:15 to 8:00 p. m.—Aunt Martha a Children's Hour.

7:15 to 8:00 p. m.—Aunt Martha's Children's Hour.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

10:00 a.m. to 12:30 p.m.—Regular service of the Church of the Open Door. Sermon by John M. McInnis, D.D.

7:15 to 9:30 p.m.—Regular evening service of the Church of the Open Door. Sermon by John M. McInnis, D.D.

John M. McInnis, D.D.

MONDAY, AUGUST 16—

8:00 to 9:00 p.m.—Musical program directed by Prof. Rudolph J. Polak, pianist-composer.

TUESDAY, AUGUST 17—

8:00 to 9:00 p.m.—Mrs. Alma K. Moss will direct a musical program.

WEDNESDAY, AUGUST 18—

8:00 to 9:00 p.m.—Musical program.

THURSDAY, AUGUST 19—

8:00 to 9:00 p.m.—Musical program under the direction of Miss Lois Kimball, soprano.

FRIDAY, AUGUST 20—

7:00 to 8:00 p.m.—Exposition of International Sunday School lesson by Pay John A.

7:00 to 8:00 p.m.—Exposition of International Sunday School lesson by Rev. John A. Hubbard.

8:00 to 9:00 p.m .- Musical program arranged by Philip C, Brown, tenor, director of Trinity Lutheran Choir, Long Beach.



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6:00 p. m.—KMTR Radio Press Agent Hour.
DAILY EXCEPT SATURDAY AND SUNDAY— DAILY EXCERT 1
5:00 p.m.—Home Hour.
DAILY EXCEPT FRIDAY—
8:00 to 9:00 p.m.—KMTR Concert Orchestra.

TUESDAY AND THURSDAY—
9:00 to 10:00 p.m.—Miller's Cafe Lafayette.

WEEK COMMENCING SUNDAY, AUGUST 15, 1926 WEEK COMMENCING SUNDAY, AUGUST 15, 1926

7:00 p. m.—Miller's Cafe Lafayette Concert Orchestra.
8:00 to 10:00 p. m.—Presenting the KMTR Concert Orchestra

MONDAY, AUGUST 16—

7:00 p. m.—Radio Spanish lesson.
7:30 p. m.—Safeway Stores, Inc., musical program.
8:30 to 9:00 p. m.—Los Angeles Y. M. C. A. program.
9:00 p. m.—Presenting the KMTR Concert Orchestra.

TUESDAY, AUGUST 17—

3:00 p. m.—Rev. S. J. Skevington, pastor of Hollywood Baptist Church.
7:00 p. m.—E. P. Barclay, African explorer and dismond expert.
7:30 p. m.—Wilshire's lonaco lectures.

WEDNESDAY, AUGUST 18—

10:00 a. m.—Rev. S. J. Mathison, Hollywood Christian Church.
7:00 p. m.—Rev. S. J. Mathison, Hollywood Christian Church.
7:00 p. m.—Rev. S. J. Mathison, Hollywood Christian Church.
7:00 p. m.—Eev. o-logue by Dr. Herbert S. Marshutz.
9:00 p. m.—Dance Orchestra.

THURSDAY, AUGUST 19—

10:30 a. m.—Willsie Martin, D.D., minister of First Methodist Church, Hollwyood.
7:00 to 8:00 p. m.—Mme. Alene's "Fashion Talks."

FRIDAY, AUGUST 20—

7:00 p. m.—Gaylord Wilshire Lectures. 7:00 p. m.—Gaylord Wilshire Lectures.
7:30 p. m.—Prof. Alfred Cookman, president of the Los Angeles Nature Club.
8:00 p. m.—Producers' Direct Market. "Little Gem" program. 8:30 p.m.—Lenore Duncan's Ballad Ensemble. 9:30 p.m.—Le Grand Trio.

SATURDAY, AUGUST 21—

1:15 p.m.—"Safety First" Talk by Traffic Officer Earle H. Cooper of the L. A. Police Dept. 7:00 p.m.—Special Musical Program.
9:00 p.m.—Dance Orchestra.

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WEEK COMMENCING MONDAY, AUGUST 16, 1926

MONDAY, AUGUST 16—

1:00 to 3:00 p. m.—KNRC Blue Monday Musicale; Cliff Eddie, Tom Mitchell,
8:00 to 9:00 p. m.—K. & R. Courtesy Concert: Chas. Rumsey, Anita Holt,
9:00 to 10:00 p. m.—Novelty Dance Hour; Jack Smith Orchestra.

TUESDAY, AUGUST 17—
7:00 to 8:00 p.m.—Melody Four, Polly Grant Hall, Lou Parker and others.
8:00 to 9:00 p.m.—Novelty Program; Fred Till, Emmert Lippincott, Fred Bruley and others.
9:00 to 10:00 p.m.—Popular Dance Hour; Johnny Turk's Melody Boys.

WEDNESDAY, AUGUST 18—
7:00 to 8:00 p.m.—L. A. County Sheriff's hour, entertainers by Moseby.
8:00 to 9:00 p.m.—Novelty Four, One-String Danny, Banjo Slim, Jock McGilp,
9:00 to 9:30 p.m.—Employees of L. A. Bureau of Light and Power.
9:30 to 10:30 p.m.—K. & R. Courtesy Dance Hour; Pope's Californians

THURSDAY, AUGUST 19

THURSDAY, AUGUST 19—

1:00 to 3:00 p. m.—Cliff Eddie's Vest Pocket Edition.

7:00 to 8:00 p. m.—L. A. Police and Fire Dept ,program.

8:00 to 9:00 p. m.—Moseby's Dixieland Blue Blowers from Solomon's.

9:00 to 10:00 p. m.—K. & R. Courtesy program; Helen Boyd, Ray Winter,

FRIDAY, AUGUST 20—

8:00 to 9:00 p. m.—Novelty Hour: Fred Rogers Trio,

9:00 to 10:00 p. m.—Jack Boaz, hunting and fishing scout; L. A. Railway Orchestra;

SATURDAY, AUGUST 21—

8:00 to 9:00 p. m.—K. & R. Courtesy Concert, featuring Paulina Taska,

9:00 to 7??—Weekly meeting of the K. R. B.'s. A Bunch of Bugs,

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DAILY EXCEPT SUNDAY-

12 m. to 1:00 p. m.—L. A. Merchants' & Manufacturers' Hour, with the Office Boy, Hazel McCauley and others. 6:00 to 7:00 p.m .- Chico De Verdi's California Russian Trio, with soloists.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

#### SUNDAY, AUGUST 15-

8:00 to 9:00 p.m.-Classical hour, with Douglas Hodson, Bernice Bannester, Mabel Oakes and La Mont Stetzer.

9:00 to 11:00 p.m.-Banjo Si and his Melody Boys, Charlie Dimond's Hawaiian Trio, and others.

11:00 p.m. to 12 m .- Old-Timers in Old-Time Melodies.

#### MONDAY, AUGUST 16-

7:30 to 8:30 p.m.—Stew Aspen's Mt. Wilson Five Dance Orchestra. 8:30 to 9:00 p.m.—Endo Laboratories courtesy program. 9:00 to 10:00 p.m.—Program arranged by Myra Belle Vivkers. 10:00 to 11:00 p.m.—Jack Lawton and his Southern Serenaders.

#### TUESDAY, AUGUST 17-

8:00 to 9:00 p.m.—Ford Dealers courtesy program.
9:00 to 10:00 p.m.—Ballad Hour, with Joseph Taccati, Mildred Masser, Phil Neeley and Helen Riley Cloyd.

10:00 to 11:00 p. m .- Ken Burzell and the Beach Club Orchestra.

#### WEDNESDAY, AUGUST 18-

8:00 to 9:00 p.m.—Stew Aspen and his Imperial Six Dance Orchetsra.
9:00 to 10:00 p.m.—Sol Hoopli and his Hawaiian Trio, Rita Devore and Howard Kerr.
10:00 to 11:00 p.m.—Jack Smith's Dance Orchestra, Fred Till and Dora Leonard.

#### THURSDAY, AUGUST 19-

3:30 to 4:30 p.m.—Tryouts (not broadcast).
8:00 to 9:00 p.m.—Billie Lee, Geraldine Clark, Louis Brattan, Bob Swan and Mr. and
Mrs. Henry Silva.

9:00 to 10:00 p.m.—Program arranged by C. Harold Ramey, with his Haromny Hounds, the Sunset Collegians, Billie Henderson, and others.

10:00 to 11:00 p.m.—Charlie Cole, Eugenia Whisenant and Charles Cary Rumsey.

#### FRIDAY, AUGUST 20-

8:00 to 9:00 p.m.—Program arranged by Selwyn Harris. 9:00 to 10:00 p.m.—Germain's Ballroom Orchestra and Jim McCreary. 10:00 to 11:00 p.m.—KFQZ Varieties.

SATURDAY, AUGUST 21—
8:00 to 9:00 p.m.—Program arranged by Billy Hall, with Polly Grant Hall, Dick Powers and Lou Parker.

9:00 to 10:00 p.m.—George O'Hara, Ruth Davis and Adie Lucien. 10:00 to 11:00 p.m.—Los Angeles Railway Dance Orchestra.

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4:00 to 4:30 p. m.—Press. Telegram Late News.

5:00 to 6:00 p. m.—KFON Concert Orchestra.

6:00 to 6:20 p. m.—Organ Recital from State Theater.

6:20 to 7:00 p. m.—KFON Concert Orchestra.

DAILY EXCEPT MONDAY:

2:30 to 4:00 p. m.—Municipal Band Concert; Herbert L. Clarke, director.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15—
5:00 to 6:00 p. m.—KFON Concert Orchestra, sponsored by Long Beach Business Men.
6:00 to 6:20 p. m.—Birkel Music Company piano recital, featuring Weber Duo-Art
6:20 to 7:00 p. m.—KFON Concert Orchestra.
7:00 to 7:30 p. m.—Program by Hewitt's Bookstore and Calif. College of Commerce.
7:30 to 7:45 p. m.—Band Box Program from main studio.
7:45 to 9:00 p. m.—Services from First Church of Christ Scientist, by remote control.
9:00 to 10:00 p. m.—KFON Radio Favorites and Concert Orchestra.
10:00 to 11:00 p. m.—Markwell Taffy Shop program.

MONDAY, AUGUST 16—
7:00 to 8:00 p. m.—KFON Radio Favorites and Concert Orchestra. SUNDAY, AUGUST 15-

MONDAY, AUGUST 18—
7:00 to 8:00 p.m.—KFON Radio Favorites and Concert Orchestra.
8:00 to 8:15 p.m.—'Care of Domestic Pets," by Dr. Roy Broadhurst
8:15 to 12:00 p.m.—Airdales Frolic, presented by Long Beach Advertising Club.
TUESDAY, AUGUST 17—
7:00 to 7:30 p.m.—Studio program.
7:30 to 8:00 p.m.—Chat for Book Lovers, presented by Hewitt's Bookstore.
8:00 to 8:15 p.m.—'The Lure of the Sky," by Dr. Lewis L. Thomas.
8:15 to 9:00 p.m.—Press-Telegram musical program, direction Frank P. Goss.
9:00 to 10:30 p.m.—Aero Club of Long Beach in Musical Hi-Kinks.
10:30 to 12:00 p.m.—State Theater. presenting Pantages Vaudeville.
WEDNESDAY, AUGUST 18—
7:00 to 8:00 p.m.—Musical program from main studio.
8:00 to 8:15 p.m.—'The Law and the Layman," by Herbert Middleditch.
8:15 to 9:00 p.m.—Press-Telegram musical program, direction Frank P. Goss.
9:00 to 10:00 p.m.—KFON Radio Stars and Studio Orchestra.
10:00 to 11:00 p.m.—Music Lovers' Hour. Orchestral numbers by world famous composers.
THURSDAY, AUGUST 15— 10:00 to 11:00 p. m.—Music Lovers' Hour. Orchestral numbers by world famous of THURSDAY, AUGUST 19—
7:00 to 7:30 p. m.—Rev. Ernest Beam. Church of Christ, studio program.
7:30 to 8:10 p. m.—L. B. Municipal Band Concert, direction Herbert L. Clarke.
8:10 to 8:20 p. m.—Band Box program.
8:20 to 9:00 p. m.—L. B. Municipal Band Concert, direction Herbert L. Clarke.
9:00 to 10:00 p. m.—KFON Radio Stars and Concert Orchestra.
10:00 to 11:00 p. m.—Tunes of Yesterday, featuring songs of bygone days.
FRIDAY, AUGUST 20—
7:00 to 8:00 p. m.—Persphology Lecture Dirk Content C. M. C. Marchester C. Marchester C. Marches

7:00 to 8:00 p.m.—Psychology Lecture, Dick Carlson, Calif. College of Commerce. 8:00 to 8:15 p.m.—"Keeping Fit with Food," by Walter W. Strong. 8:15 to 9:00 p.m.—Press-Telegram program, direction Frank P. Goss.

9:00 to 10:00 p.m.—Orchestral program from main studio.
10:00 p.m. to 1:00 a.m.—Elks Frolic, presented by Long Beach Lodge of Elks, No. 888. 10:00 p.m. to 1:00 a.m.—Elks Frolic, presented by Long Beach Lodge of Elks, No. 88 SATURDAY, AUGUST 21—
7:00 to 7:30 p.m.—Texas Cowboys' Duet in old-time dance music.
7:30 to 8:10 p.m.—L. B. Municipal Band Concert, direction Herbert L. Clarke.
8:10 to 8:20 p.m.—Band Box program.
8:20 to 9:00 p.m.—L. B. Municipal Band Concert, direction Herbert L. Clarke.
9:00 to 10:00 p.m.—Favorite Radio Stars and Studio Orchestra.
10:00 to 11:00 p.m.—Gems from the Musical Plays, featuring musical comedy numbers.

### K P S N—Pasadena, California—315.6 Meters

PASADENA STAR-NEWS
1000 WATTS—950 KILOCYCLES
GEORGE CECIL COWING, Managing Director GEORGE FRENGER, Program Manager
FORBES W. VAN WHY, Engineer-in-Charge PERCY C. PRYOR, Studio Office

DAILY EXCEPT SUNDAY-

6:00 to 6:15 p. m .- Dinner time news report.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

10:30 a.m.—Family altar service by the United Church Brotherhoods.
TUESDAY, AUGUST 17—
7:50 to 8:00 p.m.—Current sport events discussed by Charles W. Paddock.
8:00 to 9:00 p.m.—Star-News concert hour with the Adolf Tandler Ensemble, and George Frenger, tenor soloist.
THURSDAY, AUGUST 19—
8:00 to 9:00 p. m.—Musical program, arranged by the Pasadena Chamber of Commerce.
SATURDAY, AUGUST 21—

8:00 to 9:00 p.m.—Star-News concert hour with the Star-News Instrumental Ensemble.

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MISS FRANCES HEWITT Studio and Program Director

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DAILY EXCEPT MONDAY-

12:30 to 1:30 p.m.—Hotel St. Catharine Orchestra.
6:00 to 6:30 p.m.—The Great Wrigley Chimes.
6:30 to 7:30 p.m.—Hotel St. Catherine Orchestra.
7:30 to 9:00 p.m.—The Catalina Island Marine Band; studio and re-broadcast:

MONDAYS: 12:30 to 1:30-Silent.

WEDNESDAYS: . Special programs during summer.

THURSDAYS: 12:30 to 1:30 p. m.-Silent.

SATURDAYS: Special programs during summer.

SUNDAYS: 5:00 to 6:00 p. m .- Miss Hewitt's Golden Hour.

## K F S D-San Diego, California-245.8 Meters

1000 WATTS-1220 KILOCYCLES
RPORATION, U. S. Grant Hotel, 326 Broadway, San Diego. Main 8661.
HAL C. ROGERS, President and General Manager AIRFAN RADIO CORPORATION.

DAILY—
6:30 to 7:00 p.m.—Musical Amusement Review—William Mee.
DAILY EXCEPT SATURDAY—
F Frank Gunn. "Ye Towne Topics."

6:15 to 6:30 p.m.—E. Frank Gunn, "Ye Towne Topics."
DAILY EXCEPT SUNDAY—

12:00 to 1:00 p.m.—Noon concert. 1:00 to 1:30 p.m.—Harvey Ball and his orchestra. 10:00 to 11:00 p.m.—Harvey Ball and his U. S. Grant Hotel Orchestra.

WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15—

3:00 to 4:00 p.m.—Temple service of the Theosophical University at Point Loma, Calif. 7:00 to 8:00 p.m.—Mixed musical program.

8:00 to 9:00 p.m.—Studio program.

9:00 to 10:00 p.m.—All Star Five Orchestra, with Gene Merritt, baritone.

MONDAY, AUGUST 16—

7:00 to 8:00 p.m.—George W. Carr. baritone, assisted by other artists.

8:00 to 9:00 p.m.—Jay Eslick, baritone, and Ruth Oldom, pianist and contralto.

9:00 to 10:00 p.m.—Studio program.

TUESDAY, AUGUST 17—

7:00 to 8:00 p.m.—Sally Canady Huff and her "Sunset Ensemble."

8:00 to 9:00 p.m.—Union Title and I surance Company program.

9:00 to 10:00 p.m.—Raymund V. Morris, Inc., Hudson-Essex dealer, program.

WEDNESDAY, AUGUST 18—

7:00 to 7:30 p.m.—Clyde Sparks, baritone, and L. V. Downing, pianist.

7:30 to 8:30 p.m.—Concert program broadcast by remote control from the Theosophical University at Point Loma, Calif.

8:30 to 10:00 p.m.—KFSD Concert—Request night program.

THURSDAY, AUGUST 19—

7:00 to 8:00 p.m.—George Beach, baritone, and E. P. James String Quartet.

9:00 to 10:00 p.m.—Woods Harmony Five Orchestra.

8:00 to 9:00 p.m.—Earl Fegan's Orchestra, with Vernon Bushway, tenor.

8:00 to 9:00 p.m.—Earl Fegan's Orchestra, with Vernon Bushway, tenor.

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8:00 to 9:00 p.m.—Earl Fegan's Orchestra, orchestra.

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8:00 to 9:00 p.m.—Coccert Period Period Pe

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## K P O-San Francisco, California-428.3 Meters

1000 WATTS-700 KILOCYCLES HALE BROTHERS AND THE CHRONICLE CLAIR E. MORRISON, Technical Director

# DAILY EXCEPT SUNDAY— 7:00, 7:30, 8:00 a.m.—Daily dozen exercises. 10:30 a.m.—Weather forecast and general information. 12:00 noon—Time signals. 12:30 to 1:00 p.m.—Clift Hotel Concert Orchestra, Sollie Heilbronner, directcy. 1:00 to 2:00 p.m.—Rudy Seiger's Fairmont Hotel Orchestra. 2:30 to 3:30 p.m.—Baseball, play by play, from Recreation Park. 4:30 to 5:30 p.m.—Palace Hotel Concert Orchestra. 5:30 to 6:15 p.m.—Children's Hour with Big Brother. 6:15 to 6:30 p.m.—Stock quotations. 6:30 to 7:00 p.m.—State Restaurant Orchestra.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

#### SUNDAY, AUGUST 15-

9:45 to 10:45 a.m.—Undenominational and non-sectarian church service. Talk on "Sunsets With the Savior," by Dr. E. A. Van Nuys, Calvary Presbyterian Church.

10:45 a.m.—U. S. weather forecast, amusement and general information.

2:45 p.m.—Play by play broadcast of the baseball game.

5:00 to 6:00 p.m.—Organ recital by Marshall W. Giselman.

6:00 to 6:30 p.m.—The States Restaurant Orchestra, Waldemar Lind directing.

6:30 p.m.—Baseball scores, amusement and general information.

6:35 to 8:35 p.m.—Palace Hotel Concert Orchestra, Cyrus Trobbe directing.

8:35 to 10:00 p.m.—Rudy Seiger's Fairmont Hotel Orchestra.

#### MONDAY, AUGUST 16-

7:30 to 8:00 p.m.—DX.
8:00 to 9:00 p.m.—Organ recital by Uda Waldrop, official organist.
9:00 to 10:00 p.m.—KFI, Los Angeles, and KPO, San Francisco, broadcasting simultaneously a program originating in the KFI studio for the Walter M. Murphy Motors Company, Los Angeles, and Stanley W. Smith, Inc., San Francisco.
10:00 to 11:00 p.m.—Mandarin Cafe Orchestra, Lynn Pryor directing.

#### TUESDAY, AUGUST 17-

7:30 to 8:00 p.m.—DX.
8:00 to 9:00 p.m.—Studio program.
9:00 to 10:00 p.m.—Studio program featuring Gypsy and Marta, harmony team, and the KPO Trio.

10:00 to 11:00 p. m .- Palace Hotel Rose Room Dance Orchestra, Gene James directing.

#### WEDNESDAY, AUGUST 18-

7:30 to 8:00 p.m.—DX.
8:00 to 9:00 p.m.—Program by the Atwater Kent Artists under the auspices of Ernest Ingold, Inc.
9 Ingold, Inc.
900 to 10:00 p.m.—Clift Hotel Dance Orchestra, Herb Meyerinck directing.
10:00 to 11:00 p.m.—The States Restaurant, Orchestra, Waldemar Lind directing.

#### THURSDAY, AUGUST 19-

7:30 to 8:00 p.m.—DX. 8:00 to 9:00 p.m.—Studio program. 9:00 to 10:00 p.m.—Program by Kane's Hawaiians. 10:00 to 11:00 p.m.—Mandarin Cafe Dance Orchestra, Lynn Pryor directing.

#### FRIDAY, AUGUST 20-

7:00 to 7:10 p. m .- "Sports on the Air," by Harry B. Smith, sporting editor of The Chronicle.

7:10 to 7:20 p. m.—"Business and Investment," talk by Russell-Colvin Company.
7:20 to 7:30 p. m.—Chamber of Commerce talk on "Industrial San Francisco," by Capen
A. Fleming, director industrial department.

7:30 to 8:00 p.m.—DX. 8:00 to 9:00 p.m.—Studio program.

9:00 to 10:00 p.m.—Palace Hotel Rose Room Dance Orchestra, Gene James directing.
9:10 to 9:20 p.m.—Book review by Harry A. Small of the San Francisco Chronicle.
10:00 to 11:00 p.m.—States Restaurant Orchestra, under the direction of Weldemar Lind.

#### SATURDAY, AUGUST 21

7:20 to 7:30 p.m.—Talk on "Real Estate," furnished by the R. A. Wilson Company.
7:30 to 8:00 p.m.—DX.
8:00 to 10:00 p.m.—Cabiria Cafe Orchestra, Billy Long directing, with Maurice Gunsky, tenor, accompanied by Merton Bories, during intermissions.
10:00 to 12:00 p.m.—Clift Hotel Dance Orchestra, Herb Meyerinck directing.

## K F R C-San Francisco, California-268 Meters

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LANSING TEVIS. Manager

DAILY EXCEPT SUNDAY—
6:30 p.m.—"Stage and Screen."
7:00 to 7:30 p.m.—Goodfellows Ad. Period.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

10:00 to 12:00 p.m .- Dance music by Walter Krausgrill's Orchestra.

MONDAY, AUGUST 16-

4:30 to 5:30 p.m.—Dance music by Ken Roth's Palm Garden Four. 5:30 to 6:30 p.m.—A. F. Merell and his Stamp Club. 6:30 to 7:30 p.m.—Jo Mendel and his Pep Band.

8:00 to 9:00 p. m .- Around the Camp Fire with Mac.

TUESDAY, AUGUST 17-

5:30 to 6:30 p.m.—Mac and his Gang. 6:30 to 7:15 p.m.—"60 Minutes of Songs and Smiles." 8:00 to 9:30 p.m.—Studio program, featuring Uucille Price and Frank Meensing. 9:30 to 11:00 p.m.—Dance music by Walter Krausgrill's Balconades Orchestra.

WEDNESDAY, AUGUST 18-

6:30 to 7:30 p.m.—"60 Minutes of Songs and Smiles."
8:10 to 9:00 p.m.—Concert by KFRC Little Symphony Orchestra.
9:00 to 10:00 p.m.—Studio program.
10:00 to 12:00 p.m.—Dance music by Krausgrill's Balconades Orchestra.

THURSDAY, AUGUST 19-

6:30t o 7:30 p.m.—"60 Minutes of Songs and Smiles,"
8:00 to 8:30 p.m.—Studio program, courtesy Paralta Studios.
8:30 to 10:00 p.m.—Dance music by Walter Krausgrill's Orchestra.

FRIDAY, AUGUST 20-

6:30 to 7:30 p.m.—"60 Minutes of Songs and Smiles."
8:00 to 9:00 p.m.—KFRC Little Symphony Orchestra.
9:00 to 10:00 p.m.—Studio program by the Lorilei Quartet.

SATURDAY, AUGUST 21-

6:30 to 7:30 p.m.—"60 Minutes of Songs and Smiles."
8:30 p.m. to 1:00 a.m.—Dance music by Walter Krausgrill's Orchestra.

### Don't miss next week's issue.

## K L X-Oakland, California-508.2 Meters

500 WATTS—508 METERS OAKLAND TRIBUNE RADIOPHONE

DAILY EXCEPT SUNDAY-3:00 p. m.-Baseball

7:00 to 7:30 p.m.-News broadcast.

#### WEEK COMMENCING MONDAY, AUGUST 16, 1926

MONDAY, AUGUST 16-

8:00 to 9:00 p.m.-"Community Night" program.

WEDNESDAY, AUGUST 18-

6:30 to 7:00 p.m.—Athens Athletic Club Orchestra. 8:00 to 9:00 p.m.—Educational program. 9:00 to 10:00 p.m.—Special program.

#### FRIDAY, AUGUST 20-

8:00 to 9:45 p. m .- Studio program.

9:45 to 10:30 p. m .- Athens Athletic Club Orchestra.

## K G O-Oakland, California-361.2 Meters

3000 WATTS—830 KILOCYCLES
PACIFIC COAST STATION, GENERAL ELECTRIC COMPANY

#### DAILY EXCEPT SUNDAY-

ALLY EXCEPT SUNDAY—
11:30 a.m. to 1:00 p.m.—Luncheon concert.
12:00 neon.—Time signal and weather report.
1:30 p.m.—New York and San San Francisco stock reports.
6:00 to 6:55 p.m.—Dinner concert.
6:55 p.m.—News items and final reading of weather and stock reports.

DAILY EXCEPT SUNDAY AND MONDAY—
4:00 to 5:30 p. m.—Concert Orchestra, Hotel St. Francis.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15

SUNDAY, AUGUST 15—

11:00 a. m.—First Baptist Church service (Oakland): Dr. J. Whitcomb Brougher, pastro.
4:00 p. m.—Vesper service, Grace Cathedral, San Francisco.
6:30 to 7:30 p. m.—Concert by Bem's Little Symphony Orchestra.
7:30 p. m.—Weather Bureau report.
7:35 p. m.—First Baptist Church service (Oakland); Dr. J. Whitcomb Brougher, pastor.
9:00 to 10:00 p. m.—Concert by Bem's Little Symphony Orchestra.

MONDAY, AUGUST 16—
5:30 to 6:00 p. m.—KGO Kiddies' Klub.
8:00 p. m.—Educational program—music and speakers.
8:05 p. m.—Dr. W. J. Stewart, subject, "The Highway of Service." Country Dance.
8:25 p. m.—Leroy R. Goodrich: "United States Government." Pastoral, Arion Trio.
8:50 p. m.—Wilda Wilson Church: "Better English." Merrymakers Dance, Arion Trio.
9:15 p. m.—Joseph Henry Jackson: "Chats About New Books."
9:30 p. m.—Mrs. Guy F. Farrington, speaker, auspices University of California.

TUESDAY, AUGUST 17—

9:30 p. m.—Mrs. Guy F. Farrington, speaker, auspices University of Camorina.

TUESDAY, AUGUST 17—
2:00 to 4:00 p. m.—Knickerbocker Trio, presented by Pacific Radio Trade Association.
8:00 to 9:00 p. m.—Eveready program: Orpheus Orchestra; California Male Quartet.
9:00 to 10:00 p. m.—The Pilgrims' Hour, presented by the Don Lee Cadillac Company.

WEDNESDAY, AUGUST 18—
2:00 to 3:00 p. m.—Knickerbocker Trio, presented by Pacific Radio Trade Association.
5:30 p. m.—"For Instance," General Jackson, columnist.

5:30 p. m.—Thor Instance," General Jackson, columnist.

THURSDAY, AUGUST 19—

2:00 to 4:00 p. m.—Knickerbocker Trio, presented by Pacific Radio Trade Association.

5:00 to 6:00 p. m.—George W. Ludlow, "Friend to Boys."

8:00 to 9:00 p. m.—Phil Lampkin's Musical Bears, Paradise Gardens, Oakland.

FRIDAY, AUGUST 20—

11:10 a.m.—Prudence Penny, Homemaking Talk.

2:00 to 3:00 p. m.—Knickerbocker Trio, presented by Pacific Radio Trade Association.

5:30 to 6:00 p. m.—KGO Radio Girls.

SATURDAY, AUGUST, 21—

2:00 to 4:00 p. m.—Knickerbocker Trio, presented by Pacific Radio Trades Association.

4:00 to 5:00 p. m.—Concert by Bem's Little Symphony Orchestra.

8:00 p. m.—Weather Bureau report. Al Santoro, "Weekly Sport Review."

8:10 to 9:00 p. m.—Kohler & Chase program (San Francisco studio).

9:00 to 9:30 p. m.—Arthur S. Garbett in a musical talk, illustrated by instrumental trio.

9:30 to 10:00 p. m.—Popular program, featuring Helen Hart and Lloyd Cathcart.

10:00 p. m. to 1:00 a. m.—Dance music, Wilt Gunzendorfer's Hotel Whitcomb Band.

## KTAB—Oakland, California—303 Meters

THE ASSOCIATED BROADCASTERS
ADA MORGAN O'BRIEN, Director

#### DAILY EXCEPT SUNDAY-

8:30 to 9:00 a. m.—Prayer service. 9:00 to 9:30 a. m.—Shopping Hour. 7:00 to 7:30 p. m.—Shopping Hour.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

9:45 to 10:45 a. m .- Bible Lecture.

9:45 to 10:45 a.m.—Bible Lecture.
11:00 a.m. to 12:30 p.m.—Church Service.
7:45 to 9:15 p.m.—Church Service.
MONDAY, AUGUST 17—
8:00 to 10:00 p.m.—Studio Program.
WEDNESDAY, AUGUST 18—
6:00 to 6:30 p.m.—Lecture Hour.
8:00 to 10:00 p.m.—Studio Program.
THURSDAY, AUGUST 19—
5:45 to 6:15 p.m.—Lecture Hour, "Keeping Well."
8:00 to 10:00 p.m.—Studio Program.
FRIDAY, AUGUST 20—
8:00 to 10:00 p.m.—Studio Program.

8:00 to 10:00 p.m.-Studio Program.

## K G W-Portland, Oregon-491.5 Meters

DAILY EXCEPT SATURDAY AND SUNDAY—
9:45 to 11:30 s.m.—Town Crier, music, weather reports, news items.

12:30 to 1:30 p.m.—Concert.
6:00 to 7:00 p.m.—Dinner concert and ball scores.
7:30 to 7:45 p.m.—Weather, markets and police reports, news items and ball scores.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

7:30 to 9:00 p.m.—Evening services from the St. Stephens Pro-Cathedral.
9:00 to 10:00 p.m.—Concert by the Chevrolet Little Symphony Orchestra.

MONDAY, AUGUST 16— 7:00 to 7:30 p m.—KGW Movie Club. 9:00 to 10:00 p.m.—Vaudeville entertainment.

TUESDAY, AUGUST 17—
2:00 to 3:00 p.m.—Women's matinee.
7:00 to 7:30 p.m.—Children's program, broadcast simultaneously with KFOA, Seattle, Washington.

8:00 to 10:00 p.m.—Educational program.
10:00 to 12:00 p.m.—Dance music, featuring Herman Kenin's dance orchestra.

WEDNESDAY, AUGUST 18

8:00 to 9:00 p.m.-Concert THURSDAY, AUGUST 19-

7:45 to 8:00 p.m.—Lecture, given under the auspices of the Catholic Truth Society of Oregon.

8:00 to 9:49 p.m.-Vaudeville program.

FRIDAY, AUGUST 20-

2:00 to 3:00 p.m.—Women's matinee. 8:00 to 9:00 p.m.—Concert of vocal and instrumental music.

SATURDAY, AUGUST 21-

10:00 to 12:00 p.m.—Dance music, featuring Herman Kenin's Orchestra.

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## K J R-Seattle, Wash.-384.4 Meters

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DAILY EXCEPT SUNDAY-

11:30 a.m. to 12:00 noon—Post-Intelligencer talk.
12:00 noon, 6:00 p.m. and 10:00 p.m.—Pacific Standard Time Signals.
5:40 p.m.—Closing stock quotations.
6:00 p.m.—Baseball scores.
6:05 p.m.—Weather report and "The Box Office."

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

SUNDAY, AUGUST 15-

UNDAY, AUGUST 15—
11:00 a.m. to 12:30 p.m.—Church services from First M. E. Church; Dr. J. Ralph Magee, pastor. Organ recital by Mrs. Montgomery Lynch.
7:45 to 8:00 p.m.—Organ recital by Mrs. Montgomery Lynch.
8:00 to 9:15 p.m.—Evening service First M. E. Church; Dr. J. Ralph Magee, pastor.
9:15 to 10:45 p.m.—Puget Sound Savings & Loan Association Orchestra.

MONDAY, AUGUST 16— 8:30 to 10:00 p.m.—Post Intelligencer studio program.

TUESDAY, AUGUST 17--8:30 to 10:00 p.m.-Puget Sound Savings &Loan Association studio program.

WEDNESDAY, AUGUST 18—
7:30 to 8:30 p.m.—Arcweld Manufacturing Co. studio program.
10:00 to 11:00 p.m.—Olympic Calpet Refining Co. dance music.

THURSDAY, AUGUST 19-

8:30 to 10:00 p. m.—Post-Intelligencer presenting weekly meeting of the "Keep Joy Radiating Order of Bats.

FRIDAY, AUGUST 20-

8:30 to 10:00 p. m .- Post-Intelligencer studio program.

SATURDAY, AUGUST 21— 8:30 to 10:00 p.m.—The L. C. Warner Co. studio program,

## KOA—Denver, Colorado—322.4 Meters

930 KILOCYCLES—2000 WATTS
ROCKY MOUNTAIN BROADCASTING STATION—GENERAL ELECTRIC COMPANY
Pacific Standard Time

#### DAILY EXCEPT SUNDAY-

10:45 a.m.—Weather and market reports. 11:15 a.m.—Organ recital.

#### WEEK COMMENCING SUNDAY, AUGUST 15, 1926

10:00 a.m.—Service of Montview Presbyterian Church, Denver; Rev. William L. Barrett, 4:30 p.m.—Organ recital from Montview Presbyterian Church. 7:00 p.m.—Open-air concert, Denver Municipal Band.

MONDAY, AUGUST 16—

5:00 p. m.—Stocks, markets, livestock, produce and news bulletins.
5:30 p. m.—Dinner concert, Brown Palace String Orchestra.
7:00 p. m.—Instrumental program by Scheuerman's Colorado Orchestra.
7:15 p. m.—Studio program of miscellaneous musical offerings.

TUESDAY, AUGUST 17

TUESDAY, AUGUST 17—
5:00 p.m.—Stocks, markets, livestock, produce and news bulletins.
5:30 p.m.—Dinner concert, Brown Palace String Orchestra.
6:30 p.m.—Farm question box.

WEDNESDAY, AUGUST 18—
5:00 p.m.—Stocks, markets, livestock, produce and news bulletins.
5:30 p.m.—Dinner concert, Brown Palace String Orchestra.
6:30 p.m.—Wynken, Blynken and Nod time, by members of Denver Library Club.
7:00 p.m.—Instrumental program by Scheuerman's Colorado Orchestra.
7:15 p.m.—Special studio program arranged and presented by the 103rd Division, U. S. Army, Denver: Army, Denver: THURSDAY, AUGUST 19-

1 HURSDAY, AUGUST 19—
5:00 p.m.—Stocks, markets, livestock, produce and news bulletins.
5:27 p.m.—United Press weekly sports review.
5:30 p.m.—Dinner concert, Brown Palace String Orchestra.
FRIDAY, AUGUST 20—
2:30 p.m.—Matinee for housewives.
5:00 p.m.—Stocks, markets, livestock, produce and news bulletins.
5:30 p.m.—Dinner concert, Brown Palace String Orchestra.
6:30 p.m.—Preview of International Sunday School lesson.

6:30 p. m.-Preview of International Sunday School lesson.

7:00 p. m.-Open-air concert, Denver Municipal Band.

## NO MORE "B" BATTERIES

WITH FERBEND'S IMPROVED

## **B** Battery Eliminator Special -\$12.50 - Reduced

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Just plug into your light socket and forget your battery troubles. Lasts indefinitely.



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## Of Interest to the Trade

Tuesday night, August 17, will be Radio Trades night at the Hollywood Bowl. Each year the Hollywood Bowl Association has set aside one night for the Music Trades, and this year on the above night, Radio Trades are included.

Complimentary tickets are given to music and radio dealers for the concert in return for the help which music and radio dealers have given and continue to give in boosting the great summer concerts at the Hollywood Bowl.

Radio dealers—as well as music dealers, who desire free tickets for this beautiful symphony orchestra concert under the stars, August 17, should communicate at once with Secretary A. G. Farquharson, Music & Radio Trades Association of Southern California, 516 Commercial Exchange Bldg., Los Angeles, California.

The Noble Co., 1805-09 South Figueroa street, Los Angeles, have been appointed distributors for the Universal "B" Eliminator. The advantages claimed for this eliminator are: Voltage can be positively regulated. Constant uniform power. Lower operating cost. Improved tone quality and volume.

R. Kruger & Co. report that sales of CeCo Tubes show an increase of 100 per cent over the same period for last season.

J. B. Ferguson, Inc., manufacturer of "The Gold Standard of Radio Receivers" has been compelled to double its factory space due to the increased volume of business. The factory is located at 3542 Forty-first streea, Long Island City, N. Y. The executive, sales office and display rooms are at 225 West Fifty-seventh street (just off Broadway), New York City.

#### THE EKKO GROUND CLAMP

Imperfect ground contact has been shown responsible for a high percentage of all radio service cases. It is to the interest of all those using radios to limit these service cases to a minimum.

The greatest relief for this ailment is the new Ekko Ground Clamp. The hardened steel points of the Ekko Ground Clamp bite through paint, rust,



dirt and corrosion, or any other insulation that reduces the flow of current. Their positive contact insures a free flow of current and full signal strength.

The Ekko Clamp is easy to use. Screw the ground wire to the clamp, attach the clamp to the nearest pipe. And very small pressure on the screw gives positive contact. The Clamp is non-corrosive and maintains contact permanently. It will fit any pipe from ¼ to 1¼ inches in diameter. Attached sketch describes application.

These ground clamps are likewise adaptable for connections on your battery terminals. They bite into the lead plugs and make positive contact, giving you full battery strength at all times.

These Clamps are manufactured by the Ekko Company of Chicago and are handled by all Radio and Electric jobbers, being distributed by the A. S. Lindstrom Company and Lombard J. Smith with offices at 324 North San Pedro street.

Makers of men's carpet slippers in Chicago report an increase in trade. It is believed this is caused by radio, which keeps men home in the evenings.

# Lasting Quality



No. 9303

Ray-O-Vac No. 9303 is a 45-volt "B" battery built to give the utmost in "B" battery service for the money invested. It will go into a space only 8 in. x 4½ in. x 7¼ in., and is especially recommended for multiple tube sets, in which service its long life and dependability has become a proverb.

Ray-O-Vac No. 2303 is also a 45-volt "B" battery, with a tap at 22½ volts. It is designed for long, dependable service where a battery somewhat smaller than No. 9303 is necessary. Ask any radio dealer about the fine qualities of either of these Ray-O-Vacs.



No. 2303

## FRENCH BATTERY COMPANY

737 Terminal Street LOS ANGELES

## Out of the Air

When you go camping and take your portable radio along, it is a good plan to include a spool of talking tape, or radio ribbon, and a few glass-headed pins;—such as used in hanging pictures. Portables, as a rule, do not bring in dstance very well, as the loop does not have enough pick up.

String out the talking tape and fasten it to trees with the pins, attaching the tape to the glass heads. Wind three turns of the tape around the loop, and ground the end leading from the loop. This arrangement will give the loop greater pick up, as it acts as a booster. It takes only a few minutes to install, and the time will be well spent, for you will get better reception, and greater distance.

While Eastern radio stations are worrying about summer conditions and poor reception stations in this part of the country are enjoying a busy season.

True, reception for distance isn't as good at this time of the year, but local receiving is just as fine and programs of quality continue to be prepared by concerns. Practically every station is filled.

KNX, the Evening Express is no exception to this rule, and it is still a matter of trying to find enough time to spread around to the people who desire programs.

"Harry is mighty businesslike. I wonder how he broke the news to Phyllis's father after their secret marriage.

"He simply wrote on his business card: "Please find your daughter attached hereto." — American Legion Weekly.

More than 50 short-wave stations are operating throughout the world on wavelengths of from 13.5 meters to 50 meters.

On two occasions, radio was given official recognition in Denver judicial circles when receiving sets were ordered installed recently for the entertainment of murder trial juries after "working hours," according to reports to KOA, Rocky Mountain broadcasting station of the General Electric chain. Under court stipulations, however, the bailiffs were required to switch off the set during any radio news comments on the trials.

Because present communicating systems between Swatow. China, and the world are unsatisfactory, the National Party of China is contemplating the erection of a large modern wireless station in Swatow capable of transmitting and receiving from all Chinese stations and adjacent sections of the Far East. Trans-oceanic communication also will be attempted unless the cost is prohibitive.

A negro servant on being ordered to announce visitors to a dinner party was directed to call out in a loud, distinct voice their names. The first to arrive was the Fitzgerald family numbering eight persons. The negro announced Major Fitzgerald, Miss Fitzgerald. Master Fitzgerald, etc. This so annoyed the master of the house that he went to the negro and said-"Don't announce each person like that; say something shorter."

The next to arrive were Mr. and Mrs. Penny and their daughter. The negro solemnly opened the door and called out, "Three Cents!"—Selected.

A condenser connected in series with an aerial will reduce the wave-length of the aerial. One connected in parallel will raise the wave-length.

Fading is much less troublesome in daylight than at night,

THE HEART OF THE RADIO

# VELVETONE

**B BATTERY ELIMINATOR** 

Everywhere, August 14, 1926.

Dear Mr. Set Owner:

Do you know that you can save money and get more pleasure out of your radio if you install a Velvetone "B" Battery Eliminator?

Sincerely, Any Radio Dealer.
P. S.—You will never have any more battery trouble.

B BATTERY ELIMINATOR

VELVETONE

THE HEART OF THE RADIO

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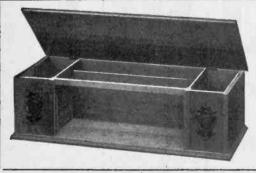
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# RADIO

Established 1917 as Pacific Radio Nows

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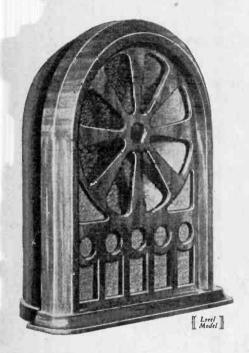
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We're making a good one for you—the Lorel Reproducer; a cone type correctly balanced with sounding-board and sounding-chamber, to give you that purity of all tones, which you desire.

This remarkable unit combines the good features of both cone and sounding-chamber types of speaker; and eliminates their inherent weaknesses. You can hear all the high and low tones with the Lorel; clear and full.

Ask your dealer for a demonstration of the Lorel. You'll find it a real improvement in radio reception.

Price \$27.50

## ALL-AMERICAN RADIO CORPORATION

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A Remarkable Improvement in Audio Amplification

A development by All-American laboratories—the Rauland-Lyric-Trio. You know the Rauland Lyric Transformer, famous among music critics for its exceptional tone perfection. It is now combined with two Rauland Trio impedance units; retaining the advantages and climinating the weaknesses of the two leading systems of audio amplification. The result is the last word in audio amplification. Free book, "Modern Audio Amplification," tells more about this interesting development. Writn for handbook "B-90."

Pure full tone is possible only with unvarying "B" power. With All-American "Constant B" you get a permanent, constant plate power. There's nothing to take are of; no annoying hum, and no acid. Permanently aled. "Constant B" has a 10 to 60 volt tap, varied no output by a "detector" control; a 67½ volt and a 90 volt tap; a variable voltage "power-tube" tap uniformly controlled by a "High-Low" switch.

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