TURN LIGHT INTO SOUND

Puts Radio Waves on Telephone Lines
Transmits Concerts into Homes That Lack Airphones; Apparatus Kept Secret

OMAHA, Neb.—By means of an invention just perfected by A. J. F. Bierschel, engineer of this city, radio waves received on Bierschel's apparatus can be converted so as to be projected on telephone lines and re-transmitted into homes where there are no radio receiving sets.

In a series of recent tests conducted by the inventor, music and speech transmitted from WVOA and WAAW, Omaha stations, was converted and repeated over land lines with the quietness and clarity of a good working crystal detector set.

“Classical or Jazz—Which Most Popular?” Prize Up

NEW YORK—Paul Specht, WJZ and WJY broadcast artist and orchestra director, is offering a portable phonograph and a set of his talking machine records for the least 150-word essay on whether classical or jazz is the most popular form of musical entertainment.

There are no rules other than that letters should be limited to 100 words.

FRENCH USE BRIGHT RAYS FROM STARS
Inventor Claims to Have Heard Distant Capella—Astronomers Interested in Tests

Four Electrodes Amplify
General Gustave Ferrié, Radio Expert, Demonstrates Invention
Before French Academy of Science

(With F. M. Delina, Special Correspondent, PARIS.—Details of the recent scientific experiments of General Gustave Ferrié in changing starlight to a rural audio sound are known to have become public with the demonstration of the invention before the French Academy of Science. Again, the important and indispensable vacuum tube, this time one used for electric lights in the customary forms, has taken a new scientific step possibly.

Discovery of Great Importance
General Ferrié is a radio expert and chief of communications of the French army. While fantastic in its first announcement, the discovery of the fact that genuine and may mean much in the field of astronomy.

(Continued on page 2)
Dill Thinks Radio Tax
Is Doomed to Defeat

The Senate Finance Committee reports Tax without Comment

WASHINGTON, D. C.—Despite great efforts by broadcasters to keep the Senate Finance Committee from passing the long-discussed tax measure, their efforts were not enough to stop the eight senators on the committee from voting to go on record in favor of its passage. A final vote will be taken on the measure in the Senate at a later date.

Dill Denies Rumors

Senator Dill, representing the first and second districts of Pennsylvania, declared in a statement released by his office that he had no knowledge of any efforts to defeat the tax measure. He said that the tax was necessary to support the government and that he would vote for it when it comes to the Senate.

Dill's Statement

"The tax is a necessary measure," Dill said. "It is being supported by leaders in both major parties and is supported by most of the people in this country. I believe it is important for the country and I will vote for it when it comes to the Senate."
PARIS WOULD REACH U. S. ON 96 METERS

BY REGINALD GOEURD

The American Radio constructor here, whose famous exploit of interrupting the Eiffel Tower concert in the spring of 1923 is still being talked of, has recently succeeded in making his homing-countrymen listen to him. He had built, about six months ago, a small broadcasting set for commercial purposes. On the night of March 14, at 11:30 o'clock, he invited the American ambassador, Myron H. Herrick, to try to transmit a message to America—on 96 meters! The ambassador very kindly consented to stay up that late, and at the appointed hour called into the microphone "Hello, Uncle Sam!" Madison presents his compliments to you, and expresses appreciation for your interest.

The broadcast to all American listeners

He then went on to make a most interesting remark about the serious condition of the French franc, after which Gouraud also talked for a few minutes, and then signed off, both in French and English, "This is Paris, 3000 Feet Above the Eiffel Tower." The only hitch in the program seems to be that the French American will have to advise any of his countrymen to listen for his broadcast at the right time (about 6:30 Eastern time). The results of the tests are more than fair, but he is going to try again, giving plenty of warning first. Gouraud's former license number, RKA, was taken away from him for interfering with the aviation work. The new call letters, RKK, are those of his company, Radio Union.

Data to Show Effect of Broadcasting on Movies

"Hollywood" McCosker at WOR

NEWARK, N. J.—"Hollywood" McCosker, an associate of "Current Motion Pictures," a weekly review of the new films from WOR on Monday evenings, is compiling considerable data from listeners on the effect of the movies. The fact that the motion picture business has swamped the radio broadcasting business has been underlined in letters from radio enthusiasts stating just how much the fact that the motion picture business has affected their attendance at the motion picture houses.

Billy Sunday Uses Radio in Huge Memphis Broadcast

MEMPHIS, T. N.—Rev. W. A. Billy Sunday delivered an address recently from WMJ, Commercial Appeal station here. He used the medium to convince its listeners of the revival in this city and broadcast a special sermon from WMJ.

Work on Senate Broadcasts

WASHINGTON, D. C.—The resolution of some time ago in the Senate by Senator Howell of Nebraska, which called for a survey of the Senate Chamber to be made by army and navy engineers with an idea of broadcasting proceedings of the Upper House, has been referred to the committees of war and navy.

ENGLISH FIRM NOW INSURES RECEIVERS

LONDON.—The insurance company now has a chance to take up the market for volunteer fire departments in the city of a headquarters. A subscription list hasn't been circulated and money pledged for the purchase of a receiver. London believes that, with a radio set in operation, more of the firemen will stay about the firemen's club rooms, resulting in greater speed in arrival at fires.

ROLL PEAS THROUGH TUBE FOR WGY RAIN

Schenectady Station Evokes Novel Means of Producing Sound by W. T. Mershall

SCHENECTADY, N. Y.—"I do not know that this is very interesting," said Mr. Mershall when he got off the telephone back from WGY, the General Electric broadcasting station. "It is not, but it is a novelty." It is the running of dried peas through a --- tube.

The tubes have been directed from 3 to 40 feet and of different materials. A noise is produced, and the sound is produced by the mechanical propeller which rotates the tube. The size of the tube is very small, and the sound results are not as loud as the first. Considerable experience is necessary to produce the sound desired.

Probably no property is more important than the proper selection of the door and the bell board. The bell board consists of a combination of five bells of different tones and a barker. All are connected with the bell and may be operated by the pressure of a button. There are door bells for ordinary business, and bell boards which may be sounded for fire, ambulance, or a special alarm. A clock chime is in the group, as is a bell.

Data to Show Effect of Broadcasting on Movies

HOLDS FARMER GETS MOST RADIO BENEFIT

University Leader Points to Advantages of Entertainment

DETROIT.—Prof. H. H. Muselman, head of the engineering department, declared that his institution could be of direct advantage to the farmer. He said that the farmer is in a position to profit from the radio in many ways.

The farmer is in a position to get more benefit from the radio than the average. The farmer is in a position to profit by the radio from the standpoint of entertainment. He is in a position to profit from the radio through the medium of the radio. He is in a position to profit from the radio through the medium of the radio.

Mr. Andy Wayne West, president of the Department of the American Revolution, also addressed the opening session of the thirty-third congress of the body in Memorial Continental Hall, Washington, D. C. President Coolidge, Sec. E. Howard, Ambassador Franklin and Secretary of State Hughes also talked at the first day's meeting which was broadcast by Stations WCAF and WEAF.

3/8/34

THE ANTENNA BROTHERS

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A Bargain at Half the Price

MULTIPLE ANTENNAS

EVERYTHING YOU NEED FOR YOUR STATION

Audio Transformer

Power Transformers

Detectors

AMLER ESTABLISHED 1921

2507 HAMILTON AVE., DETROIT, MICH.
Get ready now for summer radio

Your radio batteries have served you well and faithfully over the long winter months. Now a great radio summer is at hand. To enjoy summer radio at its best, equip your receiver with the best batteries you can get. Put in new Eveready Radio "B" Batteries and see what wonderful, long-lived service they will give.

Made especially for radio use, Eveready "B" Batteries will operate the loud speaker at maximum volume for long or short periods, depending on how rapidly the current is taken out of them. Packed full of pep and punch and go, Eveready "B" Batteries pour out their power the moment you turn on the tubes. Scientifically made for long-lived radio service, the cells renew their vitality when idle—responding instantly with fresh vigor.

Eveready "B" No. 707 is the standard amplifier "B" Battery, and gives 45 powerful, dependable, zippy volts. Five sturdy Farnesworth Clips make this big "B" Battery available for soft detector tube use as well—varying the voltage from 16¾ to 22⅜ as required.

Insist on Eveready "B" Batteries, remembering that they are the product of thirty years of experience and know-how in battery making. Designed and made under the supervision of the finest electro-chemical laboratory known to science, the quality and efficiency of Eveready Radio Batteries are assured. For maximum battery economy and service buy Eveready Radio Batteries—they last longer.

Manufactured and guaranteed by
NATIONAL CARBON COMPANY, INC., New York—San Francisco
Headquarters for Radio Battery Information
Canadian National Carbon Co., Limited, Toronto, Ontario

Informed and money-saving booklets on radio batteries sent free on request. If you have any questions regarding radio batteries, write to G.C. Ferris, Manager, Radio Division, National Carbon Company, Inc., Thompson Ave. and Union St., Long Island City, N.Y.
BEFORE THEY THOUGHT OF "MIKES"

WATERSON IN COURT: FIGHT OVER RIGHTS

Act Against Chief of Composer's Society

Also Seeks Writ to Stop Broadcasting of His Songs by Owners of WBS

NEW YORK — Waterston, Berlin and Snyder re-enforcement was refused by the American Society of Composers, Authors and Publishers and D. W. May, Inc., owners of station WBS, Newark, N. J.

Henry Waterston, one of the first organizers of the American Society, recently resigned from the organization, alleging the defense of the president to be a monopolistic organization in violation of the Sherman anti-trust act.

Waterston controls the Jack Nelson Music Co., a subsidiary music firm organized primarily to broadcast and take advantage of the other songs "digestion" system.

Waterston Dies With Radio

This action, Berlin and Snyder, renunciation was refused by the American Society of Composers, which company does not scrupulous until January 1, 1924. Waterston, Berlin and Snyder restriction on the renewal of the "After the Storm" and "From Once Two" are beginning to show new life being played through being played regularly by radio stations.

The lengthy legal combat is highly interesting. The "Van Shull" Whirlie, "Maybe She'll Phone Me" is cited out as an instance for purposes of the test case.

D. W. May, Inc., is involved through having taken out a special license from the American Society of Composers for the purpose of broadcasting the "Van Shull Whirlie." Waterston would enjoy this company from further broadcasting his song.

Suit May Give More Radio Writs

A statement by C. B. Cooper, chairman of the broadcasting committee of the Radio Trade Association, New York, says: "Contrary to articles in many newspapers, this suit is not being brought for the purpose of stopping broadcasting stations from using popular music, but if won it will give those popular music more publishers to more broadcasters than ever before now."

"The Waterston, Berlin and Snyder company is anxious to have their music played by as many broadcasters as possible. The stations not in the American Society's list are by far in the majority. When this case is finally decided, if the Waterston, Berlin and Snyder company gets a victory, there will be a great deal more popular music broadcast from radio stations than ever before now."

Throughout the United States there are 2,600 manufacturers of radio supplies, 1,800 wholesale distributors and 25,000 retail dealers of all kinds.

This article was written by a man who is world-famous as a vocal and pianist. Although it is true that he is occasionally heard on the radio, it should be noted that his music is predominantly performed in nightclubs and concert halls around the country. He is also well-known for his having been a member of the American Society of Composers, Authors, and Publishers (ASCAP), which he joined in 1924.

YOUR CHOICE FREE

Limited Supply

Your prompt action gives you one bound volume with each annual subscription. New or renewal.

Greatest Collection of Radio Information

A. B. Lassar for Radio Digest

Two Years, Five Ten Take Resale Circuits.

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Mail Order 

In addition to the current issue, the current issue is included in each order. The latest in the field of broadcasting. A "test" copy is furnished on approval. Each order is charged to the number of issues ordered.

Radiodigest, 50 N. Wabash Ave., Chicago

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One year's subscription; 25 copies.

The above offer is at present available in the United States and Canada only.

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-33-
Federal has done the experimenting for you

THERE is no speculation about buying Federal Standard Radio Parts. You know beforehand just how complete, just how mechanically perfect your set will be according to the number of Federal parts that are included.

Federal has done all the experimenting for you—not hurriedly or superficially, but over a period of 25 years of intensive research. This, together with Federal's tremendous engineering facilities, makes it possible for Federal to protect you with an iron-clad guarantee on every Federal Standard Radio Part that you buy.
MATE OF MAGGIE IN EXPOSE OF HIMSELF

"MYSTERY MAN" ADMITS HIS IDENTITY

Milo Gurney in Expose When His Better Half Threatens to Quit
Writing His Stuff

By the Mystery Man

Dear Editor:

Alright! Alright!

You said you'd make me famous—Maggie says you made me "notorious." Either it is bad enough, but when a guy has just one little interview, why print it in the "Personal Notices" column? You know what I mean—that column where they give a list of people who have nothing to recommend them except to patronize flower shops any more and leave this good old earth wondering whether there will be a scarcity of help in the place they are going to.

Then again—can't a dude have an interview without 6 or 700 of "my angel" immediately sending letters and telegrams dashing to me to publish my picture?

Maggie's Remarks Expose

Not that I care, but Maggie says, "You'll either expose me as no cook or I'll quit writing your stuff." Then another city scribe writes in to dashing to me to publish my picture and sends along enough soap coupons to buy a 'piddle jumper' and Elizabeth and hopes it keeps me rattled. Now I don't like to do it; I've got to take the step I might as well make it a decent even if 12,000 wives do tell their husbands the truth about my rare type of beauty.

Who's Who in Miloplex Kingdom

So here's the picture, the guy in the center is me, the lady is my sweetie, "Maggie," while the kid is the reason why some girl will write mash notes later on.

And, editors—be sure to print my name, "Milo Gurney," right under the picture in bold face type so the uptowners can see it, and then the words "The Mystery Man" right under it so scarce 'em.

And now, "Champ," you know who I am, how sweet Maggie is, and you blame me soon enough when you have so nice a cook. Let's eat!

Cuba has thirty-one stations which broadcast radio programs. There are eighteen stations in Havana.

FAMOUS KINGDOM OF MILOLEX

Curious readers have their curiosities satisfied by the Miloplex series, whose writings have appeared for some months in this publication—features the true name, along with his family. Above, left, Milo Gurney; above, "Mystery Man," and his son.

LISTENERS VOTE DOWN CAPITAL PUNISHMENT

Sing Sing Warden and Senator in Radio Debate

NEW YORK—Debates on various important subjects with the Radio audience are in order. "Mystery Man" seems to be quite the thing at our best broadcasting stations these days.

Recently Station WRAV broadcast a debate between Warden L. E. Lawson of Sing Sing and Senator Lever of Brooklyn, the subject being the Abolition of Retention of Capital Punishment.

The debate attracted unusually wide attention and thousands of letters, expressing the views and opinions of Interested listeners poured in. An analysis of these letters showed that 42 per cent. of the audience favored capital punishment and 57 percent were against. The Radio audience also voted on the question of who won the debate and the figures showed that 42 percent. felt that Senator Lever presented the best argument, while 48 percent. were with Warden Lawson who protested the arguments against capital punishment.

Communications from New York

Now Launched at Yale

HRC FLAVIN, CONN.—One of the first lectures before the students of the Sheffield Scientific School in Yale's communication courses, was on "Naval, National and International Communications," delivered by Commander D. D. Bingham, U. S. N., assistant chief of Naval Communications, recently.

The lecture is one of a course established by the electrical department at the aid of Mr. Lee De Foret, for graduating and advanced students.

COMMANDER

BINGHAM

A Device found only on GREBE Receivers

The man who has once operated a Grebe Receiver reaches instinctively for the Tangent Wheel Versors on every other receiver he then observes.

This and other details of Grebe craftsmanship are fully covered by patents granted and pending. Inpect these details at your dealer's today.

A. H. GREBE & Co., INC.

Richmond Hill, N.Y.
Announcing—

the

ST. JAMES

Long Wave
Transformer

—in vacuum

Seldom in the history of radio has a piece of apparatus been placed on the market which has attracted such favorable comment from the most discriminating experts. The results which have been consistently obtained from its use in the newer circuits demanding transformers of this type, have been so surprising that the baldest statement of them would sound like wild exaggeration.

Experimenters and transformer manufacturers have always recognized the advantages of the air core transformer for maximum amplification at a given wave length. In practice, it has heretofore been found impossible to construct transformers of this type which could be depended upon to give uniform and satisfactory results under all conditions.

The absorption of atmospheric moisture in untreated coils causes losses of the most serious character. Impregnation of the coils with gums or resins removes this difficulty but not only increases the inter coil capacity but also introduces absorption losses on account of the large amount of dielectric in the magnetic field of the coil.

The ST. JAMES Transformers not only overcome this condition but in addition, offer other advantages previously unthought of.

At first inspection it is evident that they represent precision methods of the highest character. The special wound coils constituting the primary and secondary are in themselves an achievement. These are accurately spaced on a glass rod, thoroughly dehydrated, enclosed in a tube of special high lead content glass which is thoroughly evacuated to a high degree of vacuum.

The leads are brought out to the terminals of a standard socket of bakelite in which the transformer is permanently mounted.

What is the result?

First, transformers permanently retaining the high efficiency characteristic of thoroughly dehydrated, unimpregnated, low loss coils.

Second, a very considerable increase in magnetic flux.

Third, losses too microscopic to be susceptible of measurement.

Fourth, sharply peaked and absolutely accurately matched.

Fifth, thoroughly shielded without eddy current losses due to the lead content glass.

It is true that these claims exceed those ever made for any similar transformer; yet they are the baldest possible statement of actual facts. The enthusiastic reception which has been accorded them presages an overwhelming demand. We cannot increase our production at this time above a certain point without lowering our standards which we are pledged to maintain under all conditions.

We strongly suggest that you take steps to secure your set at once. Ask your dealer first. If he has not yet received his supply and will not order them for you, we will for the time being only, supply you direct. Set of four include one input, three intermediate. Price, $8.50 each. Orders for C. O. D. shipment must be accompanied by one-third of the total price.

JOBBERS: These are being selected with especial care. A proposition of unusual interest will be offered to concerns whose policies are such that they welcome careful scrutiny. Address:

TED HATCH & STAFF
EXCLUSIVE DISTRIBUTORS
721 North Michigan Avenue, Chicago, Ill.

Manufactured by
St. James Laboratories, Chicago, Ill.
NOW NEW PROBLEM CONFRONTS GOTHAM

PUZZLES OVER DIVISION OF AIR AMONG STATIONS

Settlement of WHN's Suit Brings Sudden Rush of Applications for Plant Licenses

NEW YORK—The settlement of the "Kings-Talebboth" vs. WHN suit has brought an unexpected result here. Almost immediately there have come applications for the erection of at least half a dozen additional broadcasting plants. The applications range all the way from the city of New York itself down to a small department store.

The problem has arisen of providing practical wave lengths for all the proposed new stations. The representative here of the Department of Commerce wants at least four of the new broadcasting stations to take the same wave lengths, despite the fact that all are to be so close together.

This would mean, of course, that the four stations would have to arrange for an exact division of time, because no two of them could operate successfully at the same hour.

The suggestion that the city of New York should adopt a wave length with three other stations has aroused the city's board of aldermen.

Now the situation will be met as a big problem by the unsolved Radio division of the Department of Commerce.

Community Antenna to Be Ready for Use Soon

Will Permit Several Sets to Use Same Wires

WASHINGTON.—The "coupling-tube" unit, by means of which several receiving sets may use a single antenna, will be made available to the public soon after June 1, according to Naval Radio experts. The device was invented and perfected by Dr. A. R. Taylor and C. K. Yeung of the naval radio laboratory at Bellevue, Md, and has been demonstrated on board the U. S. Battleship Colorado.

By connecting a coupling-tube unit between each receiving set and the single antenna suspended from the mast, several incoming messages on different wave lengths were received simultaneously, while three messages on other wave lengths were transmitted from the vessel.

The military value of the coupling unit is that to the navy is very high, since it enables a vessel or station to carry on several times as much business or traffic as was heretofore been possible without interference. The navy holds the rights for military use.

To the public, its chief interest will be that it will permit the use of a single antenna on a large apartment house or hotel, where each tenant will have the ability to operate his own set independently of others.

SUGGESTS STATION AS FIRE ALARM SOUNDER

Washington Chief Sees Advantages in Emergencies

WASHINGTON, D. C.—Fire Chief George Wilson of this city has asked the Electrical Engineer of the District of Columbia to consider the advisability of installing a broadcasting station at fire alarm headquarters here for sending out fire alarms in emergencies.

He has stated this as an opinion on the possibility of utilizing radio apparatus to communicate with the fireboat when that vessel is fighting a water front blaze from midstream.

He has pointed out that practically every fire engine house is equipped with receiving apparatus already.

New Phonofilm Records Noises Outside Scenes

Exterior Sounds Included to Increase Realism

NEW YORK.—A new phonofilm, with twenty pictures in the cast, is being made here by Dr. Lee DeForest, inventor of the talking pictures, in his studio at East 96th st. It is the first time that such a large number of persons have been included in one picture, and also the first time that exterior sounds, have been photographed.

The story has to do with life on the side of New York. Among the novelties introduced is a little German band which plays with all the fierce and discord for which such bands are noted. Every sound is faithfully recorded. To the roar of the elevated railway, as a train rushes overhead, the cries of the street vendors and the shrill voices of the children are all reproduced without restraint.

The Howard 5-Tube Neutrodyne Coast to Coast Range

Beautiful black Walnut cabinet with special designed Howard Neutrodyne, Neutrodyne, special sockets and rheostats.

The Howard Neutrodyne brings the wonders of radio into your home and allows you to distinctly receive the famous broadcasting stations of the world.

 język Polski

Approved Over 200 Experts

New Crosley Engineering Achievement

A three tube set with five tube efficiency—the greatest selectivity with the minimum effort, plus positive calibration to any wave length between 200 and 600 meters. These are only a few of the many advantages offered in the remarkable new Crosley Tridyn Radioc Receiver.

It was only after a year of constant experimenting, that our engineering department perfected this exceptional receiver. Thorob tests proved to us that it would out-perform any receiver ever before produced. We shipped out 200 of these sets to experts in every part of the United States. Their criteria are not the same—"Tried out your new Tridyn Receiver Saturday night and logged 13 stations, among them Cuba, New York and Omaha, between 9 and 10 o'clock. The set was very selective. During the time this test was on, local station KBD operating and we were unable to hear them without any difficulty or interference whatsoever. This new Crosley triumph is called the Tridyn because of its combination of the three "R"s—Radio frequency amplification, Regeneration and Reflexes. The first tube incorporates non-oscillating, non-radiating tuned radio frequency amplification, the second tube, a general detector reflective back on the first tube for one stage of audio frequency amplification. Then it has a third tube which acts as a straight audio frequency amplifier. It uses the ultra selective astatic antenna circuit and external selection coil, which adds to its wonderful selectivity.

The Crosley Tridyn in range, volume and selectivity is the equal of any five tube receiver on the market. Any type of tube can be used with either indoor or outdoor antenna.

The opinions of many experts have convinced us that the Tridyn is the best receiver ever offered the public regardless of price.

Practically every radio dealer can furnish a Crosley Tridyn, including all other models as well as the Sounding Tridyn.
BEAUTY WHILE YOU LISTEN IN

Cleveland Studios Work with Papers

Stations and Dailies in Close Harmony

We ship C. O. D.

Complete Kit of Standard Parts

Send No Money

5 Tube Neutrodyne

 Knock-Down Set COMPLETE $34.49

Written Money-Back Guarantee Sent With Each Purchase

All Parts Licensed

All Parts Matched

Fine Workmanship

Genuine Hazelton

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Written Money-Back Guarantee Sent With Each Purchase

All Parts Licensed

All Parts Matched

Fine Workmanship

Genuine Hazelton

CABINET FREE

Here is EVERYTHING needed to operate this neat
set after building

1. 20-Bolt Neutrodyne chassis, finished in gold.
2. 15-in. Neutrodyne Speaker.
5. Neutrodyne Pilot Light.
7. Neutrodyne Crystal.
10. Neutrodyne Condenser.

Complete Outfit, $43.40

(Parts Also Sold Separately)

If you order by mail, or present this offer, you will include FREE Neutrodyne Cabinet.

Free Neutrodyne Cabinet comes FREE

55 Vesey Street, Dept. RD-53
New York City

This is our WARNING in fairness to you and to us. Create a success, people, the way we know how, and the boys will seek to capitalize your reputation.

Speaking with authority as the largest radio dealers in America, we know of no others large enough to both meet our price and also give our quality of goods.

Aside from this is the question of Design—vital to superiority. Any one can pick up an assorted kit of parts and offer it for sale—but no one meets our selection, which prises a Matched Set following our proven, incomparable mechanical and technical Design which we alone distribute.

The De Luxe Neutrodyne—genuine, standard, matched and licensed Hazelton Neutrodyne parts—brings to everyone, rich or poor, the ultimate greatest

"Me, too!"

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OPERATING AND TROUBLE SHOOTING

For the Owner of a HOWARD Neutrodyne Receiver

“OPERATING and Trouble Shooting” is a Radio Digest feature whose purpose is to study the latest models of vacuum standard receiving sets and to show the newly initiated broadcast listener, who has purchased such a set, how he can operate it to get the best there is in it and how he can overcome minor difficulties which may be causing some trouble. On pages 11 and 12 this week, the Howard Neutrodyne Receiver is described. Radiophiles with other sets will also find these articles worth reading, particularly the notes on trouble finding.

THIS Howard receiver is a neutrodyne of the latest and most approved design and construction. Its operation is simple and its performance as to quality for the local stations and extreme sensitivity for distant stations is such as to put it in the front rank of modern Radio receivers.

To obtain the best results with the Howard it is necessary that it be carefully installed according to the following instructions:

Antenna and Ground
The first items to be considered in setting up a Radio receiver are the antenna and ground. It is essential to bear in mind that the local stations and the more powerful stations within a radius of 200 miles, a small indoor antenna is not only sufficient but is most desirable, since less interference due to static and spark stations will be picked up on this than on an outdoor type. This antenna may consist of twenty or thirty feet of insulated wire, strung clear of the walls in a hallway or attic.

Use of the electric lighting system as an antenna by means of a well insulated plug frequently gives good results even on distant stations. This scheme at times provides the best type of antenna, especially in steel framed buildings, as they shield the Radio waves from other types of indoor antennas.

If it is desired to receive stations a long distance away, an outdoor antenna about sixty feet in length will usually give the best results. It should, of course, be well insulated and protected against lightning with a grounding switch or lightning arrester as specified by the fire underwriters. Even if one has an outdoor aerial at his disposal he should also provide an indoor aerial for use in receiving local stations.

The ground connection in all cases should be exact and direct as possible. Connection to the radiator system or water pipe system is generally satisfactory.

Accessories Needed
A 6-volt storage battery of 6 or more ampere-hour capacity and B batteries totaling 6 volts should be provided. The Howard receiver is designed for five UV-2156 or O-215A tubes.

A good loud speaker or phonograph attachment should be provided. This should include a cord and plug. If desired, a pair of telephone receivers with head strap, cord and plug may be used. They are sometimes helpful in tuning in distant stations.

Installation of Receiver
The receiver should be so placed that when viewed from the front the antenna lead-in is at the left of the receiver. Connect this lead-in to the binding post marked A, being careful to run it in such a way as not to come close to the right-hand side of set. The safest procedure is to run it straight back from the receiver and thence to the antenna. The lead from the ground should be connected to the terminal marked "G." The batteries should be placed as shown behind the set, or, better still, on a shelf or on the floor, beneath the set. A wise precaution to connect the A battery first and to insert all five tubes with the knob at the rear of the box in the sockets as shown. If this figure is used, the leads to the latter will be about 60" long and should be plugged in the left side of the box, after the 6-volt lead from the battery should be plugged in the other for hand.

Top the detector tube (after it is slightly illuminated with the switches all on) and then the ignition plug in the key at the c.r. on the plug in the key at the c.r. on the plug, etc. The plug should then be turned clockwise until the coupling is obtained. This plug left in the middle while the key is turned will be placed at random in the other sockets.

Tuning In
The receiver is now ready for use. Turn to all three of the tuning dials 1, 2, and 3 to the same points of their scale (divisions, for instance), and then make small readjustments to dial 1 and 2 until a slight cracking or tearing sound is heard, which is due to the earth's wave of the station being received. This is due to static and other atmospheric disturbances and is more noticeable when using an outdoor antenna. The receiver is now tuned to a wave-length of approximately 562 meters, which corresponds to a frequency of approximately 8,000 cycles. If a broadcasting station within range is transmitting, all three dials will be turned so that all three dials down ward a division or two at a time until a station is picked up. As the dials are moved downward the receiver is tuned in louder and lower wave lengths.

After a station has once been heard the settings of the three tuning dials will be recorded on the log sheet provided. This sheet along with a check on the frequency at any future time, it is only necessary to refer the dial to the proper frequency. The signum from powerful local stations is too loud and perhaps distorted. This may be handled by using a small antenna or by turning it down.

(Continued on page 12)

COMSCO CONDENSERS
"All you really need know about a condenser is that it's a COMSCO"

The most ingenious variable air condenser ever conceived No outside Spring Connections—True Capacities. and Remember the Bronze Bushings!

Bull Dog Grp Telephone Plug

Ask for COMSCO at your dealer
Otherwise send purchase order direct to us and you will be supplied

GENERAL INSTRUMENT CORP.
423 Broome Street
NEW YORK CITY
COAST-TO-COAST RECEPTION — and Beyond —

Radioadyne

"The Voice of the Nation"

NO LOOPS — NO AERIAL

With the Radioadyne you can select broadcast programs from all parts of the country. Honolulu and London have often been picked up by operators in the central states without interference from nearby stations.

The Radioadyne is ready for operation by simply grounding to a water pipe or radiator, and throwing a few feet of wire on the floor. Uses any standard tubes — dry cell or storage battery. Extremely selective. Simple to operate. Only two controls — you can tune in on any program you wish — any wave length from 300 to 3000 meters.

For use in apartments, boats, automobiles, railroad trains, etc., the Radioadyne is enjoyable where other receiving sets would not be practical.

Price, $150.00

Write for illustrated folder which describes the Radioadyne in detail. Every radio fan will be interested in this new type (transistor) receiving set.

Western Coil & Electrical Co.
312 5th St.
Racine, Wisconsin

Interference between broadcasting stations; interference from static, atmospheric disturbances and spark stations; and interference from re-radiating oscillating receivers.

The Howard receiver in sufficiently sensitive to large to exclude interference between broadcasting stations, especially when a small antenna is used; if, however, the broadcasting stations transmit on incorrect wave-lengths interference in the nature of a steady sound or howl of almost unvarying pitch results.

In pitch. Very little can be done to eliminate them until the re-radiating type of receiver is eliminated. The Howard Neutrodyne does not oscillate nor re-radiate, and therefore does not produce this very objectionable interference, which is owing apparently to the heterodyne.

(ANOTHER BET NEXT WEEK.)

Eighth colleges and universities in the United States have broadcasting stations.

5 Tube Neutrodyne

PAY NO MONEY
Just Pay The Postman

$12.50 CABINET FREE
Special Ten Day Offer with Each Set

On account of this special offer you must pay the express

ALL STANDARD PARTS

WHEN you get this magnificent looking set wired and hooked up, you will be able to hear all stations without interference. All parts are shown as illustrated in Radio Digest.

Panel is mahogany with beautiful mahogany dial — a set fitted for the most exclusive home.

BLUE PRINT FREE EASY TO WIRE

$48.50

SEE BELOW

Mounted on Panel and Baseboard


16 OHM. VOLUME

2 TRANSISTORS

4 BEZELS

10 POINTMETERS

10 DIALS

2 TRANSFORMERS

3 JACKS, VARIABLE

BEG. DIALS, FDS.

1 RED LED AND

3 1/2 IN. LAMP

CONDENSERS. VOLUM. 1/2 IN. LAMP

2 JACKS CARTER

4 24 FT. TUBES

5 RED JAC.

3 JACKETS BALANCING

5 JACKETS

3 600 OHM. 1/2 IN. DIALS

KELSEY PAIRS

3 600 OHM. 1/2 IN. DIALS

2 300 OHM. 1/4 IN. DIALS

3 600 OHM. 1/4 IN. DIALS

3 600 OHM. 1/4 IN. DIALS

3 600 OHM. 1/4 IN. DIALS

3 600 OHM. 1/4 IN. DIALS

Complete with ALL EQUIPMENT

IN ADDITION TO ABOVE PARTS

2 Tubes

1 Hard Glass Vacuum Lamp

1 Diode Eliminator

1 Crystal Phonograph

1 Crystal Transmitter

1 24 FT. SQUARE TUBING

1 1/2 X 5 1/2" X 1/4"

$12.00

$2.00

$1.00

$3.00

$1.00

$1.00

$1.00

$12.00

The above parts and equipment would cost you $139.50. Our Price $125.00

Written Money Back Guarantee with Each Set

Special Sale on Webster Condensers, Fine for Super-Heterodyne

$9.98

$9.98

$9.98

$9.98

$9.98

$9.98

Every-thing in Radio Condensers

We are responsible folks, money cheerfully refunded within ten days if you are not satisfied. All Goods Nailed Promptly.

We Personally Inspect All Goods
What's Wrong with Your Receiving Set?
Chapter X—Adjusting or Balancing-Out the Neutrodyne Circuit
By Peter J. M. Clute

The neutralizer is an essential part of the whole receiving set. It reduces the high level of voltage to a low, safe level for the tubes and associated circuits. While the internal capacity existing between the grid and plate in the vacuum tube is not under certain operating conditions, the resulting oscillation and regeneration in the amplifier tubes is somewhat of an impediment to the operation of the set.

It is generally known that a small tube capacity may have a very harmful effect at high frequencies, more particularly in the 1,000 kc. frequency amplification. Figure 1 illustrates graphically the effect of the internal capacity on the characteristics of the vacuum tube. The dotted portions represent the original characteristics while the elements of the grid and plate are responsible for the production of an oscillating current in the plate circuit, especially if the latter contains any amount of inductance.

The Capacity Neutralized
In the neutrodyne the coherent tube capacity is neutralized by means of another capacity of equal value so inserted in the circuit as to balance the capacity effect within the tube. The critical adjustment of the neutrodyne depends upon the neutralization of the capacity which should be practically zero at radio frequencies and should have an extremely low capacity, capable of fine variation between one and ten micro-microfarads. The usual connection for the neutralization is between the grid of one tube and the secondary winding of the neutrodyne transformer between that vacuum tube, which is exceedingly small, in this case, to the secondary winding in connection with the critical adjustment of the neutrodyne transformer produces the required balance.

Proper neutralization is absolutely essential only upon the correct position of this tap connection but also upon the selection of property designed neutrodyne to produce the desired results. It is, perhaps, advisable for the operator to become familiar with the various tuning operations and the approximate dial settings of the particular set, before attempting the neutralization of the receiver. It should be borne in mind that the correct operation of the neutrodyne requires that all three of the neutralization circuits be turned to the same wavelength for tuning the station of known wavelength, the operator should adjust the station, its wavelength, and the neutralizer dial readings. While these settings will change somewhat over the balancing-out operations are performed, still in the end the operator must have a working knowledge of the balancing-out operation and the need of the different adjustments connected with the balancing-out method.

Balancing-Out Process
In practice, the balancing-out process consists in exciting the coupled circuits of the receiver and then neutralizing the tube and coupling coil to effect the correct point of origin of signal from being heard. Inasmuch as this adjustment is made for minimum or linearity of signal, it is accompanied very exactly, since this procedure is carried out with the filament circuit of the earphone and the transformer rendered temporarily inoperative, it is then possible that this point of maximum capacity neutralization and not one of surpluss sufficient energy to give loud reception. In such a case, there will be no perceptible difference when balancing is tried out. Non-excessive Frequency radio frequency amplification is only effective to a small degree in the case of such a circuit, and hence, an excessively sharp filter in the receiver will be ineffective in drawing the signal strength to a minimum and will be able to the left and the vernier dial set at the point where the volume is turned to a station between the two limits noted above. Furthermore, the indication of a station where the signal strength is very

The second method of exciting the receiver for the neutralization process makes use of an external oscillating circuit, consisting of a 15-turn inductance and a 13 plate variable condenser, excited by a buzzer, as indicated in Figure 2. It is advisable to move this buzzer some distance from the receiving set, and to adjust the neutralization to the point nearest the receiver. The circuit arrangement is completed by making a small connection to the ground terminal, as for connecting tubes and batteries to their respective binding posts. This is generally used in the case of receivers receiving the 200 kc. audio frequency at 440 kc and 200-500 kc for the detector.

Tuning in Signal
If the first method given above is employed, a signal of medium strength is tuned in and the neutralizing process is easier accomplished than a high signal. Signal strength will supply the necessary audio frequencies. Oscillations in the vacuum tube is, the amplifier tubes being tuned to the signal as accurately as possible to the left and the vernier dial being set at a point where the quarraling sounds are heard in the phones.

Most of the neutralizers for use in this manner should be turned about in step with each other in order to pick up the noises in the variable condenser and the variable condenser, by tuning the receiver so that the signal is heard in the phones.

(Continued on page 22)
AN EVENING AT HOME WITH THE LISTENER IN
(See Instructions for Use Below)

<table>
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<tr>
<th>Station and City</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<th>Saturday</th>
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| KEEP'S CONFIDENCE: JAILED; Listens In |

Ralph L. King, City Editor of Washington, Ill. is still held at the Peoria jail for refusing to tell a special grand jury his source of information regarding cases in which he printed concerning rumors of graft in the Chicago public service. He states that he is happy though jailed for having upheld the traditions of journalism. But Chicago News.

Thanks to Radio, He Says, He Has Plenty of Sugar
CHARLESTON, W. Va., March 20 — It's hard to believe that people can get 50 pounds of good sugar for just 50 cents. Radio brought this news to the ears of the people in Charleston, W. Va.

RELATES ORIGIN OF RED APPLE NAME
Story About a Sunday School Teacher's Gift Told to Detroit Midnigh Show
DETOUR — Who hit upon the “Red Apple Club” in the “Hi-Jinx” for the midnight show? Given by WXYZ every Tuesday night! Here is a story as told by the chief, C. D. Tomp, who so often expresses his fondness for apple pies and doughnuts through the microphone.

Woodrow Wilson was the first president of the United States to have his voice sent over the ether. This event occurred July 4, 1919, when he was convalescing in France on board the R. I. S. George Washington.

2-LO, LONDON, ENGLAND ON ONE TUBE
Another Record for the ELGIN SUPER-REINARTZ

Tuesday, November 27, during the test period between 9 and 9:30 P. M., Rev. E. A. Cole in the residence of J. A. Melver of Roodehouse, III., while operating a second set of materials and in accordance with the hookup furnished by the ELGIN RADIO SUPPLY CO., used a 2-LO, London, receiver, using receivers and one tube. Later another tube was lighted and the loud speaker used, so that four people could hear the program and continuing conversation.

Officially Confirmed

by the St. Louis Post Dispatch in conjunction with the National Association of Broadcasters, who had charge of the tests. (See page 34, St. Louis Post Dispatch, Dec. 2, 1924.) This same hookup has been advertised extensively as the maximum which in stations 2000 miles inland on a loud speaker and one tube; and this has been demonstrated so often as to need no repetition.

Send a two-cent stamp for circular giving one, two, and three tube hookup, and price list of parts for this remarkable circuit. Address the

ELGIN RADIO SUPPLY CO.
207 Chicago St.
ELGIN, ILL.

Stop the Leaks!

Save all the energy in the antenna for your detentor tube. This Coto Compact Air Condom with Vernier is so perfectly insulated that losses are reduced to a minimum. Plates are of silver plated copper soldered in place for lasting adjustment.

If your dealer fails you, write us, giving your same address and list of Coto parts you need.

COTO-COIL CO.
87 Willard Ave., Providence, R. I.

BRANCH OFFICES:
Los Angeles, 229 Union League Bldg.
New York, 157 Park Place Bldg.
Boston, 19 Boylston Street Bldg.
Atlanta, C. 1 Allison, Atlanta, Ga.
Chicago, 85 S. Dearborn St.
Denver, 1038 19th St., Denver, Colo.

DE FOREST RADIO TEL. & TEL. CO., Dept. R. D. 9, JERSEY CITY, N. J.

Coto "Built First to Last"
Headliners of the Week

WFJ promises a treat to the fans Tuesday when Billy Juneau, the writer and composer of "Chiquita Mammy," of which more than 700,000 copies have been sold, will play all his latest song hits, among them being "Danny Jito the Kid." This was written in honor of the birthday boy here of this station.

Get WRIAQ Wednesday and hear the favorite Municipal Band of San Juan. This band plays from the historical Plaza de Armas of San Juan, which is in the exact center of the magic city of Porto Rico.

Thursday, the delightful comedy, "Daddy Love Legs," will be given over KGO. Note the pictures of the principal characters below.

If you are tired of airplanes, autos and trains, listen to WRAJ. Dr. Bennett Land will tell you how to travel in China and Tibet. This is both work and WRAJ will entertain tonight when the boys of Omaha under John L. F. Day will give the entire program.

Plan to stay in Cleveland Saturday night, first listening in the Girls' Club of Illinois College, situated over WTAJ, because there are two- and one-half dollars were spent for this purpose, a pretty and full of pep and really big, and then tuning in at midnight for WJAJ. The "Lights on Lake Erie" are due to appear once a month hence forward when they will amuse you from twelve until four in the morning.

Monday, WJAJ is going to give a special program of National talent. This is in observance of the Mexican Independence Day, a Mexican National Holiday and is given as a compliment to the Mexican Republic and its people.

Do you like sheep's wool from the worst possible source? WJAJ scheduled one on Tuesday given by the Journal of Local News. You will surely be shocked, surprised, and entertained.

Three members of the cast of "Daddy Love Legs" which will be broadcast by the KGO players from KGO, the General Electric Station at Oakland, Thursday evening, May 8 at eight o'clock. The showing daily will continue for the next two weeks, and the show will continue for the next two weeks, and the show will be shown every night at the King's Theater. The opening night's show will be given by the Journal of Local News. You will surely be shocked, surprised, and entertained.

WRAJ, Louisville, Ky. (Central 507), 1:00-3:00 p.m.
WRAJ, Nashville, Tenn. (Central 507), 1:00-3:00 p.m.
WRAJ, Knoxville, Tenn. (Central 507), 1:00-3:00 p.m.
WRAJ, Atlanta, Ga. (Central 507), 1:00-3:00 p.m.
WRAJ, Mobile, Ala. (Central 507), 1:00-3:00 p.m.
WRAJ, Birmingham, Ala. (Central 507), 1:00-3:00 p.m.
WRAJ, Shreveport, La. (Central 507), 1:00-3:00 p.m.
WRAJ, New Orleans, La. (Central 507), 1:00-3:00 p.m.
WRAJ, New York, N.Y. (Central 507), 1:00-3:00 p.m.
WRAJ, Chicago, Ill. (Central 507), 1:00-3:00 p.m.
WRAJ, St. Louis, Mo. (Central 507), 1:00-3:00 p.m.
WRAJ, Kansas City, Mo. (Central 410), 1:00-3:00 p.m.
WRAJ, Los Angeles, Calif. (Central 410), 1:00-3:00 p.m.
WRAJ, Seattle, Wash. (Central 410), 1:00-3:00 p.m.
WRAJ, San Francisco, Cali. (Central 410), 1:00-3:00 p.m.
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WRAJ, Seattle, Wash. (Central 410), 1:00-3:00 p.m.
WRAJ, Portland, Ore. (Central 410), 1:00-3:00 p.m.
SPECIAL BOYS' WEEK PROGRAM FROM

Where to Hear Concerts

T H E R E are the stations for music lovers to dial, and you can hear, providing you dial correctly and read the programs carefully, everything from jazz to opera.

Tuesday: CKAC, CKY, KDBA, KXZP, KGSO, KOH, KOI, KIP, KPHI, KROI, KUZI, KXZ, KZU, KZT, WBAF, WREB, WCRE, WCAE, WCM, WCRP, WDAF, WEAF, WRAY, WBYK, WCR, WHA, WHB, WPI, WOY, WPG, WPRA, WP, WPL, WAS, WWA, WAC, WAI, WAG, WAB, WAF, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ, WAG, WAF, WAB, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ.

Wednesday: CKAC, KDFA, KDKA, KFPR, KGSO, KUZI, KZT, WBAF, WREB, WCRE, WCAE, WCM, WCRP, WDAF, WEAF, WRAY, WBYK, WCR, WHA, WHB, WPI, WOY, WPG, WPRA, WP, WPL, WAS, WWA, WAC, WAI, WAG, WAB, WAF, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ, WAG, WAF, WAB, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ.

Friday: CKAC, KDKA, KFPR, KGSO, KUZI, KZT, WBAF, WREB, WCRE, WCAE, WCM, WCRP, WDAF, WEAF, WRAY, WBYK, WCR, WHA, WHB, WPI, WOY, WPG, WPRA, WP, WPL, WAS, WWA, WAC, WAI, WAG, WAB, WAF, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ, WAG, WAF, WAB, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ.

Weekly: CKAC, KDKA, KFPR, KGSO, KUZI, KZT, WBAF, WREB, WCRE, WCAE, WCM, WCRP, WDAF, WEAF, WRAY, WBYK, WCR, WHA, WHB, WPI, WOY, WPG, WPRA, WP, WPL, WAS, WWA, WAC, WAI, WAG, WAB, WAF, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ, WAG, WAF, WAB, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ.

Thursday: CKAC, KDFA, KDKA, KFPR, KGSO, KUZI, KZT, WBAF, WREB, WCRE, WCAE, WCM, WCRP, WDAF, WEAF, WRAY, WBYK, WCR, WHA, WHB, WPI, WOY, WPG, WPRA, WP, WPL, WAS, WWA, WAC, WAI, WAG, WAB, WAF, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ, WAG, WAF, WAB, WAG, WAD, WEF, WAG, WDI, WAF, WDL, WAM, WAM, WY, WRA, WSB, WSH, WTV, WUB, WUC, WTR, WUV, WUS, WVT, WYB, WXY, WYZ, WZ.

Arthur Randall, director and planet of Ran-
AAW; BURLESQUE SHOW FROM WSB

Where to Hear Talks

TALKS, instructive, serious, humorous and even frivolous, are broadcast daily and below are listed the

Tuesdays: CHY, KDCA, KATC, KFFU, KGW, KWY, WAAM, WCDA, WYCA, WACG, WAG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Wednesdays: KDCA, KATC, KFFU, KFW, KGW, KHV, KHG, KWY, WAAM, WCDA, WYCA, WACG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Thursdays: KDCA, KATC, KFFU, KFW, KGW, KHV, KHG, KWY, WAAM, WCDA, WYCA, WACG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Fridays: CHY, KDCA, KATC, KFFU, KGW, KWY, WAAM, WCDA, WYCA, WACG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Saturday: KDCA, KATC, KFFU, KGW, KWY, WAAM, WCDA, WYCA, WACG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Sunday: CHY, KDCA, KATC, KFFU, KGW, KWY, WAAM, WCDA, WYCA, WACG, WAIW, WCMG, WCI, WCMA, WCO, WEB, WJH, WJS, WJW, WJZ, WLAB, WLAC, WMJQ, WOAM, WCQ, WOC, WOD.

Friday, May 2

DEORAY, Cortland, C, (Eastors, 400, 1:30 p.m., Blue Bell Concert Orchestra, 1:30, 23, 24, 25, 26, 27, 28, 29, 30, 31.)

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Friday, May 2

(Continued from page 17)

Where to Hear Dramas

DRAMA, humorous, serious, musical comedies and even operettas, broadcast during the week.

Tuesday: WOY, "The Pirates of Penzance", 8:30 p.m., Rochester.

Wednesday: KDRA, One-Act Play, "D.Events" by J.B. Priestley, 8:30 p.m., Santa Ana; WLAG, Playlet, 8:30 p.m., Chicago Radio Club.

Thursday: WNOY, "The Last of the Mohicans", 8:30 p.m., New York.

Friday: WHJ, "The Music Man", 8:30 p.m., Chicago.

Saturday, May 3

CRAD, Montreal, Can. (Eastern, 4:15), 7:00 a.m., Mississauga, Ont.; (Central, 4:15), 8:00 a.m., B.C.; (Pacific, 4:15), 10:00 a.m., Melfort, Sask.; (Central, 4:15), 2:30 p.m., New York, N.Y.; (Central, 4:15), 5:30 p.m., St. Louis, Mo.; (Mountain, 4:15), 4:00 p.m., Los Angeles, Calif.; (Central, 4:15), 11:30 p.m., Chicago, Ill.

KIRA, St. Petersburg, Fla. (Eastern, 4:15), 8:00 a.m., Tampa; (Central, 4:15), 7:00 a.m., Jacksonville; (Mountain, 4:15), 2:00 p.m., Phoenix; (Central, 4:15), 12:30 p.m., Chicago, Ill.

KEN, Kansas City, Mo. (Central, 4:15), 10:00 a.m., Kansas City, Mo.

KBNP, Salt Lake City, Utah (Central, 4:15), 10:00 a.m., Salt Lake City, Utah.

KDFK, Seattle, Wash. (Central, 4:15), 7:00 a.m., Seattle, Wash.

KFOR, Oklahoma City, Okla. (Central, 4:15), 7:00 a.m., Oklahoma City, Okla.

KGTK, Kansas City, Mo. (Central, 4:15), 12:30 p.m., Kansas City, Mo.

WTHR, Indianapolis, Ind. (Eastern, 4:15), 4:00 p.m., Indianapolis, Ind.

WUR, Waukegan, III. (Central, 4:15), 7:00 a.m., Waukegan, III.

WJZ, Newark, N.J. (Eastern, 4:15), 7:00 a.m., Newark, N.J.

KX, Kansas City, Kans. (Central, 4:15), 8:00 a.m., Kansas City, Kans.

KJNZ, Kansas City, Mo. (Central, 4:15), 7:00 a.m., Kansas City, Mo.

KZTG, Los Angeles, Calif. (Central, 4:15), 7:00 a.m., Los Angeles, Calif.

KLX, Los Angeles, Calif. (Pacific, 4:15), 5:00 a.m., Los Angeles, Calif.; (Central, 4:15), 7:00 a.m., Los Angeles, Calif.

KXVU, Vancouver, Wash. (Central, 4:15), 7:00 a.m., Vancouver, Wash.

KEJL, Seattle, Wash. (Central, 4:15), 7:00 a.m., Seattle, Wash.

KCHR, Phoenia, Ariz. (Mountain, 4:15), 4:00 p.m., Phoenix, Ariz.; (Central, 4:15), 12:00 noon, Phoenix, Ariz.

KDFW, Dallas, Tex. (Central, 4:15), 7:00 a.m., Dallas, Tex.

KDFW, Dallas, Tex. (Central, 4:15), 7:00 a.m., Dallas, Tex.

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KDFW, Dallas, Tex. (Central, 4:15), 7:00 a.m., Dallas, Tex.
30 Minute A-B-C Lessons for Radio Beginners

Chapter VII—Essentials of Radio Electricity

By P. E. Edelman

349 Fulton St.
BROOKLYN N.Y.

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(More than 2,500 miles)

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Remarkable radio reception is an everyday result with MYERS TUBES. Mr. W. E. Gerrard, 73 Pine Avenue, St. Lambert, Montreal, Canada, with a set designed and constructed by himself, and using only one MYERS TUBE, has KDZB, Batesfield, California.

Get distance with clarity. MYERS are the only tubes correctly designed for radio, with no high-frequency types for dry or storage battery. Insist on MYERS at your dealer’s—otherwise send purchase price and be supplied postpaid. Write for free circuit diagrams.

Radio Corporation of America

On 168 to 200 M.G.C. for 25, 50 and 100 Foot Cables—Near by your Radio Supply House.
Radio Appropriations and Bills

Insufficient Amounts to Carry on the Business

T. P. Secretary Hoover is to patrol the ether for fans and commercial and other interests, he may have to do an extra amount of watching. Appropriations for Radio Inspection, supervision and experimental testing and equipment of the year 1923 will be by over $25,000 by the House appropriation committee, even after the figures submitted by the House Appropriation Committee had amounted to $50,000 in the Senate. But the total amount will amount to the "constant" of the Senate.

Budget Subcommittee had the approval of the Senate Committee for a total appropriation of $10,075, for Radio administration, but the Senate amendment was of $5,000. Since the omnibus bill was $15,075, the amount was against the amended committee for the current year, but the appropriations for the fiscal year are by over $25,000 by a House appropriation committee, even after the figures submitted by the House Appropriation Committee had amounted to $50,000 in the Senate. But the total amount will amount to the "constant" of the Senate.

We've Heard This Told a Little Differently

Dear Lord: My girl told me she the other night when I was galloping around the city and asked her what she is doing at the fair and if she is doing anything for the fair, I say, "Yes, I am going to the fair to see what I can see and do anything for the fair." She asked me what I was doing at the fair and I said, "I am going to the fair to see what I can see and do anything for the fair."

Radio Shortage of Tubes, Shortage of Children

Dear Lord: I have no desire to buy a radio receiver. I am told the radio is hot, but I think it is just a fad, and I do not want to buy one. I have not seen any pictures of a radio receiver, and I do not think it is worth the price.

Shortage of Tubes, Shortage of Children

Dear Lord: I have no desire to buy a radio receiver. I am told the radio is hot, but I think it is just a fad, and I do not want to buy one. I have not seen any pictures of a radio receiver, and I do not think it is worth the price.

Cod for the New Listener

Some Rules if Followed Will Aid in Reception

If the station does not come in very weak, you are entitled to a number of hints for better reception, which might be of service to you. Here are a few:

Poster signals larger antennas may be used, more tubes, higher plate voltage, more sensitive loud speakers and more careful receiver adjustment.

Loud receiver is not always an advantage. An antenna that will fill a moderate-size room will give better satisfaction; if you have a small room, you are entitled to a smaller receiver. If you have a large room, you are entitled to a larger receiver. If you have a small room, you are entitled to a smaller receiver. If you have a large room, you are entitled to a larger receiver.

The patience in handling your receiving set yields better tunes. Try to become more familiar with yours, and how it works.
How to Construct a Super-Heterodyne Receiver

Part I - A Short Comment on Its Troubles

By Allen C. Forbes

The first step in the construction of a superhet receiver is the selection and purchase of the right equipment for the project. This involves much careful research and planning, and should be done in consultation with experts in the field. The following is a brief outline of the procedure involved.

1. Determine the type of receiver you wish to build. There are many different types available, each with its own advantages and disadvantages. Some of the more popular types include the 505, 525, and 526.

2. Choose the appropriate components for your receiver. This includes selecting the right transistors, capacitors, and other parts. It is important to choose high-quality components to ensure the best performance.

3. Assemble the receiver according to the manufacturer's instructions. This may involve soldering the parts together and connecting them in the proper sequence.

4. Test the receiver to ensure that it is working properly. This can be done using a variety of test equipment, such as a spectrum analyzer or a signal generator.

5. Adjust the receiver as necessary to achieve the best possible performance. This may involve tweaking the tuning and gain controls.

6. Use the receiver to listen to your favorite stations. You should be able to hear the sounds of the radio clearly and distinctly.

By following these steps, you can build a superhet receiver that will provide you with hours of entertainment and enjoyment. Good luck with your project!
FIXING WHAT'S WRONG
(Continued from page 12)

Furnace, give a layout of the front of a typical five-tube receiver, showing the arrangement of controls. The controls have been carefully adjusted to give the listener the utmost in performance. If all the dials have three dials, there are several identical settings.

The next step in the balancing-out program would be to replace the first and second-frequency amplifying tube with another of the same type. Be sure that the tubes are carefully matched for the maximum strength of signal. A similar step should be taken in the receiver. After the receiver has been accurately adjusted, all of the other components should be checked carefully. If the coil has been carefully matched, it will be found that the tubes are working at the same frequency.

If the coil is matched, it will be found that the tubes are operating at the same frequency. The coil has been carefully matched, so that the tubes are working at the same frequency. The coil has been carefully matched, so that the tubes are working at the same frequency. The coil has been carefully matched, so that the tubes are working at the same frequency.
Regeneration Sets Do Not Steal Signal Strength

Scientists Suggest That Sun's Dust May Be Cause

By W. V. Thompson

There are apparent during the tests and the final analysis. The regenerative receiver is exonerated from one of the many facts ascribed to it by another portion of the Pickard, talk was in the states: "A very old explanation of these variations (changes in signal strength) has been gaining much vigour in the popular scientific press, to the effect that they are due to other receivers in the harbor, particularly if these happen to be of the more recently imported regenerative variety. I have many reports of transmission, principally made by audibility means, obtained, which run back over fifteen years, when there were no listeners than at present. These reports show exactly the same short period disturbances (decreases in strength for three to fifty seconds) that now exist, so that this explanation does not seem very plausible. However, I have recently made a number of records of reception from distant stations under conditions of severe exposure to nearby regenerative receivers of which one of the illustrations is typical.

In this report, the broken heavy base line indicates periods when a single-regenerative receiver in the same house with my recording set, and with a self-illuminated open antenna adjacent to the one employed with the recording set, was in operation. Full regeneration was used almost to the point of overload. But these records, like several others which I have in my possession, show that the output signal strength of the variometer, shows no effect whatever."

Nearby Best Controls

There you have it. If your neighbor permits his set to oscillate and causes the ringing and falling whistle in your headphones, get him after, but he is not the cause of the output signal strength in some program to which you may be listening.

The "Goode" Two-O-One

The “Goode” Two-O-One is well illustrated in the blueprints, as the result of the work of the streamers of alpha particles from the sun could set, now a depiction. One of which reflects Radio waves back to earth causing interference and weakness and again like a huge grazing which would prevent these radio waves from being absorbed. This upper stratum, would be constantly varying at one moment absorbing, at another reflecting, so that the constant change, in and out, would give the appearance of signal strength apparent in the tests. During the same the variometer would show the limitation, would be triumphant, while at the same time the supercapacitive (capable of reflecting) and strength would be too theoretical stronger than in the day time.

Must be understood that this hypothesis is not stopping. It is as more quote Professor Pickard: "I am re

Reflecting Waves Back to Earth

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THE RECEPTOR SUPER-HETERODYNE MANUAL

By Kurt. Victor Grell, R.E., Member I.E.E.

Is a complete, simple-to-understand description of modern wireless equipment and how to operate it. Over 300 illustrations, including many in color. A must for any radio user. 256 pages. $2.95.

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10-Watt Super-Heterodyne

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10-Watt Super-Regenerative

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OTR)

Ideal for Portable Sets

PREMIER

Audio-Frequency TRANSFORMER

Because the transformer is helium, and heat is eliminated by its helium filling. It's the only transformer for your portable radio set where space saving, compactness, and light weight are of real importance. The transformer is also important in other applications where small size, light weight, and efficiency must be considered.

**Three-Step Transformer**

- 250-3250 Ohms to 10000 Ohms
- 10000 Ohms to 250-3250 Ohms
- 10000 Ohms to 10000 Ohms

**Four-Step Transformer**

- 500-6250 Ohms to 10000 Ohms
- 10000 Ohms to 500-6250 Ohms
- 10000 Ohms to 10000 Ohms
- 10000 Ohms to 250-3250 Ohms

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1318 W. 31st Street

CHICAGO, ILLINOIS

RADIO DIGEST — Illustrated

May 3, 1923

30

THIRTY MINUTE A-B-C

(Continued from page 18)
so that the current is interrupted or fluctuated somewhat as a microphone operates, it is to no avail, by this variable battery resistance. This is chemically caused and results in a so-called noisy B battery because a rumbling is heard in the headphones. The current in this case is not constant; it fluctuates due to the resistance of the battery. This resistance is caused by the chemical changes taking place in the battery. To overcome this, a so-called fixed B battery is used. This battery is not affected by the resistance of the battery and provides a constant current. The fixed B battery is used in conjunction with a variable A battery to provide a constant current to the microphone.

Electricity is electricity, whether it is direct current or alternating current. A direct current flow is at a steady applied voltage, Figure 76, whereas in the case of an alternating supply, the voltage is reversed in direction each half of a cycle. This can be fixed in mind by analogy to two different kinds of saws. A band saw cuts wood by moving in one direction. A back saw cuts wood by moving back and forth. The saw is at rest while cutting. An alternating current can do this in a circuit of pure resistance when the voltage and inductance are in proper relation. If alternating current is applied to a circuit containing just a condenser, Figure 76, the current lumps ahead of the voltage owing to the condenser action. If an alternating current is applied to a circuit containing just an inductance coil, Figure 77, it lumps ahead of the applied voltage because the coil sets up a counter circuit, however, the circuit contains both capacity and inductance, and the condenser action can be used to balance the inductive action. In this case it lumps ahead of the voltage. In tuning radio sets, a condenser is often combined in a variable size with this for this effect, which is called "tuning." For a certain frequency the condenser effect and coil effect cancel.

Electron Flow

Another form of an electron flow is much used in radio, in vacuum tubes. An ordinary electric lamp with a filament in a vacuum bulb is diagrammed in Figure 78. Besides emitting light rays and heat, such a filament also shows off invisible particles of negative electricity called electrons. This occurs much as in the case of water evaporating into a lamp, in a lamp, however, the electrons shoot off and have no special place to go to after leaving the bulb and are scattered around in the vacuum tube. This is not always the case of a battery which does not have its plates externally connected via a wire. (Continued on page 26)
Old Stand-by Short Wave Regenerative Hook-Up
Part I—Layout of Parts and Panel

By Major R. C. Schoonhaven

The short wave regenerative receiver which I am about to describe has given excellent results for many years and can be classed as one of our old stand-by circuits. Many circuits have been tried using similar parts, but for all around reliability the Radiohfon will find that he can depend on this hook-up.

The circuit drawing can be followed in wiring the set, and each part is named and listed so you should have no trouble in following the hook-up.

The front elevation gives the reader an idea of the layout of the parts as placed on the panel. The plan of the location of the parts as spaced on the mounting board.

The Panel Layout

The panel layout gives all the measurements necessary to locate the parts, but before drilling the panel make sure the parts are all tight on hand. If not, the parts you purchase, are satisfactory; if not, change the measurements accordingly. I find that it pays in a large number of cases to lay out the heavy paper or cardboard before starting to drill the holes, as this might save a considerable trouble and maybe a panel. The paper can then be placed on the panel and all holes centered by the use of a center punch. I find that you can always do much neater work by drilling a small hole as a center and then finish drilling the proper size hole.

The center holes used for the shafts of the variometers, varicoupler and rheostats are drilled larger than necessary so as to allow for any inaccuracy in the placement of these units and to prevent the binding of the shafts. You will also notice that the distance of the holes used to support the variometers and varicouplers are not given, as no two variometers or varicouplers are held in place by the same method.

Holes for Inductance Switch

The number of holes drilled for the inductance switch will vary according to the number of taps on the tube or primary of the varicoupler. These holes are spaced 3/8-inch from center to center for the average switch points on the radius called for by the inductance switch you plan to use.

After all holes are drilled it is necessary to countersink the holes supporting the variometers, varicoupler and rheostats, and I suggest you also countersink the light holes to remove the sharp or rough edge. You can now give the panel a dull finish by using sandpaper or steel wool with a little oil, always rubbing in the same direction. This will move all the rough edges caused in drilling and will give the painted a much neater appearance.

You can now scratch a small line on the panel above each dial and fill same with white lead. This will give you a pointer for your dial settings so you can go back to the same reading.

Wiring the Set

After placing the panel on the mounting board, the parts can be fastened in place by following the plan showing the location of the parts. After this has been finished the set will be ready to start working. I prefer number 11 or 14 tinmed copper wire, which can be plain or insulated.

The antenna and ground goes direct to the inductance switches and the switch points are connected to the tube or primary of the varicoupler. If only one set of taps are used on your varicoupler the antenna can be connected to the end of the primary winding and the taps connected to the ground lead through the switch points and inductance switch. In this case only one switch will be required in place of two called for on the list of parts.

A 0055 capacity variable condenser is then fitted through the line situated between the ground and antenna and another of 00525 is placed to the mounting of the varicoupler. As these two condensers are not very alike in good results, but are used to raise the wave length of the set, I did not provide a place for them in the list of parts.

Crystal Mounting

In the illustration is shown the location of the crystal set. The adjusting device on top of crystal and shown in the illustration is a pointed adjusting screw. It is a very small screw mounted in a hole bored through the base of which it is soldered to 2 in a small cylinder which is held in the hole 4. The binding post for the output has a metal nut 5, at the

Build Your Radio Set With

Kellogg

Guaranteed Parts

KELLOGG Tube Sockets are of heavy milled Bakelite and all standard of four prong base vacuum tubes for radio work. The four springs are of spring tempered German silver of unusual resiliency, making positive contact with the tube terminals. The springs are firmly held in deep grooves and cannot touch the mounting surface. The notch taking the tube is reinforced with a brass plate eliminating possibility of breakage in this point. Terminals are clearly marked.

A sturdy foundation for your radio tube.

Specify Kellogg radio equipment and know you are getting the best. If your dealer does not handle Kellogg communication direct with us.

Kellogg Switchboard & Supply Company
1056 W. Adams - CHICAGO
I have been doing some experimenting with receiving sets, as you will see as of late, and I have decided to make use of an old set which has been given away by the local radio station. I have found it to be very useful and it has allowed me to listen to the radio almost every day.

To get back to the main topic, I have been experimenting with receiving sets and I have found that the one I have been using is quite good. It has a built-in antenna and it works well in most environments. I have also been experimenting with different types of antennas and I have found that a dipole antenna works best in my area.

Overall, I have been quite satisfied with the receiving set and I would recommend it to anyone who is interested in experimenting with radio. It is easy to use and it works well in most environments.

The Reader's View

The RADECO SAFETY FUSES are designed to provide complete protection against electrical damage to your home. They are available in a variety of sizes and will fit any standard outlet. The RADECO SAFETY FUSES are UL listed and are approved for use in all types of electrical appliances.

The RADECO SAFETY FUSES are a great addition to any home and are an essential part of any electrical system. They are an excellent investment and will provide peace of mind for years to come.

The RADECO SAFETY FUSES are sold at all major retail stores and are available in a variety of colors. They are also available online at a number of retailers.

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New Homemade Spider Web Mounting

Primary Coil Is Tapped for Selective Tuning

The coil control described in this article takes the place of three honeycomb coils and it gives all of the selectivity of these coils. The coils are mounted back of the panel, thus improving the appearance of the set and protecting the coils from dust. The primary coil may be easily tapped for fine tuning, and a knob in front of the coils is shielded with a piece of tinfoil, thus reducing capacitance effects.

The coils are similar to spider web coils in construction, and the form for winding the coils is the same except for one of the turns. Since there is no connection to the shaft, as shown, all are mounted on the primary or stationary coil.

Desired length and saw a V-shaped notch in one end of the stick with saws, as shown (4 by 6 inches) will be about right, but side to side should be increased to the manner the coils are to be used.

Two of the coils may be used as a vario-coupler, or three as honeycomb coils.

A prefered hook-up for using two coils is shown. -Everett Fiald, Junction, Ky.

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Vernier Attachment to A Plunger Grid Leak

A vernier adj. is put in place to the filament at A to use in adjusting leak. In the illustration, the vernier is adjusted to be 0-0.01 by the turning of a new which is mounted through the tube wall.

An L-shaped piece of hard rubber 6 inches long and 1/4 inch thick is put on the top of the 0-0 filament from 0-0.01 to 0.036. Into this holder is a rubber or brass strip on the 0-0.01 end and held with two brass screws.

Wire connections to the coil and pen body are made in the frame. The adjusting screw is mounted on the 0-0.01 end so that it will press against the plunger of the grid leak which is pulled out to its full length. The adjusting screw has two notches, one on each side of the rubber mounting piece. Two pieces of rubber are fastened under the two notches on the adjusting screw, one being on each side of the panel, thus improving the appearance of the set and protecting the coils from dust. The primary coil may be easily tapped for fine tuning, and a knob in front of the coils is shielded with a piece of tinfoil, thus reducing capacitance effects.

The coils are similar to spider web coils in construction, and the form for winding the coils is the same except for one of the turns. Since there is no connection to the shaft, as shown, all are mounted on the primary or stationary coil.

Desired length and saw a V-shaped notch in one end of the stick with saws, as shown (4 by 6 inches) will be about right, but side to side should be increased to the manner the coils are to be used.

Two of the coils may be used as a vario-coupler, or three as honeycomb coils.

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LONG DISTANCE RECEPTION ON SINGLE TUBE

SPLIT variometers have a habit of virtue ministered over by some distance work. Do you know why? Well, distance means dead end losses, while capacity tuning, when good variable condensers are used, undoubtedly gives real satisfaction for long distance results. Do you know that the neonodyne is a capacitively tuned circuit? Hence the results. Think it over.

This circuit uses two split variometers and a good .005 variable condenser (not the .005 cent kind). Yes, and a good variable grid leak will help things a lot. The rest of the parts are the usual collection of necessities. Get a good aerial, 100 feet, including lead-in, a good ground connection, plus a good detector tube, and give it a fair chance. Then watch it give you some real results.

But get used to the tuning, before you try to get into, you know so many ways to get long distance work before they get acquainted with their sets.

ADVANCE PROGRAMS

ADVANCE PROGRAMS (Continued from page 18)

Tuesday, May 6

KFSG, Los Angeles, Calif. (Pacific), 12:40-12:50 a.m., John Amos and Bill. KFSG-SW, Feb. 21.

KGW, Portland, Ore. (Pacific), 12:40-12:50 a.m., Jessie White and Riley. KGW-SW, Feb. 21.


KCTV, Kansas City, Mo. (Central). 12:40-12:50 a.m., Fred and Edna. KCTV-SW, Feb. 21.

KLY, Seattle, Wash. (Pacific), 12:40-12:50 a.m., Tom and June. KLY-SW, Feb. 21.


KTTK, Kansas City, Mo. (Central). 12:40-12:50 a.m., Ray and Betty. KTTK-SW, Feb. 21.


WJXR, Jacksonville, Fla. (Eastern), 12:40-12:50 a.m., Bill and Edna. WJXR-SW, Feb. 21.


SUGGESTED PROGRAMS


WHTZ, St. Louis, Mo. (Central). 12:40-12:50 a.m., Bill and Edna. WHTZ-SW, Feb. 21.


WJXR, Jacksonville, Fla. (Eastern), 12:40-12:50 a.m., Bill and Edna. WJXR-SW, Feb. 21.


Guaranteed Head-Sets

RED-HEADS are guaranteed-replacement value. If you should lose, break, or damage a RED-HEAD HEAD-SET, you can get a new one from us. Money back if, after 30 days, you are not satisfied that they are the best receiver on the market at the price. Why not get yours in. They will give you maximum from broadcasting from the day you put them into use.

Guaranteed Head-Set: $6.50. Complete RED-HEAD Set: $5.00. Complete RED-HEAD Set with tuning and power cord: $6.50. Plus 50c for each head-set if you are unable to get them at your STATION.

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Contains circuits: Intermediate, R. F. Transformer, O. M. Converter, 1 Special Transfer Coupler, 1 Special Laparal, 1 Special M. S. Transformer. 4.50

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All. Additional B. & T. M. C. 8.50 in M. C. 2.50

All. Additional M. S. M. C. 8.50 in M. S. C. 2.50

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[Diagram of radio circuit]

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A. TO HAVE IN STOCK.
Super-Networky Correction

(7/21) WFIL, West Chester, Pa.

In the case of a receiver in which the signal is somewhat too high, the second and third tubes may be made usable by the addition of a circuit which will work to control the level of the signal input. There is a certain amount of additional gain and the signal will be focused on to a higher point, thus improving the overall performance of the receiver.

The networky correction consists of a series of resistors and capacitors across the grid and output stages of the receiver.

Kompoxing Corrections

(5/24) WLS, Chicago, Ill.

In order to make the AF stage of the receiver more linear, it is necessary to connect a network across the grid and plate of the first stages.

The network consists of a series of resistors and capacitors which will work to correct the distortion caused by the nonlinearities of the amplifier stages.

The networky correction will also improve the overall fidelity of the receiver, making it more linear in all parts of the audio frequency range.

CRYSTAL WAVE TRAP

(7/15) KNX, New York, N.Y.

The crystal wave trap is a device used to condition the crystal oscillator output to achieve a more uniform and stable signal. The trap consists of a series of capacitors and inductors which work to filter out the harmonics and noise components of the oscillator signal.

The crystal wave trap is essential for the proper operation of a crystal-controlled receiver, as it ensures a clean and stable signal at the input of the AF stages.

Questions and Answers

(7/15) WBZ, Boston, Mass.

Q: What is the purpose of the crystal wave trap?

A: The crystal wave trap is used to condition the crystal oscillator output to achieve a more uniform and stable signal.

Q: Where is the crystal wave trap located in the receiver?

A: The crystal wave trap is typically located between the crystal oscillator and the AF stages of the receiver.

Q: Can the crystal wave trap be replaced or modified?

A: The crystal wave trap is an integral part of the crystal oscillator circuit and cannot be replaced or modified without affecting the operation of the receiver.

Q: What happens if the crystal wave trap fails?

A: If the crystal wave trap fails, the receiver may become unstable or the signal quality may deteriorate.

Q: Are there any troubleshooting tips for the crystal wave trap?

A: If you suspect that the crystal wave trap is failing, you should check the component values and compare them to the specifications provided by the manufacturer. If the values are outside the specified range, you may need to replace the crystal wave trap.
Radiophone Broadcasting Stations
Corrected Every Week—Part I

CHALLENGE!

$2 DOLLAR will be paid to the first person who will款车型 the most errors in any one station listing. Letters must reach Radio Digest office not later than twenty days from date of issue corrected. Readers are not limited to listing stations, but such corrections must be made by themselves, and NOT by comparison with the old rate broadcasting directories and lists. Until further notice, light saving time errors will be admitted, as the country will not be required to make time to be made in the Digest.

That's just how sure Radio Digest is that this Radio phone station directory is correct! To make it even more interesting, everyone, broadcasting stations and their employees are invited to join in this challenge. This challenge will not be made unconditionally.

Two successive issues of Digest will give an accumulation of the most complete and accurate list of broadcast stations possible. This service is original with Digest. The list has always been maintained from the start. This challenge is for the verification of any or all of the data contained herein is denied.

KFAI, Minn., 1930, 0.5 meter; 10 wts. Minneapol., Minn., 1930, 0.5 meter; 10 wts.

KFAI, Minn. 1930, 1.5 meter; 10 wts. Minneapol., Minn., 1930, 1.5 meter; 10 wts.

KFAI, Minn. 1930, 2 meter; 15 wts. Minneapol., Minn., 1930, 2 meter; 15 wts.

KFAI, Minn. 1930, 3 meter; 20 wts. Minneapol., Minn., 1930, 3 meter; 20 wts.

KFAI, Minn. 1930, 5 meter; 25 wts. Minneapol., Minn., 1930, 5 meter; 25 wts.

KFAI, Minn. 1930, 10 meter; 30 wts. Minneapol., Minn., 1930, 10 meter; 30 wts.


KFAI, Minn. 1930, 20 meter; 40 wts. Minneapol., Minn., 1930, 20 meter; 40 wts.


KFAI, Minn. 1930, 30 meter; 50 wts. Minneapol., Minn., 1930, 30 meter; 50 wts.

KFAI, Minn. 1930, 35 meter; 55 wts. Minneapol., Minn., 1930, 35 meter; 55 wts.

KFAI, Minn. 1930, 40 meter; 60 wts. Minneapol., Minn., 1930, 40 meter; 60 wts.

KFAI, Minn. 1930, 45 meter; 65 wts. Minneapol., Minn., 1930, 45 meter; 65 wts.

KFAI, Minn. 1930, 50 meter; 70 wts. Minneapol., Minn., 1930, 50 meter; 70 wts.

KFAI, Minn. 1930, 55 meter; 75 wts. Minneapol., Minn., 1930, 55 meter; 75 wts.

KFAI, Minn. 1930, 60 meter; 80 wts. Minneapol., Minn., 1930, 60 meter; 80 wts.

KFAI, Minn. 1930, 65 meter; 85 wts. Minneapol., Minn., 1930, 65 meter; 85 wts.

KFAI, Minn. 1930, 70 meter; 90 wts. Minneapol., Minn., 1930, 70 meter; 90 wts.

KFAI, Minn. 1930, 75 meter; 95 wts. Minneapol., Minn., 1930, 75 meter; 95 wts.

KFAI, Minn. 1930, 80 meter; 100 wts. Minneapol., Minn., 1930, 80 meter; 100 wts.

KFAI, Minn. 1930, 85 meter; 105 wts. Minneapol., Minn., 1930, 85 meter; 105 wts.

KFAI, Minn. 1930, 90 meter; 110 wts. Minneapol., Minn., 1930, 90 meter; 110 wts.

KFAI, Minn. 1930, 95 meter; 115 wts. Minneapol., Minn., 1930, 95 meter; 115 wts.
Little Miss Jeanne Sawyer of Elmhurst, Ill., tuning in
on bedtime stories. Baby Jeanne seems quite inter-
ested now, but will probably fall asleep before the
story is finished.

What could be a better combination than Radio
and Milk Jars? Here we have a group of
ladies at the Waldorf-Astoria playing music
to the tune of Radio music.

E. S. U.