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November, 1925

RADIO IN THE HOME



ed by HENRY M. NEELY

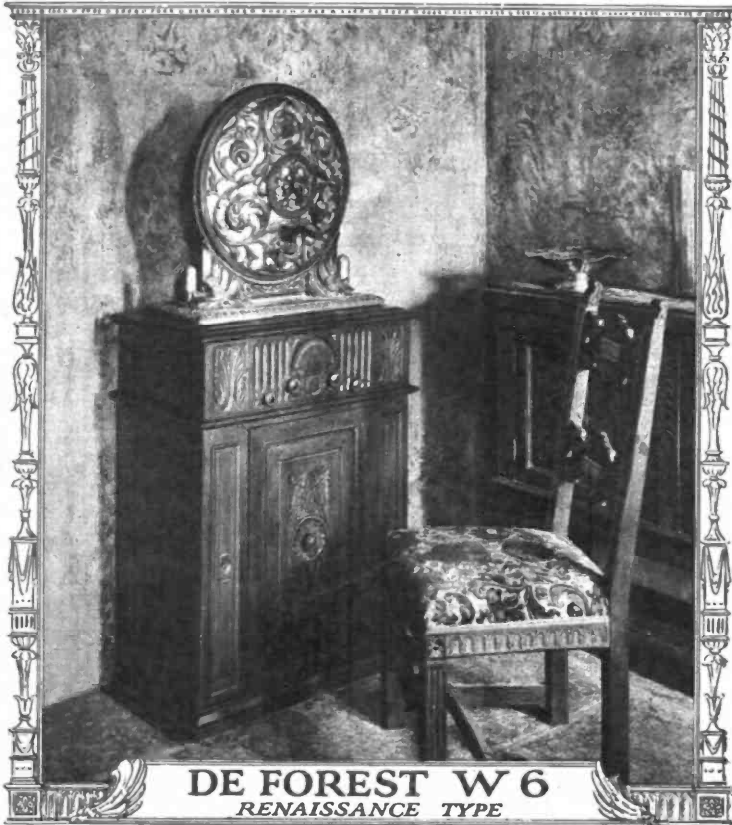


IN THIS ISSUE:

Tuesday Night at WEA

*The New, Mid-Continent
"Link"*

A Super That "Supes"



DE FOREST W 6
RENAISSANCE TYPE

De Forest Genius now *Humanizes* Radio!

MARVELOUS new circuit, just perfected, reproduces flawlessly the mellow, soft modulations of the human voice and captures the hitherto elusive overtones of the musical register . . . tuning simplified . . . a new ease in operation . . . all embodied in the new and beautiful De Forest W₅ or W₆ Radiophones.

The voice of radio is no longer flinty and metallic, but mellow, human and musical—thanks to the development by Roy A. Weagant, Vice-President and Chief Engineer of the De Forest Radio Company, of a new and marvelous circuit.

This ingenious circuit, and all the joy it means to radio lovers, makes its first public appearance in the De Forest W₅ and W₆ Radiophones, masterpieces of cabinet art worthy only of a scientific development so outstanding.

So wonderful is the reproduction of tone in the De Forest W₅ or W₆ that only the presence of the lovely instrument dispels the illusion that the living artist is in the rooms.

Piano chords come to you with their full rich resonance—true piano tone. High notes dance, ripple and sparkle . . . clearly, distinctly . . . *musically!* Those brooding low notes, never caught in average reception, are heard distinctly—as though from the next room.

In the reproduction of orchestral music the full importance of the De Forest achievement stands out. For the first time you get the overtones as well as the middle tones . . . the majestic roll of the kettle drums, the crooning of the bass viols, the strident crash of the brasses and the piping heraldry of the cornets and trombones. A symphony orchestra heard over the De Forest W₅ or W₆ stirs the soul. No incoherence, no oscillating jumble of noise—every instrument, every octave, in its true value. *A magic achievement!*

To the lover of dance music the De Forest W₅ or W₆ brings more sprightliness, more beauties of syncopation . . . you should hear Vincent Lopez, Joseph Knecht, The Night Hawks, or any others over either of these instruments!

All the tenderness of song, every shading of the soprano's voice, all the pathos of the folk song—exquisite but elusive elements so much desired but lost in practically all present-day reception, are captured by these De Forest masterpieces.

To everything that is broadcast, the De Forest Radiophone gives animation, life and humanness.

But Tonal Supremacy is Not All—

Elbert McGran Jackson, renowned sculptor, architect and painter, put into this hand-wrought, hand-carved cabinet the spirit of radio, in design, in motif—it is not an adaptation of a phonograph. An image of charming individuality, it harmonizes with the setting of any home.

One unit, everything self-contained—not a wire in sight, nothing to connect . . . and portable; move it any place! Only charm and beauty for the eye.

The artistic conical reproducer is an inseparable part of the cabinet and its tonal mechanism peerlessly attuned to that of the Weagant circuit. There are just two controls for tuning, and these operate on one dial, which makes the normally perplexing task of "tuning in" extremely simple. There are special power tubes in the fifth and sixth sockets which can give you volume to flood an auditorium, if you desire it. And, at your fingers' tips, the means to tune in a far-distant station you want no matter how powerful nearby stations may be.

See the incomparable De Forest W₅ and W₆ at your De Forest dealer's or write for an interesting booklet describing these masterpieces in detail.

DE FOREST RADIO COMPANY, Jersey City, N. J.



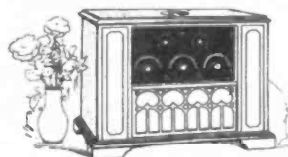
DE FOREST AUDION

is the world standard in tubes. De Forest created the first successful radio tube, and his invention made broadcasting possible. The De Forest policy of a specific type tube for each socket insures finer reception and greater distance. Price, \$3.



DE FOREST F-5 AW

A compact, powerful set in polished walnut that will bring joy to many a household. Gives rich volume, and has the capacity to separate stations positively so that you can pick the broadcast gems without interference. Extremely easy to operate. Price (minus tubes, loud speaker and batteries) \$90.



DE FOREST F-5 M

A supreme 9-tube set in two color mahogany cabinet with built-in loud speaker and concealed compartments for "A" and "B" batteries. A great distance-getter, with uncanny power to tune in and out stations at will, and gifted with splendid tonal qualities. Extremely simple to operate. No howling or hissing in tuning in. An unsurpassed value at \$110.

De Forest Raaso Sets can be bought at prices ranging from \$85 to \$450.

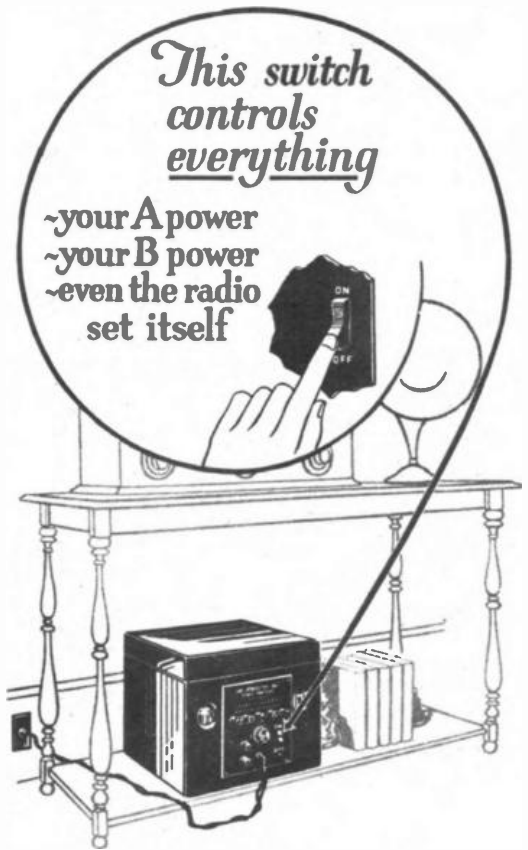
DE FOREST *The Greatest Name in Radio*

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THE EPOCH-MAKING ACHIEVEMENT WHICH MAKES ORDINARY RADIO RECEPTION A THING OF YESTERDAY

Both A and B radio power from your house current

Philco Socket Powers are plugged right into a wall or lamp socket. They change your house current into smooth, hum-free power necessary for your radio. No more bother and expense of replacing worn-out dry cells. No more thought about battery charging. Dependable as your electric current. Turned on just like your electric light.



Snap it "ON" and enjoy your radio.
Snap it "OFF" and go to bed.

For Radiola Super-Heterodyne (old and new models) and other sets using 3-volt dry-cell tubes, buy Philco Socket Power "AB" shown on right. Both "A" and "B" power built into one case finished in brown mahogany. The one Socket Power switch controls everything. Nothing else to think about. Snap it "ON" and enjoy your radio. Snap it "OFF" and go to bed.

For 50-60 cycle 105-125 volt alternating current \$65.00
For 25-40 cycle 105-125 volt alternating current \$68.50

For Storage Battery (6 volt) tubes buy Socket Powers "A" and "B" in individual cases. Either may be used alone but for maximum convenience use both together. Plug the "B" into the built-in socket in the "A". Plug the "A" into a lamp or wall socket. The one "A" switch then controls everything. Snap it "ON" and enjoy your radio. Snap it "OFF" and go to bed.

Socket Power "A" for 50-60 cycle 105-125 volt alternating current \$42.50
Socket Power "B" for 50-60 cycle 105-125 volt alternating current \$47.50
Socket Power "B" for 25-40 cycle 105-125 volt alternating current \$52.50

Sold and demonstrated by leading radio and music stores and by Philco Diamond Grid Battery Dealers.

Philadelphia Storage Battery Company, Philadelphia

PHILCO RADIO A AND B SOCKET POWERS

Philco also builds rechargeable batteries, unique because they may be permanently connected to your radio and safely charged in your living room without changing any wires. Easier than the periodical recharging and rewiring of dry cells.

Philco Standard "B" Battery—a complete Adam-Brown mahogany finish replacement for 60 volts of dry cells. Only \$19.85!

Buy a Philco Diamond Grid Battery for your automobile

Philco "A" Batteries in acid-tight glass cases—for dry cell tubes, 88; 6-volt tubes, 116. Built-in charge indicators.

In rubber case, subdued mahogany color, \$14.25 and up.

Philco Radio Batteries are built Dynamic—DRY but CHARGED. Their life doesn't start until the slider opens in the electrolyte. You can't get a stale Dynamic Philco.

EDITORIALLY SPEAKING

The Greatest Gift to Radio

By Henry M. Neely

THIS month's issue of *Radio in the Home* is very largely devoted to the modern method of "link" broadcasting, and takes up in turn a typical evening on the wide-spread link organized by WEA-F and also to the new and different kind of chain just organized in Chicago to cover a mid-continent territory.

As an introduction to these two features I want to call our readers' attention once again to the very wonderful gifts of entertainment and instruction that these combinations are making possible.

Broadcasting, as done by high-grade concerns of this kind, is commercial in its intent, but the good taste and judgment shown in the way the programs are handled, and the supreme excellence of the program material, lift these broadcasts far and away above any of the crude attempts that are made by smaller stations to put across bold advertising stunts on the air.

Link broadcasting as now developed in these systems, has for its primary object the furnishing of such an attractive program nightly, that you and I will make every effort possible to stay home for the evening and listen to every bit of it. These are costly programs; they are given by great artists, and the services of great artists command high fees.

Nobody can afford to pay these great expenses without getting some return for the money thus invested night after night. Organizations which are sponsoring the various numbers on these programs, are willing to spend these huge sums and ask nothing in return except that we permit them to tell us that the entertainment is given with their compliments and that we, as a reward to them, permit them to create in us such a feeling of friendship and gratitude that, when we

happen to be in the market for some such product as they manufacture, our thoughts will naturally turn to them, and we should give them the preference in deciding upon the brand to purchase.

These concerns apparently feel satisfied that the friendly feeling which their concerts are arousing is, in fact, resulting in a distinct financial gain to them. Personally, I trust that this is

the case; I should consider it most deplorable and most ungrateful on our part if we were to enjoy wonderful entertainment night after night in our homes and then refuse to give any adequate and substantial evidence of our appreciation.

If it were not for such programs as these, Radio today would be about where it was three years ago. It is impossible for several hundred broadcasting stations scattered all over the country, to run programs daily and nightly over a period of years with local talent and give the radio audience anything other than a fair grade of entertainment. No station could possibly afford the tremendous outlay of money that would be necessary to keep these programs always up to the high mark demanded by a modern cultured audience.

So the manufacturer comes in and spends hundreds of thousands of dollars to give us these programs, and I think that we should remember he is running a risk of not getting much of his money back. While realizing that his ultimate object must of necessity be commercial, we must also

allow him a very large measure of public spirited benevolence, and most certainly we must admit that he is a gambler whose nerve entitles him to admiration.

All through the last two years, the programs furnished in

(Continued on Page 23)

What Kind of Set Do You Want?

ARE you in the market this year for a factory-made receiver? Are any of your friends at least falling to the lure of radio and showing an interest in the kinds of receivers that are being put on the market?

Our correspondence shows us that the average non-technical reader is puzzled to choose among aⁿ— the various sets that he sees advertised. He does not know whether the price asked for a set includes loud-speaker, tubes, batteries and other accessories, and he fails to find the answer to his most natural question, which is, "How much will the whole thing, completely installed in my home ready to work, cost me?"

For the benefit of our readers and their friends, we have established a Buyers' Service Department just to help out in such problems. This service will give advice without regard to advertising, and this advice will be entirely for the purpose of making friends of you and your friends rather than making friends of any of the manufacturers.

Our advice will be freely and cheerfully given. We will be glad to enter into correspondence looking to the exact satisfaction of your own particular needs, and everything that we tell you will be absolutely unbiased and unprejudiced.

Write to our Buyers' Service Department. Tell us just how much money you can afford to spend for your complete radio installation. Tell us where you are located and also tell us, if you can possibly find it out, just about what kind of reception your neighbors get and what kind of sets they use. The matter of location is important. You must not expect to get a great deal more than those in your immediate neighborhood get with first-class sets.

Tell us just who is going to use your set, whether your prime object is supreme selectivity, great distance, beautiful quality of reproduction, or such ones of manipulation that your child can tune the receiver.

It will be much better for you to go "window-shopping" first and make a note of the various makes of receivers which seem to suit your fancy. Then write us, telling us, in their order, the makes which you seem to like best, giving us the other information as well, and we will then advise you according to our best judgment.

There will be no charge for this service. If you are not in the market for a set at present, hand this to some friend of yours who is. He does not even have to be a reader of this magazine to be entitled to our advice.

RADIO IN THE HOME

Published Monthly by the Henry M. Neely Publishing Company, Public Ledger Building, Philadelphia, Pa.
 Bell Telephone—Lansford 5121
 Keystone Telephone—Main 4232
 Experimental Station (KXP), Delanco, N. J.
 HENRY M. NEELY, President and Editor
 G. W. KRAFT, Secretary and Treasurer
 NORMAN NEELY, Art Director
 W. T. DIEML, Chicago Representative
 38 North Dearborn Street. Phone: Central 4510
 A. F. LEON, New York Representative
 214 Park Avenue. Phone: Murray Hill 2165

Radio in the Home is sold at 10c per copy at all newsstands, radio shops and bookstores. Subscription rates in the United States, \$1.00; Canada, \$1.25; Foreign, \$2.00 per year.
 Printed on the recuperative papers of the Public Ledger, Phila., Pa. Copyright, 1925, by the Henry M. Neely Publishing Company.
 Entered as second-class matter May 26th, 1922, at the Postoffice, Philadelphia, Pennsylvania, under the act of March 3, 1879.
Radio in the Home is a Member of the Audit Bureau of Circulation



Radio
Receiver

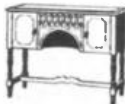


Radio evenings are complete If you have a Valleytone

Appearance

The Valleytone is mounted in a solid walnut cabinet, finished in two tones with inlaid gold stripes. It may also be procured in beautiful console models. Special Valley tables with built-in loud speaker can be obtained for the cabinet model.

Valleytone
Console
Model



Valley table
with built-in
loud speaker

You can always count on a full evening's entertainment if you have a Valleytone Radio Receiving Set.

Music with your dinner * * * bedtime stories for the children * * * a play, an opera, or a concert * * * jazz, mammy songs, spirituals * * * the whole range of radio broadcasting can be yours.

With the Valleytone, you can choose your programs by the clock and hear them all the evening through.

For the Valleytone is selective. It will separate and bring in stations only four or five meters apart and will easily separate local and distant stations.

Valleytone selectivity gives a new meaning and puts a new pleasure in radio.

And with the balanced tone of the Valleytone when you hear a station you marvel that any reproducing mechanism can really achieve such faithfulness and such natural results.

The superiority of the Valleytone can be demonstrated. The Valleytone thrives on comparison. Wherever it is judged by results and performance, it wins a new owner.

Any authorized dealer will be glad to demonstrate the Valleytone for you.

VALLEY ELECTRIC COMPANY, *Radio Division*,
ST. LOUIS, U. S. A.

Branches in Principal Cities

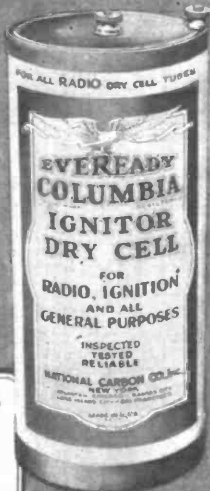
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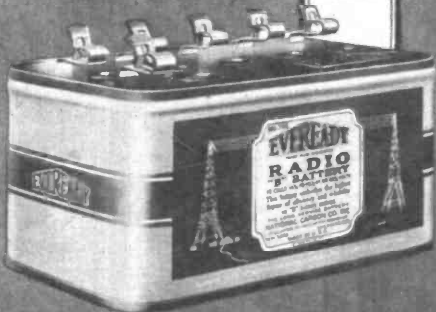
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EVEREADY

Radio Batteries

- they last longer

TUESDAY NIGHT on the LINK

By Henry M. Neely



Two of WEAF's hostess-accompanists—Kathleen Stewart above and Winifred T. Barr in the circle

NEW YORK has certain attractions that are visited regularly by every one from out of town who may be interested in any particular phase of life. To the radio fan, I imagine that Station WEAF, on the fourth floor of the American Telephone and Telegraph Company Building, at 195 Broadway, must rapidly be assuming its place among such attractions, and if the visiting fan had his choice, I have no doubt that he would want to go to this station on a Tuesday night.

Tuesday night on the "link" of stations, connected with WEAF by wire for simultaneous broadcasting, earned its big reputation some time ago. Thursday night is now coming forward as a serious competitor on this same link, and I expect this winter will bring addi-

tional interest to other evenings of the week, so that it is impossible to forecast at this time just how a popularity vote might result six months from now.

Tuesday night is, however, unquestionably considered typical of what radio holds in store for the possessor of a good receiving set.

With Ross Gorman and his syncopaters leading off from the Earl Carroll Theatre, followed by the wonderfully appealing singing of old plantation songs by Goldy and Dusty, then through the uniformly satisfying Eveready Hour to the tabloid opera by the WEAF Grand Opera Company, and so to the end with an hour of tantalizing dance music by the Vincent Lopez Orchestra, with the friendly voice of Lopez himself at the microphone, to the closing number "On the Radio," and the signing off sung to this music, Tuesday evening seems to me to present about as perfectly balanced a musical program as one could wish for.

Cards of invitation to the studio for Tuesdays are at a premium in New York. Broadcasting an ambitious program of this kind is a mighty serious business, and everything

Vol. IV	CONTENTS FOR NOVEMBER, 1925	No. 6
	COVER DESIGN PAINTED BY EARL K. BERGEY	
	EDITORIALLY SPEAKING	4
	TUESDAY NIGHT ON THE LINK	7
	BRIGHTENING THE CORNER	10
	THE EVEREADY HOUR	13
	WEAF'S GRAND OPERA COMPANY	17
	PLACING THE CONSOLE RADIO	18
	THE MID-CONTINENT LINK STARTS BUSINESS	20
	GETTING 'EM UP IN THE MORNING	24
	THE VOICE OF THE TOWER	25
	WHO OWNS THE ETHER	29
	A SUPER-HET THAT "SUPES"	34
	THE SUPER-BOOSTER	39

RADIO IN THE HOME

November, 1925



The ever-popular announcer, Graham McNamee

must go with clock-like precision, so it would not do to admit too many people to the studios. But editors and office cats are allowed to sneak in almost anywhere, and so I am able to give you a little glimpse behind the scenes on this night of nights for the radio fan.

Some time ago we printed photographs showing the real magnificence of the furnishings of these New York studios, and so it will not be necessary for me to give you a description of them here. In fact, I couldn't if I wanted to. I went to the station fully intending to keep my mind absolutely on the business in hand and notice everything. But I didn't. When I entered the reception room I was met by Miss Kathleen Stewart, who is known as a "hostess-accompanist," and from then on I forgot the object of my visit to the studio, and, furthermore, I didn't care. Miss Stewart certainly must know what such a dazzling smile as hers must do to the mind of a mere man. And yet, knowing that I was there to observe everything, she deliberately smiled at me. The coward! That's why I cannot describe much that happened for you.

The early part of Tuesday evening gives the artists an opportunity to rehearse or to chat with their friends, because the Ross Gorman program comes directly by wire from the theatre and does not require space in the studio. The other radio artists gather in the large studio, while Goldy and Dusty go into the smaller one and prepare for their half hour of song and patter.

The weekly appearance of Gorman and orchestra began September 8 from WEAF and five other stations (WEEL, WWJ, WJAR, WCAE and WFI). Mr. Gorman, one of the most versatile reed instrumentalists in the country, and his all-star musicians broadcast their dance music direct from the auditorium of the Earl Carroll

Theatre, in New York City, where they are appearing as one of the big attractions in the current "Vanities."

This orchestra, recruited from the ranks of the orchestras of Paul Whiteman, Vincent Lopez, California Ramblers, Ray Miller and Eddie Elkins, is probably one of the greatest aggregations of individual stars to go on the air. Every program is different, varying from the "smoothest" harmonies to the "hottest" jazz, played from original arrangements.

Ross Gorman, himself the master of twenty-one instruments, recently organized his orchestra after an association of five years with the Paul Whiteman Concert Orchestra, in which he was featured saxophone and reed-instrument soloist. He is the son of John and Stella Gorman, famous musicians before him. His father was a member of the Boston Symphony Orchestra and later appeared as a soloist with Gilmore's Band. At the age of 10, Ross Gorman had mastered the clarinet, saxophone and drums and appeared with his parents in vaudeville under the

During the playing by the Gorman Orchestra, the small studio was of particular interest to me on that evening, because I discovered that "Goldy" was Harvey Hindermeyer, and Harvey and I sang in the same choir together twenty-five years ago in Philadelphia. I am not quite sure in my memory whether he used to borrow lunch money from me or I borrowed it from him; probably it was about fifty-fifty. However, I was mighty glad to find that Harvey does not have to borrow lunch money any more, and my only regret is that I cannot say the same about myself.

During their patter and their singing the Gold-Dust Twins have a double microphone, one hanging from each end of a crossarm on a metal stand, and under each hangs a long sheet of paper containing the cues for their songs and their speaking lines.

During their performance they are not nearly so serious and businesslike as they sound. They are constantly making fun of each other during the solos, and there is a delightful air of informality which shows that they have long since recovered from the stage fright that effects most artists the first few times they face a microphone.

The thing that impressed me most was the fact that both Goldy and Dusty have discovered that the best blending of their voices and the best transmission comes when they are singing so softly that they would hardly be heard twenty feet away if there were an audience present. Keeping close to the microphone and singing *pianissimo* has been found to accomplish the best results.

All during this act the Eveready artists have been gathering in the large studio adjoining, and the moment Mr. Joy signs off from the small studio for the Gold-Dust Twins, the operator in the glass-enclosed booth between the studios throws a switch and

To the left is James Haupt and below is Phillips Carlin, announcers and also singers



Leslie Joy Announcer

name of "The Kiltie Trio."

Every artist appearing in the current "Vanities" Orchestra is a soloist of note. The personnel is as follows: Donald Voorhes, director; "Red" Nichols, cornet, late star of the "California Ramblers"; Don Lindley, trumpet (and arranger), recently with Roger Wolfe Kahn Orchestra; "Miff" Mole, trombone, star artist, Ray Miller's Orchestra; Tony Colicchio, violin and banjo, late of the Vincent Lopez Orchestra; Al Evans, reeds, formerly with the "California Ramblers" and Eddie Elkins; William McGill, saxophone, noted Paul Whiteman artist; Harold Nobel, reeds, novelty artist with Paul Whiteman; Jack Harris, violin, former director of the Paul Whiteman Society Orchestras; Wilton Suskind, piano, premier recording artist for the Ampico; Jules Klein, cymbal, late of the Paul Whiteman Concert Orchestra; Bernard Aquilino, bass and reeds, formerly with Vincent Lopez and Paul Whiteman; Dave Grupp, drums, premier recording xylophonist.





Phillips Carlin is on the air, saying, perhaps:

"Here we are about to present another Eveready Hour, the period of entertainment for which the National Carbon Company, makers of Eveready flashlight and radio batteries, engages the facilities of these stations and WSAI, Cincinnati, and WCCO, St. Paul-Minneapolis, ten in all, each Tuesday evening.

"So swiftly are these summer months passing that it seems but a few days since we inaugurated our hot-weather policy of having orchestral combinations instead of group performances. Already the Eveready Chamber Symphony Orchestra, under the direction of Max Jacobs, has appeared twice as the feature of the hour, and tonight marks their third performance. The soloist for the program is Wilfred Glenn, whose deep basso has come to you many times during our former periods of group and orchestral entertainment. Through the combined talents of singer and instrumentalists, a series of selections will be brought to you—numbers chosen especially for their musical worth and simplicity, and more important still, for their qualities of appeal.

Ross Gorman and his Earl Carroll Vanities Orchestra



Ross Gorman, who, with his Earl Carroll Vanities Orchestra, broadcasts a program of dance music from W.E.A.F. direct from the theatre at 8:00 every Tuesday evening

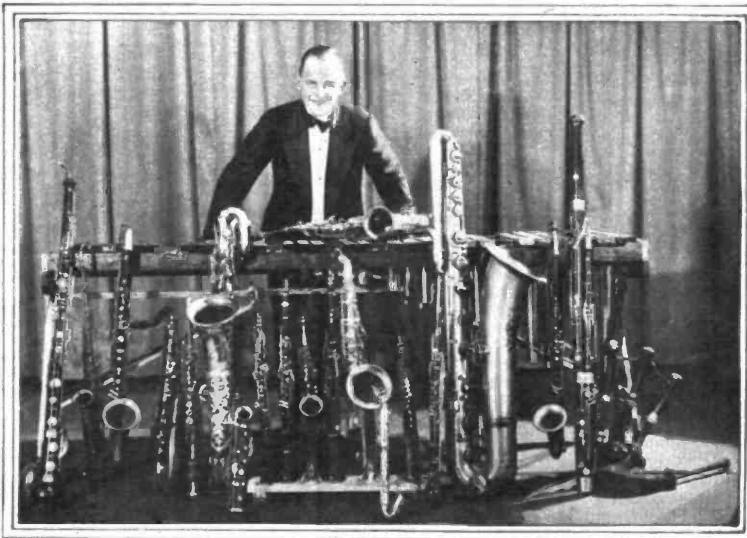
"The orchestra will begin the program with the 'Children's Overture' of Quilter. There are fifteen parts to this introductory selection, each one a miniature with a separate title. The names of the parts are as fascinating as the music itself, but time does not permit us to list them all. However, such quaint names as this appear throughout the suite: 'Girls and Boys Come Out to Play,' 'Upon Paul's Steeple Stands a Tree,' 'Dames, Get Up and Bake Your Pies,' 'There was a Lady Loved a Swine,' 'Baa, Baa, Black Sheep,' and lots of others just as imaginative. We will let you judge for yourselves."

Here again comes an evidence of how carefully these link programs are arranged. If you have no watch with you, but have a "script" of the performance, you can almost tell the exact time at any moment during this hour.

Everything on these programs is so carefully arranged and rehearsed that an exact schedule is followed. It the leader finds that he is slightly ahead of his schedule at any time, he will play the next selection a little slowly, or, if he is behind, he will increase the tempo.

A whole hour of constant playing in a stuffy

(Continued on Page 17)





So we're gwine to play fo' you.
 Goldy's gwine to spank de banjo,
 Dusty's gwine to dust de keys,
 An' den we bofe will sing fo' you,
 Some southern harmonies.

So to everybody list'nin',
 Don' matter near or far,
 We're gwine to brighten every
 corner,
 Where you are."

You will enjoy the presentation all the more, however, when I tell you that Goldy and Dusty spend at least two days a week simply in searching for the material which they give you.

"Goldy" (left), Mr. Harvey Hindermeyer, and "Dusty" (right), Mr. Earle Tuckerman, smiling the famous "Gold Dust Smile," and, below, a telegram which explains why we give their pictures in "black-face" only

Brightening the Corner

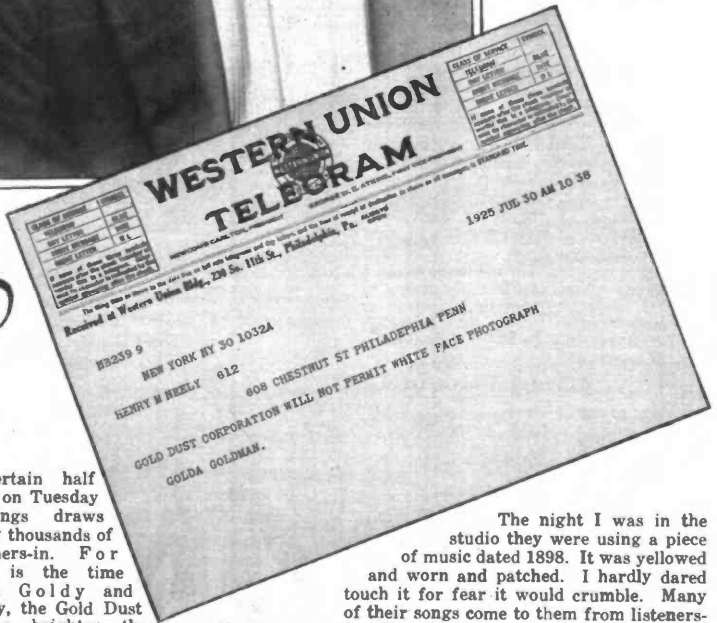
By Golda M. Goldman

Come on, "Twins"! The audiences of Stations WEAf, New York; WJAR, Providence; WEEI, Boston; WCAE, Pittsburgh; WGR, Buffalo; WFI, Philadelphia; WWJ, Detroit, and WOC, Davenport, are waiting for you. The Gold Dust Corporation, makers of Gold Dust Powder, each week engages the facilities of these stations that Goldy and Dusty, the Gold Dust Twins, may visit you and, with tunes both old and new, "brighten the corner where you are."

a certain half hour on Tuesday evenings draws many thousands of listeners-in. For that is the time when Goldy and Dusty, the Gold Dust Twins, brighten the corner where you are. You will not be greeted with "Oh, Katherina" or "Susanna." Instead of that you will have things that were favorites in your youth or, if you belong entirely to this generation, were favorites with your parents or grandparents. You will have "Carry Me Back to Ol' Virginny" and "Lucky Moon." In fact, you are pretty sure to begin to enjoy yourself as soon as a certain chant trickles out through your loud-speaker. You probably have already learned to sing the little tune with the boys:

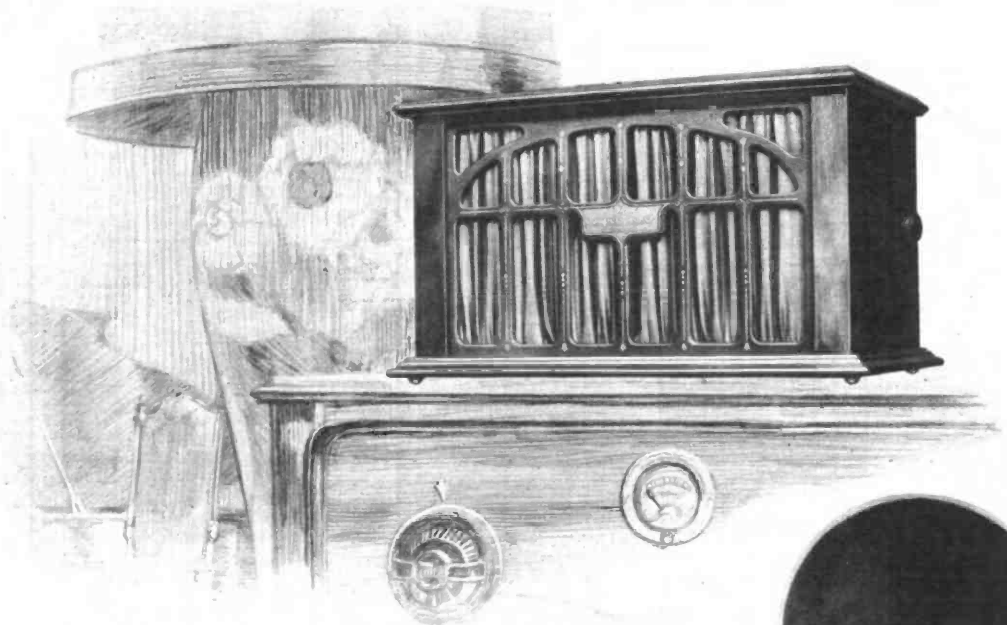
"Good evenin' to you, white folks,
 An' colored folks, how do:
 We've worked all day,
 Now it's time to play,

MOST of us, I think, get a bit fed up from time to time with modern jazz concerts. We are inclined to believe that there was music before the modern era of gayety, and we heave a little sigh of relief when our eardrums are getting a rest from the shrieks of the saxophone. For this reason



The night I was in the studio they were using a piece of music dated 1898. It was yellowed and worn and patched. I hardly dared touch it for fear it would crumble. Many of their songs come to them from listeners-in. For instance, a doctor in New Hampshire wrote them that he had listened to them so long and their programs was so clean-cut that he hoped they would accept a collection of old songs which he and his wife were sending them, and which had been in their possession all their lives. One of their most popular tunes is "Kemo, Kimo." It was found in a book of songs used by the Christy Minstrels of Civil War days.

You get into the atmosphere of the hour with the opening announcement, "Here they are again, our husky, dusty, Gold Dust Twins, ready to bring into your homes the song which brightens the corner where you are." Then the listeners-in who tune into WEAf and its nine-station tie-up reaching



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out to Davenport, Iowa, settle back and listen to a program something like this: 1, duet—I Want to Go to Morrow; 2, instrumental—By the Light of the Stars; 3, solo, Dusty—Kemo, Kimbo; 4, instrumental—Why Couldn't It Be Poor Little Me?; 5, duet—My Creole Sue; 6, instrumental—Fascination; 7, solo, Dusty—When You and I Were Young, Maggie; 8, instrumental—Born and Bred in Ol' Kentucky; 9, duet, Walk—Jawbone; 10, duet—The Old Rugged Cross.

You probably have often wished that you had copies of some of their songs. The requests that come to them for these songs delight their hearts, although sometimes they are intensely amusing as in the case of the man who requested copies of all their songs because he wanted to put on a minstrel show. One of the most popular of these songs is "Dandy Jim ob Carolina." Here are the words so that the next time they sing it you may join in and sing with them.

I've often heard it said ob late,
Dat South Car'lina was de State,
Whar handsome darkies bound' to shine,
Like Dandy Jim ob Caroline.

Chorus

For ma ol' massa tole me so,
I'm de bes' lookin' darky in de country oh,
I looked in de glass an' I foun' it so,
Jes as massa tole me oh.

I drest maself fum top to toe,
An' down to Dinah's I did go,
Wid pantaloons strapped down behin',
Like Dandy Jim ob Caroline.

De bulldog cleared me out ob de yard,
I thot I'd better leab ma card,
I tied it fas' to a piece ob twine,
Signed Dandy Jim ob Caroline.

She got ma card an' wrote me a letter,
An' ebry word she spelt de better,
Fo' ebry word an' ebry line,
Was Dandy Jim ob Caroline.

Oh beauty is but skin deep,
But with Miss Dinah neep compete;
She changed her name fum lubly Dine
To Mrs. Dandy Jim ob Caroline.

It is rather a sensitive point with these two gentlemen that the laudatory criticisms which they always receive sometimes include the phrase, "although they are failures as humorists." Goldy and Dusty want it distinctly understood that they don't even think they are humorists; that they have no ambition whatever along those lines. Their patter is purely to introduce that vocal and instrumental music because they aim to give not a vaudeville performance, but a half hour of music of one certain type.

I want you to meet Goldy, who is known outside the studio as Mr. Harvey Hindermeyer. Mr. Hindermeyer, as you know, is the tenor. A stocky, jolly gentleman he is, with closely curling hair and glasses, while his companion, Dusty, who is Mr. Earle Tuckerman, is a tall, slender gentleman with a bass voice.

Mr. Hindermeyer was born in Pennsylvania, although he has lived in New York for twenty years. He matriculated at Swarthmore College, but he found that the singing ability, which he had inherited from two musical parents, interfered with

his studying. His grandfather had been a good tenor when still past eighty, so he decided that music should be his profession. He had made his initial appearance when a small boy in a church choir in St. Mark's in Philadelphia. This he followed until finally leaving his position as tenor-soloist in a Roman Catholic Cathedral, he came to the Cavalry Episcopal Church in New York. He has sung all the Gilbert and Sullivan operas in New York, he appeared with the American Singers Opera Company, which did all the great operas in English except "Carmen," which was done in French to please Miss Marguerite Sylva, who sang in French. Then he appeared with Mrs. Fiske in "Nellie of New Orleans."

Concert work took him from coast to coast, and during the digging of the Panama Canal he did eight concerts for Uncle Sam. He now records solos for Edison records. One of the high marks in Mr. Hindermeyer's career is the fact that he won a scholarship at the Metropolitan Opera House from Mr. Conrad, former director, the predecessor of Gatti-Casazza. Aside from singing the twins are athletically inclined, but their golf scores are too terrible to mention.

Mr. Tuckerman comes from Watertown, New York, where he was a train dispatcher on the New York Central. His first boss was Mr. Crawley, now president of the New York Central. They are still good friends and have watched each other's success with interest. One must admire Dusty's courage. Ten years ago he decided his love of music was greater than his love of railroads, so he and his wife burned all their bridges behind them and came to New York. His sole experience had been singing in Trinity Church in Watertown, and some small concerts. In Yonkers, Mr. Tuckerman got a church job. In the spring, after his arrival, he was one of the hundred aspirants for the position of bass soloist in the Fourth Presbyterian Church in New York. He got the job and stayed there for six years, and there Goldy came as a tenor. Goldy is still there, but Dusty moved to the Chapel of Intercession of Trinity Parish. His work has been confined to concert and oratorical singing and work with the American Musical Festival, which covered three seasons. He also appeared with the Stadium Symphony at the Lewinson Stadium in New York. Both men feel that this work is far, in a way, the most interesting

in which they have ever been engaged. Why they feel so may be judged best from some of the letters which come to them from all over the country. I will let you read some of them for yourselves.

"Dear Goldy and Dusty:

"I am going to tell you a tiny but interesting story.

"When a wee-wee girl of less than 5, I remember distinctly the most interesting thing about my first visits to grandmothers was the box of Dust with pictures of the little dark-colored twins sitting on grandmother's kitchen shelf. That was about thirty years ago! Ahem!

"Then mother always used it, and—like mother—daughter uses it. I wonder if my children will pass it down to theirs and so on.

"Old friends are best, so keep on making the corners shine. Beat wishes to you, Goldy and Dusty."

"Goldy and Dusty, you brighten our hearts,

The same as the corners where we are,
You have a line that cleans 'em all—

Be they near, or be they far.

And when you are called to that land above
(But not for a hundred years, we trust).

You'll be placed where the corners are
always bright,

And on every street you'll find Gold
Dust."

Goldy and Dusty have a list of more than one thousand songs which have been requested. One man sent them a book of old Negro spirituals, copyrighted 1830. Another wrote that although he is now 80 he could remember his grandfather singing seventy-five years ago the old plantation song which they played, called "Ol' Dad Watermelon."

Speaking of the choice of the Gold Dust Twins to represent the Gold Dust Corporation, Mr. Arthur C. Lang, the Director of Sales and Advertising, says: "I believe the biggest thing an advertiser has to face is the choice of his vehicle. This must be something that typifies his product. We needed a household program. The choice of Mr. Hindermeyer and Mr. Tuckerman to present this program was the result of an elimination contest. We have had no applause cards, so that any one writing their appreciation of the Gold Dust Twins program must do so at their own volition. It is interesting to note that 60 per cent of the communications come in envelopes under two-cent postage; 42 per cent are sent by women; 18 comes from Mr. and Mrs. and family, while 37 per cent are from men. The children are also represented."

The twins send personal replies as often as they can in response to these letters of appreciation, but recently prepared attractive little yellow-and-black leaflets entitled "Chummy Chatter." These are decorated with the famous trade-mark in which the little black Gold Dust Twins are shown in various radio attitudes. In them you will find a bit of chummy chatter written by the twins and an occasional household hint. Any one interested in a special booklet entitled, "The Accomplished Housewife," may also have a copy on request.

"An' now, folks, Goldy
An' Dusty
Wish yo' all
Good-night!"

And now it is time for the listeners in our Stations W.E.A.F., New York; W.J.A.R., Providence; W.C.A.E., Pittsburgh; W.G.R., Buffalo; W.E.E.L., Boston; W.F.I., Philadelphia; W.W.J., Detroit, and W.O.C., Davenport, to do their share. Send a note to the Gold Dust Twins, saying you like them, and will be listening for their program next Tuesday evening at 8:30. These letters raise their spirits and dispel their worries, for they prove that Goldy and Dusty have "brightened the corners where you are." Address the Gold Dust Twins, c. o. Station W.E.A.F., 195 Broadway, New York City, or to the station through which their program reaches you.

The EVEREADY HOUR



Paul F. Stacy, who, in writing the "continuities" for the Eveready Hour, is creating a new form of literary work akin to the movie scenario

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This continuity is fully protected by copyright and must not be used for any purpose without proper permission.
H. M. N.

makers of Eveready batteries, engages the facilities of these ten stations every Tuesday evening for the presentation of its radio program creations.

Early in December of last year, Paul Stacy, who arranges for the Eveready Hour programs, built a setting for an hour of old-time songs, old favorites that had been requested by the radio audience. This program became known as the Golden Wedding Anniversary. Requests for its repetition have been so persistent that the Eveready artists are all set, with cider and doughnuts and all the fixing, ready to take us back again to the wholesome pleasures of yesterday.

Imagine, if you will, John and Mary Bishop, a little disappointed because their golden wedding anniversary brought with it the most severe blizzard of the winter. In their modest farm home, the supper

table is just being cleared. The Bishops are alone except for Hannah, their hired girl. Sons and daughters have migrated to the city. Except for Hannah and a few neighboring farm folk, the Bishops' home life is largely a matter of living upon tender memories. Their golden wedding day has reached its evening hours with only the screaming blizzard outside for its celebration.

(Wind machine used with moderation during entire performance, growing forte when doors open.)

Mother Bishop has gone to the kitchen, leaving Father Bishop and Hannah together in the dining room. Apparently they share a secret—but one they have been endeavoring all day to keep from Mother. Let us listen to their conversation.

(String quartet modulates to ending naturally.)

(Heavier gust of wind just before conversation.)

Glenn: My! Sounds like a regular old-time blizzard. Wonder if the folks will come?

Alice Smith: Pretty hard to keep young folks away from a party, Mr. Bishop. They don't mind a storm, you know. (Sound of dishes being scraped and piled.)

Glenn: Hannah, do you think Mother suspects? Heard her say anything? Suppose she knows of our surprise party for her? Eh?

Alice: No, ain't heard a thing—Sh-SH-

THE Eveready Hour is developing a new form of writing—the "continuity" for radio presentation, analogous to the script for the photoplay or the prompt book for the stage. The most popular of these radio presentations yet written is undoubtedly "The Golden Wedding." It marks the high-water mark so far reached by Paul F. Stacy, of the N. W. Ayer Advertising Agency, who has done all of these continuities for the Eveready Hour. In order that our readers may have a more exact picture of the behind-the-scenes atmosphere at these events, I have secured the finished continuity of "The Golden Wedding" and am printing it here.
H. M. N.

STATIONS WEAF, WEEI, WJAR, WFI, WCAE, WGR, WEAR, WWJ, WOO, WCCO.

(String quartet begins "Long, Long Ago," softly after call letters, playing through following announcement by McNamee.)

Nine o'clock is striking here—and 8 o'clock where some of you are listening. Meaning that the Eveready Hour again is beginning its race with sixty minutes as the clock ticks. This is the period for which the National Carbon Company,



The Eveready Mixed Quartet (left to right): Tom Grisselle, accompanist; Charles Harrison, tenor; Ethyl Hayden, soprano; Rose Bryant, contralto and Wilfred Glenn, bass



Above is the complete group of artists which broadcast during the Eveready Hour from W.E.A.F.

SH! Don't let the cat out of the bag. Here comes Mother now. (Clatter of dishes.)

Rose: Now, John, what are you two up to?

Glenn: Oh, 'tain't nothin', Mother. Hannah was just tellin' as how you was singing your old songs today. Sing it again, Mother.

Rose: Seems like we both should sing something together—today, John. 'Tain't right to complain, but it is too bad that this storm had to come on our anniversary. Perhaps some of the neighbors might have dropped in if it wasn't so stormy. I'd see a great store their visiting us today, John.

Glenn: Wall, who knows, now—

Alice (quick): Why not celebrate by ourselves. You come along with me, Mother. I'll play for ye and you sing same as ye did this mornin'.

Rose: All right. We'll have a little party—we three and the storm. You know it was lovely of our Bill to send us the present of a piano, but, somehow, to-night—I like the melodeon better. Seems a part of us, more than the piano does—tonight. Play it on the melodeon, Hannah.

Long, Long, Ago—(Rose and melodeon)

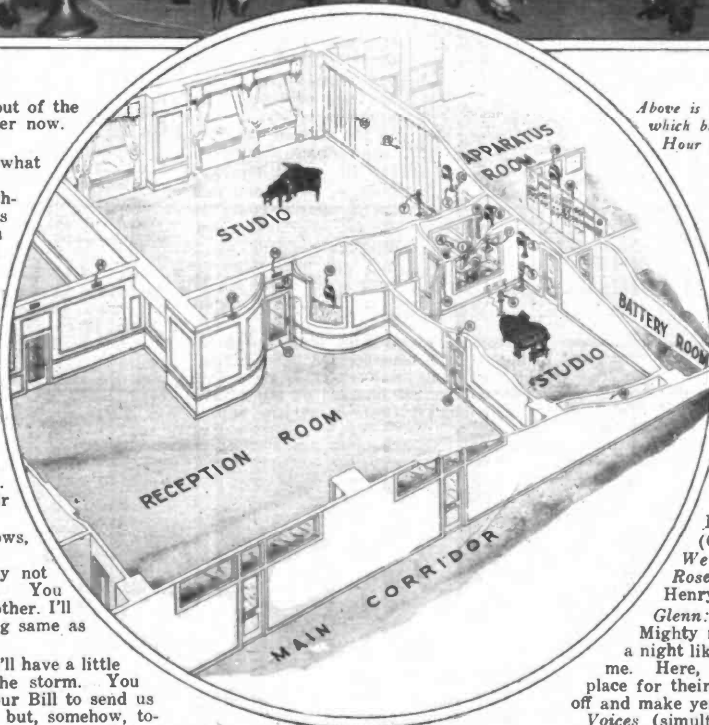
(Only a fragment of this is played and sung. It is interrupted by sound of sleigh bells, at a distance at first—then drawing nearer—voices also during following, calling "whoa," etc.)

Alice (stops playing): Listen! Some sleigh bells passing!! Wonder who's goin' where? No, no, they've stopped. They've stopped. They've stopped here. They're comin' here!

Rose: Who do you suppose it is?

Glenn: I wonder! (Chuckles as he speaks lines.)

(Knock at door. Voices calling "Hello, there," etc. Extra forte gust of wind.



A schematic diagram of W.E.A.F.'s studios located on fourth floor of the American Telephone and Telegraph Building, New York City

Murmuring of mixed voices forte.)
Voices (simultaneously)

Stiker: Hello, Misses Bishop.

Rose: Hello, Mr. Bishop.

Morgan and Smith: Congratulation, congratulations!

Coulter: How d'ye do! Hello, Hannah!

Harrison: How are ye, John, evenin', Mary.

(General merriment, female voices laughing.)

Webb: Starts solo "Put On Your Old Gray Bonnet."

Smith: Joins in "With the Blue Ribbon on It." Tutti: To finish ending in laughter.

(Steady hum of chatter during dialogue.)
Stacy: Couldn't let a little thing like a storm stop our celebrating this occasion with you, John. Fifty years married and lookin' like a young bride, ye are, Mary Bishop!

(Cries of No, No! Course We Couldn't! Sure!)

Rose: This is real nice of you, Henry—you and everybody.

Glenn: Glad ter see you all. Mighty fine of ye ter turn out on a night like this just for Mother and me. Here, Hannah, help 'em find a place for their wraps. Take yer things off and make yerselves right ter home.

Voices (simultaneously increase hum of chatter.)

Female voice: I'm half frozen.

Sliker: Come over here by the fire and warm up.

Rose: Lemme have yer coats and hats.
Tutti: Here's mine, Hannah. Here's another. And another.

Alice: Hold on there. Not too many. I ain't no plow horse.

(Laughter)

Morgan: Here's my overshoes, too, Hannah.

Alice: I'll be back again. You hold your horses, Jake Allen.

Stacy: John, we druv into the village an' brought Max Jacobs an' his fiddlers out to play fer ye. Soon's their fingers are thawed out, they'll tune up, I guess.

Max Jacobs: We kin start any time ye



Another group of Eveready artists—Max Jacob's String Quartet

say, squire. What'll ye have?

Sliker: Give us a polka or sumpin' so's we can warm up.

Voices (simultaneously): Yes, a polka, a polka.

Morgan: Come on, Sarah, me an' you's goin' ter have this fust one together.

Orchestra (Plays gavotte. Voices exclaiming and laughter during dance).

(Sleigh bells heard again as gavotte is coming to close. Dancers stop, inquiring: "Who's comin'?" "Somebody comin'?" "Who is it?" "Rap at door as sleigh bells stop. Wind gust louder.")

Harrison: Hello, Ma. Hello, Pa. *Voices (simultaneously):* It's Bill Bishop. Well, I never. Hello, Bill.

Harrison: How are you, Ma? Guess you thought, Pa, we'd never get here, eh?

Rose: Bill—my boy, oh, I'm so glad to see you!

Glenn: Hello, boy. Glad you got here. 'Fraid you wouldn't make it.

Harrison: The snow almost stopped us. Train blocked for over two hours. But we wouldn't miss Mother's Golden Wedding for anything. No, sir, would we, Ma? And these are the friends I wrote you about. You see, they have never been outside of a city in winter—never seen a real country blizzard. Guess they're getting one tonight all right—all right, eh?

Voices: They're gettin' one all right. Yes, sure are.

Harrison: Now I want you all to know our guests. Ma—Pa—folks—meet Alice Smith and Rose Bryant.

Voices (simultaneously): How do'ye do. Glad ter know yer.

Rose: I'm real glad you could come. Hannah'll help you with your things.

Harrison: And now meet Charles Harrison and Wilfred Glenn. You've heard them sing for the phonograph, remember?

Voices (simultaneously): Glad ter meet



ye, Mr. Harrison. How d'ye do, Mr. Glenn. *Glenn:* I was hopin' ye'd be able ter come with our Bill. Let me tak' yer duds fer ye.

(Voices continue chatter during dialogue)

Stacy: Mrs. Bishop, the boys over to our place have been practicing some songs, sort of getting ready so's they could sing for ye tonight. Sometimes they was singin' when they oughter been milkin'. But—they want to sing their pieces now so's they kin enjoy them doughnuts and cider that Hannah's passin' around.

Voices (simultaneously)

Sliker: No doughnuts for you fellers till you sing.

Webb: Gee, we've gotter listen to Morgan and Sliker.

Morgan: Come on, boys, do yer worst.

Coulter: Ho, Webb, sing pretty or no cider.

Male Quartet

"Old Oaken Bucket" and "Sweet Genevieve"

Voices (applauding quartet): "Good work, boys." "That's the boy."

Sliker: Now, Hannah, guess we've earned a fresh batch o' them doughnuts, ain't we?

(Laughter, and "Here give them a drink. Sure, etc.")

Harrison: Ma, our friends from the city all sing. Want to hear them sing something?

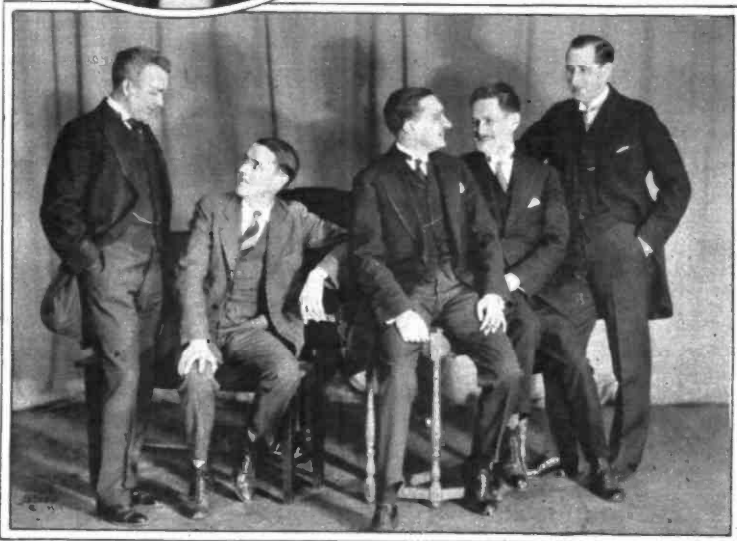
Rose: I think it would be lovely.

Harrison: All right. What would you like to hear?

Rose: Oh, anything they sing will be nice. I'm sure. I'd—I'd—I'd like it if they happened to know "Sweet and Low."

Alice: Why, yes. We'd be glad to

To the left is Max Jacob, Conductor of the Chamber Symphony Orchestra. Below, the Male Quartet (left to right)—Charles Harrison, tenor; Tom Grisselle, accompanist; Ellsworth Sliker, bass; Arnold Morgan, 2nd tenor, and Theodore Webb, baritone



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THE BIG LITTLE THINGS OF RADIO

sing it, Mrs. Bishop.

Mixed Quartet

"Sweet and Low" (applause follows).

Glenn: That's just fine, folks. Won't you keep right on singin'?

Alice: We will, later, Mr. Bishop. If you don't mind. You see, this cold air has made us all hungry and those doughnuts—

Rose: You poor dears. How stupid of me. Hannah, please bring some hot coffee, and—

Voices (simultaneously): Set right down here. Hey, Lonzo, pass them doughnuts. Have some cider, Miss B.

Male Quartet

Starts "In the Gloaming," while dialogue is going on. Followed by applause.

Max Jacobs: Say, Henry, we're tuned up again. Want a waltz?

Voices (simultaneously): That's the stuff, Max. Clear the room. Goin' ter dance.

Orchestra

Plays Waltz

Harrison: Alice Smith will sing, now, if you want, Ma. This is one of your favorites.

Alice

Sings "Sweetest Story Ever Told," with violin obbl. (Quiet applause.)

Mixed Quartet

Sings "Golden Slippers" (Applause follows)

Stacy: That's surely fine singin' folks. We're more than obliged. You remember Robbie and his guitar, don't ye, Bill? He's practiced a piece along with the boys if you want to hear it now.

Voices (simultaneously): Sure! Good for Carson. Come on Robby.

Male Quartet

Sings "Juanita," with guitar. (Applause follows)

Max Jacobs: During applause, Max starts "Virginia Reel."

Voices chatter, squeal and exclaim during dance, Tutti clapping and voices calling out numbers of the dance. Laughter, etc. at end.

Harrison: How many of you remember this?

Rose and Harrison

Sing "Memories of the Past," followed by quiet applause.

Stacy: Mr. Bishop, won't you sing something for us?

Glenn: I ain't sung much lately.

Stacy: You got lots o' music left in you, John.

Voices (simultaneously): Sure you have. Let's have, etc.

Glenn: All right folks. Sings "Drink to Me Only." Applause.

Stacy: That's fine, John. Wish I could sing like that. Seems like a man loses something in life if he can't get outer him the music that's in him.

Harrison: Here's an old one that I bet you haven't heard in years. Sings "Grandfather's Clock," with ticking of the clock. Applause.

Alice: Mrs. Bishop and I

have been talking and I'm going to sing a song just for her. Sings "Sweetest Story," with 'cello obbl. Applause.

Orchestra

Plays "Heart Bowed Down." (Applause)

Glenn: I didn't know you fellers could play like that, Ma. Friend Webb here has agreed to sing a song with Miss Smith.

Webb and Smith

Sing "Sister Ruth." Applause.

Stacy: Let's all get around the piano an' sing. Where's those song books we brought along?

Voices (simultaneously): Let's get together. Yes. Let's all sing. Goin' to use the green book or the red one? Chatter continues between the songs.

Mixed and Male Fours

Sing "Medley" as arranged. Numbers broken by calling pages in red or green book.

Harrison

Sings "Silver Threads" (Applause)

Tutti

Sings "Seeing Nelly Home" Stacy: Get your duds on folks.

You see it's gettin' pretty late for country folks, Mis' Bishop. We sorter hate to break up a party like this'n. It's been fine of you to let us haul in on you this way. But we wanted you to know that your friends are wishin' ye well on your anniversary. There's a big box out in the back entry. After we've gone or tomorrow, ye have John open it. There'll be somethin' in it to remember the night by. I'll be sayin' good night to ye, Mary. And to you, John, you old rascal.

Voices (simultaneously):

Webb: Good-night, Mrs. Bishop.

Alice: Had a fine time.

Morgan: Night, John.

Silker: Brrr, bet it's cold outside.

Rose: Good-night, everybody. An, thanks to all of you.

Glenn: Thank you, folks. Good-night. Good-night.

Coulter: Say, Sarah, you're goin' to let me ride home with you, ain't you? You promised, you know.

Female voices: Sure, if you keep me warm. Laughs.

Voices: Chattering.

Harrison: Ma, I'm goin' to drive Edith home. You and Hannah show our friends to their rooms. I'll be back in a jiffy.

Voices: Good-night, good-night. (Wind blows more loudly.) Sleigh bells start.

Tutti: Sings "Merrily We'll Roll Along." Sleigh bells die away in distance.

Rose: I'll declare, Hannah's got the lamp all ready for you. Yes, she'll show you the way. Good-night and I hope you rest well.

Glenn: Good-night. We'll see you in the morning.

Coulter, Webb, Alice, other

(Continued on Page 44)

Seated, left to right: *Elsa Ward, soprano; Olive Cornell, coloratura; Devora Nadworney, contralto, and Elvira Boni, lyric soprano*
 Standing, let to right: *Charles Walker, bass; Giuseppe di Benedetto, tenor, and William Tucker, baritone*

WEAF's Grand Opera Company

(Continued From Page 9)

studio would be enough to ruin the artistic temperament of any musician, and this has also been very cleverly taken care of.

With the start of the Eveready Hour, Goldy and Dusty leave the smaller studio and the Eveready soloist takes their place. You will usually notice that, while the soloist may have one or two numbers with orchestra accompanying, he will generally have at least one with piano accompaniment, and this one is sung in the small studio, so that the microphone in the large studio may be switched off and the other artists be given a chance to stretch themselves.

So we go on through the Eveready Hour until Mr. Carlin closes with something like this:

"The Eveready Hour, sponsored weekly by the National Carbon Company, was brought to a close with the playing of Lidow's 'Dance of the Gnats.' The Eveready Chamber Symphony Orchestra, Max Jacobs conducting, presented a series of selections culled from the numberless shorter writings of great masters, and during the course of the hour Wilfred Glenn, basso, appeared as soloist.



"Next Tuesday evening's program promises to be an interesting one. Only the works of American composers will be given—composers that are well known and whose musical conceptions are almost household words. Nathaniel Shilcrot and his Salon Orchestra, with Charles Harrison, tenor, will bring this program into your homes."

The substitution of one complete orchestra for another, with instruments, music and soloists, inevitably leads to confusion, but this has to be done without any break in the program, so while the shift is taking place in the large

studio there will be, in the small studio, one or two piano solos by the hostess-accompanist. Oh, yes, I forgot to tell you that Kathleen Stewart can also play the piano. That seemed so unimportant after she smiled at me.

These tabloid grand opera performances have been tremendously popular ever since they started. The musicians have come from the ranks of Metropolitan Opera House singers—not the stars, but those who are so good that they have been understudying the stars. It has been no small job to compress these standard operas into exactly one hour of time, but if you will put your watch on the job some night you will see how astonishingly accurate the timing is.

A typical cast would include the following members of the WEAF Grand Opera Company: Elvira Boni, soprano, singing Norma; Devora Nadworney, contralto, singing Adalgisa; Giuseppe di Benedetto, tenor, singing Pollione; Nino Ruisi, bass, singing Orovoso.

The entire performance is always under the direction of Cesare Sodero.



Above: *Caesare Sodero, director-conductor of WEAF Grand Opera Company*

Left: *Giuseppe di Benedetto, tenor*

Right: *William Tucker, baritone*



PLACING THE CONSOLE RADIO

By Anne Snow

SO MUCH has been done, recently, in developing a very magnificent type of radio-cabinet that we are apt to overlook the decorative possibilities of the simpler console type. The past two or three years have witnessed the death of the old-fashioned upright phonograph which was at first considered so standardized a form that the Victor Company actually patented it. This upright was replaced by the more graceful and elastic form which we see in the up-to-date home of today.

Radio, of course, started out by being a jester, dressed in motley. It had no accepted form. It was a collection of parts which the ostentatious fans elaborated into boxes four or five feet long, and the trickster compressed in a cigar box. From this the pendulum swung the other way and we were given magnificent imported lacquered and painted models.

There were, to be sure, some consoles among this variegated crew. Little was done, though, to beautify this form; but it has been found that this is, after all, the model which has best added an unobtrusive note of beauty to the average home.

In the accompanying group of photographs, we have some excellent examples of the exact degree to which this is true. We see, for instance, under a beautiful Italian wall mirror, an Italian-carved console cabinet holding a radio. It is flanked on either side by beautiful needlepoint chairs and needs nothing on it for decora-

Right—Here is a rich setting, Charles of London has provided the Aeolian Company with a carved walnut Italian cabinet
Below—In this room the console radio is used as a davenport table



tion. In another room, grouped by William Baumgarten & Co., Inc., we have a much simpler stock piece. Here the radio is used as a davenport table, bearing a lamp and bonbon dish. In this way it saves the expense of an additional piece of furniture, economizes on space, and still tones in beautifully with the lovely lights, tapestries and wall cabinets.

Another inexpensive console model is that designed by the Aeolian Company. It makes a decidedly artistic corner—the satin of the surface reflected in the satin upholstery—the curving dish on its top bearing out the smooth oval of the Japanese print above it.

If, however, your home calls for something more elaborate, you may still have your console model in the beautiful Jacobean piece offered by Charles of London. This is walnut inlaid with creamy yellow pear wood.

It is, of course, especially adapted to such a room as the one shown here, with massive chairs, wood-paneled walls and rich colorings.

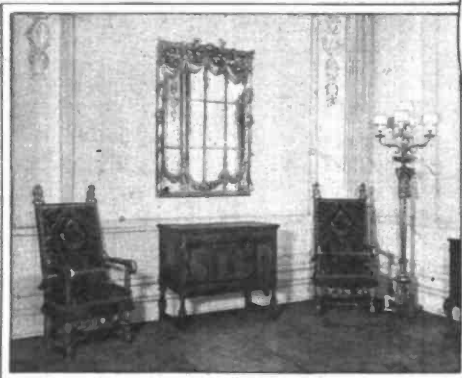
So you see that in this, as in most of the radio-cabinet types of today, you may select your woods, coloring and periods just as you may in the most massive upright models.

Of course, most of the models shown here are much more elaborate than the average home can afford, but the manufacturers of radio sets are producing some of the different designs equally attractive and much more suited to the average house that the remarks made here may be taken as a guide in placing the console almost anywhere so that the type of machine will suit the surroundings in which it is to go.

Below—The house which enjoys simplicity of line will want this stock console of the Aeolian Company



Left—A beautiful hand-carved Italian piece to be found in a room at Wm. Baumgarten, Inc.





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and constant vigil-
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The MID-CONTINENT "LINK" STARTS BUSINESS

By
G. P. Allen

"GIVE me a phonograph! You can hear what you want to hear when you want to hear it!"

"Oh, dear! John here is a perfectly beautiful program on the radio tonight and we have to go over to Smiths!"

"You should have been at my house last night! They had a wonderful program at WBAP."

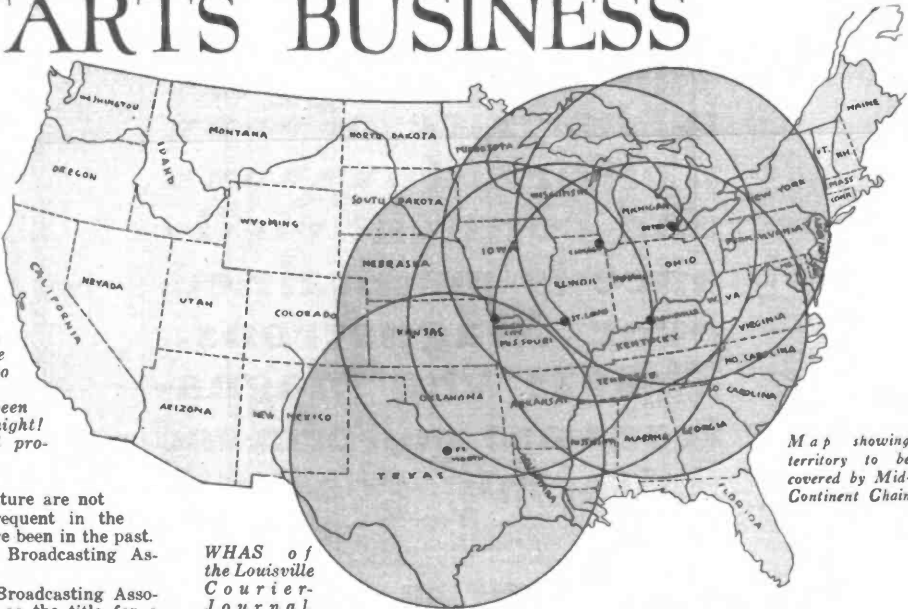
REMARKS of this nature are not going to be so frequent in the Middle West as they have been in the past. Why? "Mid-Continent Broadcasting Associates" is the answer.

The Mid-Continent Broadcasting Associates has been chosen as the title for a "link" of six of the large stations in the Central United States, extending from the Great Lakes on the North to Texas on the South, Kentucky on the East and Missouri on the West. Sounds like a geography lesson, doesn't it?

These stations are:

KSD of the St. Louis Post-Despatch.

WBAP of the Fort Worth Star-Telegram.



Map showing territory to be covered by Mid-Continent Chain

WHAS of the Louisville Courier-Journal.

WDAF of the Kansas City Star.

WJR of the Jewett Radio and Phonograph Company, which is associated with the Detroit Free Press.

WHT of the Radiophone Broadcasting Corporation in the Wrigley Building, Chicago.

Stuart Chambers, of the St. Louis Post-Despatch, is chairman of the association, and H. J. Bligh, of WHT, is the secretary and commercial manager. Executive offices have been established at the Wrigley Building in Chicago.

It is unfortunate that you could not have been in Mr. Bligh's office, recently, as he discussed his plans for you. Good programs have been available in the past in the territory served by the stations just named, but it is the hope of the association that their stations can furnish better programs in the future. It is their purpose to provide the best talent that money can buy, and so distribute it that all sections will have an opportunity to hear it.

The mention of a link or chain of stations at once brings to your mind a tie up, either made by wire, or by means of short waves. A different method is to be used.

In the simultaneous broadcasting of a program by a number of stations, you have to be at home at a certain time or you miss the program entirely. Suppose, for instance, that you live near St. Louis, and at 8 o'clock there is to be a program of orchestra music. You can't be home. The next morning your friends tell you all about the things you missed.

Thanks to Mid-Continent you are not going to miss the program at all! Pick up your daily paper, and in it you will find that from either WHT, WDAF, WHAS or one of the other stations in the chain, there is

Below—The Wrigley Building, Chicago. This building houses the Executive Offices of the Mid-Continent Chain and the Studio and Control Room of WHT



"Pat" Barnes, Chief Announcer of WHT





being broadcast at the same hour, the same program by an orchestra trained by the same director.

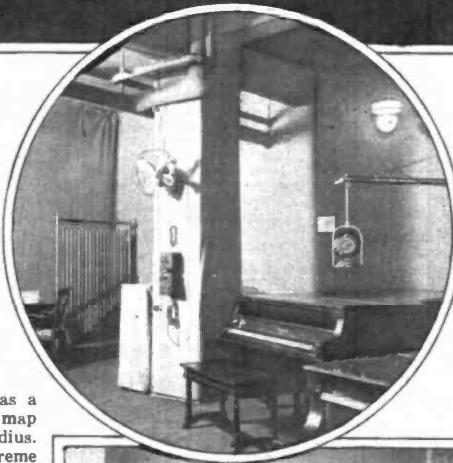
You know a Paul Whiteman Orchestra is a Paul Whiteman Orchestra, no matter what city you hear it in. Similar training will be given the Mid-Continental artists. Instead of one chance to hear a program you now are going to have six. No longer can your friends gloat over the things they heard and you didn't.

Look at the map and you will see how the scheme is going to work out. A conservative range of five hundred miles has been chosen for each station. Using the location of each of these stations in the Mid-Continent as a center, circles have been drawn on the map that have five hundred miles for a radius. You can see that except on the extreme edges of the territory—each set owner has a chance to hear two at least of the stations in the chain and sometimes more.

And what set owner is willing to admit that his set is only good for five hundred miles? Try tuning in on the Mid-Continent and see what is going on.

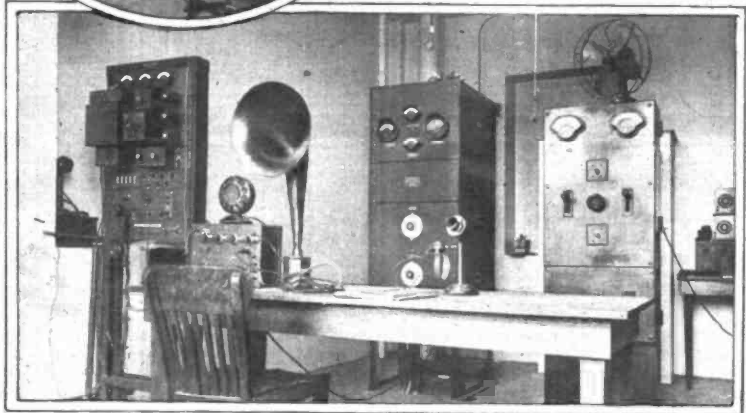
After the remarkable record made by KSD in the past year, it is difficult to see in what manner they can improve their programs. In twelve months, in addition to their regular studio programs, the station has broadcast from outside sources 258 programs in their effort to please their listeners.

Our old friend, WBAP, and the "Hired Hand" needs no introduction to the readers of *Radio in the Home*. We all have heard "My Old Kentucky Home" as Louisville signs on and off. WDAF is another of the "old timers." This winter you will have two new friends to play with and help you spend many a pleasant hour—WJR and WHT. Both have come on the air since the close of the last season. It would be a great

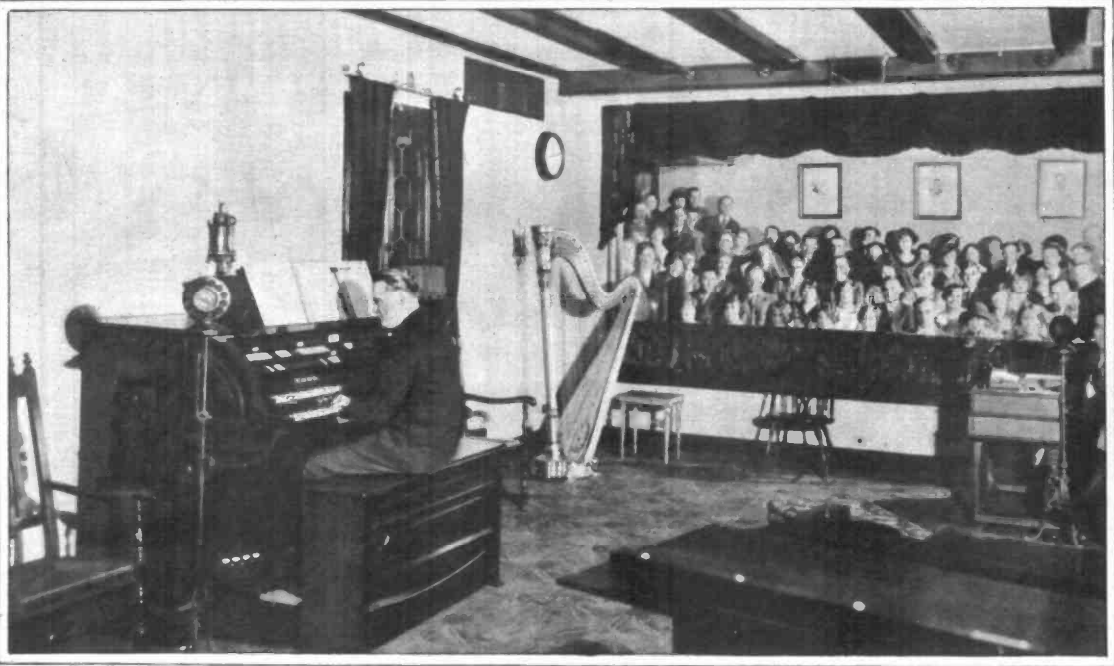


Above—"Pat" Barnes and the Gang Seated: Bernard Hanson, Zythophonist; Eleanor Gilmore, Musical Comedy Star; Eleanor Katlan, Classic Violinist; Genevieve Barry Burnham, Soprano. Standing: Jimmie Gullano, Banjoist; Jane McConnell, Contralto; Howard Church, Banjoist; Helen Boyce, Ragtime Specialist; the boy with the smile on the bench, "Al" Carney, Organist; the boy with the white pants, "Pat" Barnes, Chief Announcer; Thora Martins, Contralto; "Buck" Weaver, Banjoist; Dorothy Wilkins, Soprano; Milton Grossman, Saxophonist

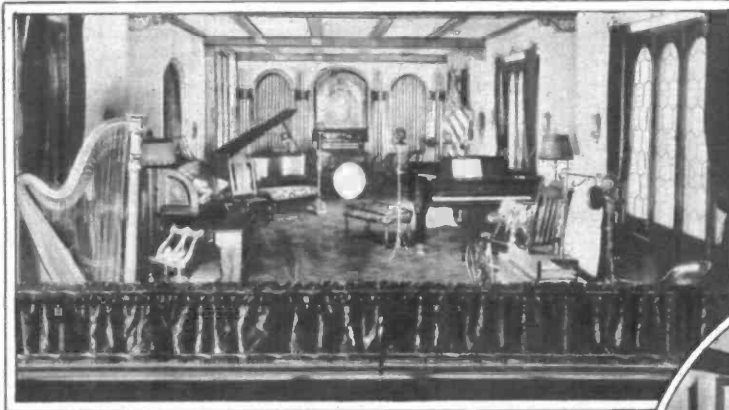
To the left is a corner of the Studio of Station KSD, St. Louis Post Dispatch, St. Louis, Mo.



The Operating and Control Room of Station KSD, the St. Louis Post Dispatch



The Visitors' Gallery from the Studio of WHT. "Al" Carney at the organ and "Pat" Barnes at the announcer's desk. Below is a view of the Studio and was photographed through the glass wall of the Visitors' Gallery



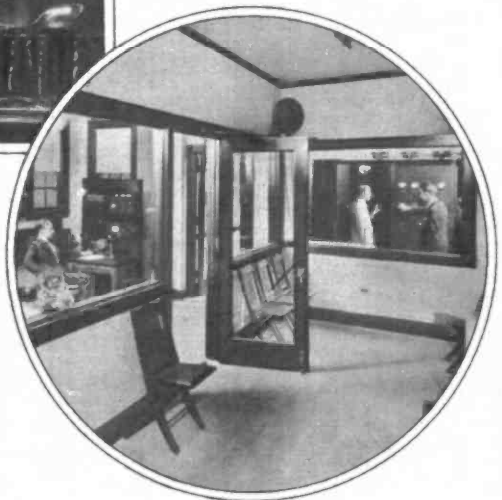
pleasure to help you get acquainted with both WJR and WHT, but there is only just so much space and no more to an issue. Since WHT is slightly the older station, in addition to being the executive headquarters of the chain it is being given slightly greater space.

The impression one gets at WHT is that everybody is having a wonderfully good time, and if it were not for the little glass sign which says: "Silence, we are on the air," which shows in red letters when the station is broadcasting, you would never realize that the staff was in the midst of the serious business of putting on a program. All of the programs from the station are sent by wire to Deerfield, Ill., and

are there put on the air. Great care has been taken in planning the mechanical equipment and construction of the studio and the station to be sure that only the best and most modern of the broadcasting equipment is used.

Right—Instead of the usual "Keep Out" signs at the door of the transmitting department WHT has a sign pointing "This Way, Please!" When you get inside you find everything arranged behind glass so that you can see the works and yet not bother the operator. At the left is L. Zensen at the control desk. Standing at the panels of the transmitter are H. R. Rauson, Chief Operator, and Reeve O. Strock, Chief Engineer

If you are in Chicago, do not leave without making a trip to the Wrigley Building. A special gallery is provided for visitors. As you sit there listening to the program it is hard to believe that you are not right in the studio. One wall is a solid sheet of glass, and the loud-speakers have been so cleverly arranged that the illusion is nearly perfect. Every one enjoys Al Carney and the organ on the air, but until you have

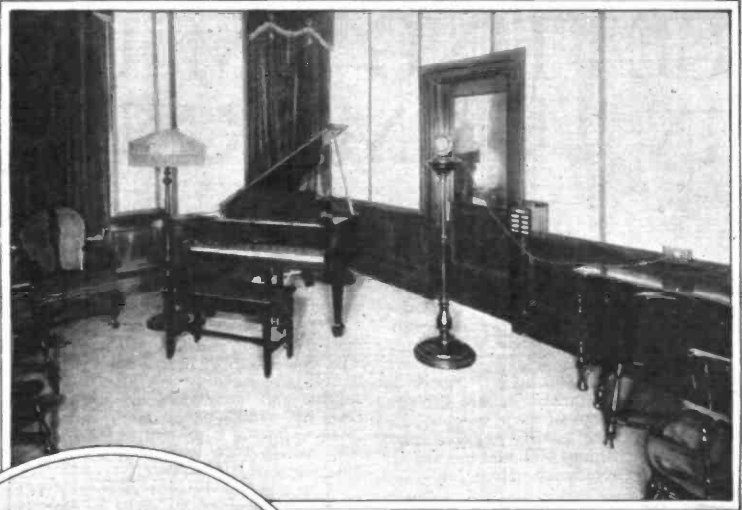


watched him play and seen him smile over his shoulder at you while he is seated at the organ bench you have no idea of what a truly interesting personality he has. Al opens and closes the programs at WHT with a short selection on the organ.

The station was due to go on the air at 10:15 the other night. Ten fourteen and a half arrived and there was no Al in sight. An orchestra, which was to give the first part of the program, was hurriedly assembled before the mike to "pinch hit" for him. Just as the sign flashed red, Al appeared from nowhere, slid onto the organ bench, and before the leader of the orchestra could raise his baton, the strains of the organ filled the studio.

This organ, by the way, contains everything that broadcasts well. The traps are complete and by merely pressing the keys, "Al" can imitate anything from a bird call to a railroad train. The beautiful appearing organ that is behind Pat Barnes and his gang is like the colored silk handkerchiefs that men used to be so fond of carrying in their coat pockets. They were "show-ers" and not "blowers." The organ, in itself, calls for no small skill on the part of the organist. By pressing the keys half way down one note is heard and if the key is pressed all the way a different set of pipes is brought into use.

The photograph of Pat Barnes does look like Pat, but the only time he has been known to wear the expression he has in the picture was while a visiting artist was "rendering" a selection. (Render: to execute.) Pat, in addition to his duties as chief announcer, is one of the four presidents of the Your Hour Club of WHT.



A corner of the studio of Station WBAP, the Fort Worth Star Telegram



Above is the home of Station WBAP at Fort Worth, Texas

To the left is the St. Louis Post Dispatch Building, the home of Station KSD



This club is well on the road to the election of vice president No. 1000. If you listen between 11:00 and 1:00 (central standard time) you can hear if you still have a chance to become a vice president. If, you are too late, don't worry as there are to be 1000 treasurers, 1000 assistant treasurers, 1000 secretaries, and so on until the club has a complete staff of officers.

Try—just try—to get a photo of either Dean Remick or Jean Sargent! Jean Sargent is in charge of the morning program. She was formerly at WNAC in Boston. Dean Remick is the accomplished pianist so often heard from the station. The

studio and the control room are in Spanish design, and are beautiful places to work. The transmitter and station are a distinct departure from the customary practice. It, too, is of Spanish architecture, but instead of being a shack stuck on the roof, or a stuffy room in one corner of the building with no attempt at anything but the most utilitarian of construction, you find a beautiful bungalow with a tile roof. In addition to housing the transmitter proper, there are a two-car garage, and rooms for the operators as well as a home for the engineer of the station and his family.

Everything about the station is as modern as any city home in spite of it being located twenty miles out in the country. There are electric ranges, electric refrigerator, shower baths, garden, and the minor details that go to make life comfortable.

Mid-Continent may not be always able to give you what you want to hear when you want to hear it, but it is willing to try. With stations of similar equipment to that of WHT they are in a position to take care of the mechanical side of the transmission. The staff of artists is capable of meeting your wishes, and if enough of you let them know what you want to hear, you will be sure to hear it.

This radio experiment in the middle of the continent is being watched with a great deal of interest by broadcasters all over the country.

It is a new idea, totally different from the one which has been made familiar by other links. Ever since the plan was first made known to those in the industry, there have been numerous arguments as to whether such an idea will better serve the public than the plan which now has become so familiar, and it is only the public who can settle these arguments. The Mid-Continent chain is on the air very largely as an experiment, and if the response from the listeners-in proves that it is what they want the future will certainly be rosy for those who have the matter in charge.

GETTING 'EM UP IN THE MORNING

By Alvin Richard Plough

BILLY WATSON'S "Beef Trust" used to intrigue us. That was before we knew about radio's thrills. We used to sit enraptured in the burlesque theatre watching his galaxy of plump demoiselles cavort gayly on the stage before us. Rumor is that Billy made a million dollars through presenting his troupe of heavyweights. He was asked why he always engaged such large women for his shows, and he replied: "Well, somebody must like them fat—they marry 'em."

Since we no longer attend burlesque shows, we can look the question squarely in the face. We don't care whether they're fat or thin. If they are fat they try to get thin and if they are thin they try to get more weight. And all through the modern miracle worker—radio.

Shylock wanted to cut off the pound of flesh awarded to him by the Venetian court, but folks in this generation are content to work it off via the setting-up exercises.

There is a tremendous interest in this new feature of broadcasting. Men and women are now doing their daily dozen with extra ones thrown in for luck. Since the saloons have quit "setting them up"—

and down—it has fallen upon the physical directors to do so via radio.

"Getting-up exercises" would be a better name for them, since they are given in the wee, small hours of the morning when commuters are heading for the daily office routine and housewives are preparing to take the crinkle-paper from their shorn locks. The sun is up and so is the rest of the family—with loud-speaker turned on and windows wide open.

One physical director received a letter from a member of his class in which the writer joshed the instructor about being



Miss Emma Theye, Cincinnati, who, at the age of 52, reduced twenty-one pounds in three months' radio exercise

Wm. Stradtman before WLW's microphone. Photo supplied by Publicity Dept. Crosley Radio Corporation. Alvin R. Plough, manager Publicity Dept.



This is the chart which is sent by the Metropolitan to all who request it. Different exercises are selected each morning and announced by number so that all may see exactly what is to be done when the instructor starts counting. The chart is copyrighted, 1925, by the Metropolitan Life Insurance Company

Rules

Prepared by Cincinnati out to

TO R should show to prevent food over utilize as work (ex mand fo uents.

Diet—sugars an but little

Eat spu fluid and

1. Fo quantities bouillon (daily con: Scraped, broiled; broiled; c eggs shou poached. may be mackerel small qu: the form gluten, wheat. Lemons, grapes, r. (ca

able to stay in a comfortable room and take the exercises while the director has to get out in the cold and go to the broadcasting. The physical director replied that the joke was on the letter writer, because the exercises were broadcast from the bedside of the instructor—and he didn't even have to get up to give them.

Setting-up exercises, however, are no joking matter. Thousands of men and women are bowing to them every morning. A man may be down but he is never out—when the hour for radio reduction work begins.

"Fair, fat and fifty" was all right in the olden days, but not in this modern era. At least, that is what Miss Emma Theye, of Cincinnati, says and she is 52 years old. Twenty-one pounds was lost by this devotee to radio setting-up exercises in three months. She followed the class conducted by William Stradtman, physical instructor of the Y. M. C. A., who gave his students their ups-and-down through the Crosley WLW station.

(Continued on Page 33)

The VOICE OF THE TOWER



York Harbor may be glimpsed, and on the right one looks across the Hudson, and on the left across the East River to where Brooklyn and Queens stretch away. On a clear day the burnished sun makes the river a thing of beauty.

So high above the noise of the city stands the tower that the broadcasters may leave the windows open and still nothing will go through the microphone save the sound of their own voices. From this room the voices of the Metropolitan Life Insurance Company goes out to the people of the United States and brings them increased health and, therefore, increased happiness.

The first part of this new welfare program consists of the Tower Health Exercises, broadcast daily from 6:45 to 7:45 A. M., by Arthur E. Bagley, New Jerseyite by birth, Mr. Bagley has specialized in Y. M. C. A. physical work for twenty-two years. Seven of these years he taught physical training in Newark, and many a Y. M. C. A. worker received training from him in the summer schools of the Y. M. C. A. camps on Lake

Left—Mr. Arthur E. Bagley "snowed under" with a morning's mail commenting upon the Tower Health Exercises



OBSERVE THESE RULES

- 1—Drink a glass of water before exercising.
- 2—Have windows open, top and bottom.
- 3—Good ventilation is important, but the room should not be too cold.
- 4—Have clothing loose at neck and waist.
- 5—Follow the director's instructions carefully.
- 6—If possible, give a full half hour to the exercises every morning.

By Golda M. Goldman

ON THE twenty-seventh floor of the Metropolitan Life Tower on 23d street and 5th avenue, New York City, is to be found one of the most delightful broadcasting studios in the metropolis. A more gorgeous view than that obtainable from its windows is hard to be imagined. Directly in line to the south rises the companion tower of the Woolworth Building. At night the Metropolitan light gleams white and the Woolworth shines red. Below the Woolworth, New

Right—Mr. Arthur E. Bagley broadcasting the Tower Health Exercises from the studio atop the Metropolitan Life Building

Reducing ty

Hübner, M. D., A. and sent the WLW classes

obesity, there dation of diet ing of excess e body can tion of body roduce a de- ving constit-

ules: Avoid ood, and take food. take but little rom meals. tted — Small beef, oysters, s; meat once ef, lean, raw, oiled; steak, asted; chops, ed or broiled; soft-boiled or he following ysters, raw; bread, but a then only in wheat bread, ham, whole wing fruits: raw apples, berrie, and (see 44)

George. During the war, Mr. Bagley enlisted early and was connected with the Fourth Engineers. These brave men later stood in a breach where they were surprised by the Germans, and fought gloriously with trench tools, but were almost unharmed. Then he came to Camp Green, North Carolina, with the Third Division.

For many months Mr. Bagley broadcasted health talks and morning exercises purely as a labor of love from Station WOR in Newark.

When the officials of the Metropolitan decided to make use of radio for the dissemination of health information they found it to be, from every point of view, just the man they needed. The purpose of the Tower program is to improve community health wherever the voice of the speaker can be heard.

The Metropolitan Life Insurance Company with its twenty-

three million policy holders is not in need of advertising, but since approximately ten million of these policy holders may be within reach of the voice in the tower, they will get the full benefit of the broadcasting.

The exercises begin at 6:45 in the morning and are divided into two thirty-minute periods with breathing spells in between. The first thing to be heard is the piano playing Irving Berlin's famous song, "Oh, How I Hate to Get Up in the Morning," followed by the bugle blowing reveille. One of the unique devices of this broadcasting feature is the set of chimes which has been placed in the studio and which synchronizes with the chimes in the tower. They are to be heard every fifteen minutes, and by them you may set your morning clocks just as the people in the vicinity of the tower set theirs daily. At night the ringing of the chimes is



Dr. Lee K. Frankel, head of the Welfare Division of the Metropolitan Life Insurance Company, who is in charge of the Tower Health Talks

supplemented by the hourly flash of the tower light which has earned it the title of "The Light That Never Fails."

The exercises include a variety of body-bending stunts, but are kept as simple as possible and as free from combination as can be arranged so that they will broadcast the more successfully. You should, of course, write in for you chart as soon as you make up your mind to take the exercises, and here Mr. Bagley has pictured for you the correct positions to be taken in each of these exercises. You may also enroll in an exercise class and thereby receive special instructions which you will find particularly beneficial.

Within eight days after the tower had been opened over forty thousand communications were received from the listeners. These give a tremendously interesting insight into the lives of the mass of people whose homes are reached by the broadcaster. One can only marvel more and more daily at the tremendous power for good that is in the hands of the men in front of the microphone. Nothing that has ever been broadcast before



Mr. Robert Lynn Cox, Second Vice President of the Metropolitan Life Insurance Company
Photo Copyright by Kodak & Herbert News Photos.

MEETING POPULAR DEMAND



The Tungar is a G-E product developed in the great Research Laboratories of General Electric.

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(East of the Rockies)
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(East of the Rockies)
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60 cycles—110 volts

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Tungar
in a new
model!

The new five ampere Tungar—at the same price as the old—means a quick charge of all kinds of storage batteries.

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- It cannot create radio interference.
- It charges any make and size of storage battery: radio "A" and auto batteries, and "B" batteries as high as 96 volts in series—all without attachments.

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Merchandise Division
General Electric Company, Bridgeport, Conn.

GENERAL ELECTRIC

seems to have so direct an influence upon the lives of the people at large.

The letters come from people of all classes, sexes, ages, positions; they are cynical, humorous, serious, thankful, and I will quote you two or three of them at length so that you may see for yourselves just how far-reaching a thing of this sort may be.

An old lady of 71 writes she is going to do what she can and "get an optimistic point of view." Optimism is one of Mr. Bagley's most valuable traits. He insists that part of his work should be the spreading of a cheerful spirit among the people who take the exercises and you will find constant reference to this in the letters which he receives. Here are some of them:

Gentlemen:

I would greatly appreciate your mailing one of your health exercise charts to me at the above address.

I started taking the exercises this morning, and want you to know that one of your "customers" appreciates what you are doing for the people of the country.

Dear Mr. Bagley:

I am very much interested in you fine "health exercises," and will you please send us one of your charts that you spoke about?

I have just finished taking the exercises with mother, and believe me I feel great; so does mother. I shall be with you every morning at 7:20.

We are sorry Daddy can't be with us, too, but he has to take the early train to Boston.

I am 8 years old, and a member of the "Boston Edison Big Brother Club."

Dear Sirs:

After most of the radio broadcasts we are invited to write what we think of the things we have gleaned from the air. I know you have offered to send a chart of the funny stunts you were giving this morning.

As I had a few spare moments and much curiosity, I tuned in on your setting-up exercises. While I listened I tried to picture my mother and my father and me, a little child, rolling around the floor, waving our legs in the air and hugging our knees. I have a fair imagination, but it was not so vivid that I could picture such a performance as that being led by my respected parents. If I remember correctly father's setting-up exercises consisted of dressing, washing his face and teeth, combing his hair, and starting the fire in the kitchen range.

Mother did the same only she got breakfast instead of starting

the fire, then she coaxed and scolded until I consented to get out of bed. She did not play "you can't get 'em up in the morning," but they, meaning me, got up just the same. Never a leg was waved nor a knee was hugged, so you see we all started our day wrong.

Father went on to his eternal rest when quite a young man, but as he contracted his fatal illness fighting a fire, I do not see how lying flat on the floor for a few minutes and doing stunts would have prevented him from doing his duty as a fireman or save him from paying the price.

Mother went home to higher service at the age of 71, and I am too old-fashioned to think she could have passed the century mark if we had the good fortune to own a little radio to "set up" every morning.

Permit me to tell you how I started this day and have started many in about the same way. At 6:30 I left my bed under protest. Had a cup of coffee and then another for fear the first would be lonely. Then I had a bit of listening in on your wonderful stunts. Then I took a bath. As I write that line I am thinking of the days when one was supposed to take a bath at least once a week whether they needed it or not, and it would have been a bold, bad man who would broadcast such an event. This morning you told those who were in a hurry to run along and take a bath. Surely the old order passeth! After my bath I dressed, brushed my teeth and my bobbed hair. No, I did not use the same brush for each. Next I assured myself that my nails wore no mourning bands, powdered my nose, put on a dab of rouge in an effort to hide the ravages of my fifty-odd years. These things attended to I was ready for work, but as I had no work I sallied forth in search of some and found it.

Please, oh, please, do not fail to send me one of your charts so that some morning when the whole world seems wrong and I am tempted to say it's no use to carry on, I can look at the chart and picture how cute the fat ones must look as they roll around and wave a leg to the tune of one, two, three. I feel sure that the picture will be enough to chase away the little gloom devils and give me needed courage for my day's duties.

Yours truly,

P. S. I neglected to tell you that I dressed myself after I took the bath. My modesty was so great and I was so flustered at telling a lot of strange men about it that I left you under the impression that I went out this beautiful morning arrayed in a bit of powder and a

All the thrill of building your own —and an exact duplicate of the famous Harkness Laboratory Model

THE remarkable results obtained with the Harkness Counterflex Circuit are due to a novel principle which enables tremendous amplification to be secured and eliminates the squeals of self-oscillation.

Counterflex Receivers also employ a new type of radio frequency transformer which is so efficient that the 3-tube counterflex actually has a greater receiving range, more volume and more selectivity than most 5-tube sets.

It is now possible to build an exact duplicate of the set Mr. Harkness has built for himself and use parts made under his direct supervision.

The important thing is to get Genuine Harkness parts made by the Kenneth Harkness Radio Corporation. A complete kit of these parts is now available at radio stores, and each set bears the signature of Kenneth Harkness Radio Corporation on the cover of the container.

Read some opinions of people who have built a Harkness Counterflex:

"I have been experimenting with all kinds of Radio sets up to six and seven tubes. I covered a Harkness 3-tube Counterflex, wired it up myself, and was amazed at the result."
E. J. KRANK, Allentown, Pa.

"We like our Harkness Counterflex very much. Have listened to programs all over the United States."
DAYNE COCHRAN, Roseland, N.J.

"Have owned and operated seven sets and the Harkness Counterflex has them all tied to a train. So far I have heard seventy-four stations including one in California."
L. W. LILLARD, Beaverton, Pa.

"Have heard a total of forty-two stations including two in Mexico City, four in Canada, three in New York and three in California. To say I am pleased with the Counterflex is expressing it very mildly."
EUGENE F. BROWN, Des Moines, Iowa.

"I am exceptionally well pleased with the three-tube Counterflex. It has done all that I anticipated it would. Ought to expect reception on loud speaker with an exceptionally clear tone."
E. D. LUDWAK, Pierce, Neb.

After experimenting with the Counterflex for more than a year, Mr. Harkness has now written a booklet giving a thorough explanation of its fundamental principles and a complete description of different models of Counterflex receivers. We will send you a FREE COPY of this booklet on request. Just mail the coupon below, enclosing 10c to cover postage and cost of mailing.



Kenneth Harkness



With this complete kit of genuine Harkness parts you can assemble the 3-tube Counterflex in just a few moments —with only a screw-driver. A series of special step-by-step diagrams shows how to wire the set. It is not necessary to understand or follow the usual type of circuit diagram. Complete 3-tube Kit, \$39.00 In Canada \$44.00

GENUINE HARKNESS RADIO PRODUCTS

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Please send me free copy of your booklet explaining the new Harkness Counterflex Circuit. I enclose 10c (in coin or stamps) to cover cost of mailing.

Name

Address



Where is the difference in radio transformers?

THE audio frequency transformers in your radio perform a most important duty. They aid in increasing the volume of sound ... in building it up to the desired strength. BUT—

When sound is increased, the tendency is toward distortion. That's where the difference comes in transformers. Inefficient transformers will give distorted reception, just as a defective mirror will show a distorted image.

Whether you are building a set, or buying one, be sure about the transformers. No radio, remember, can be better than its transformers. A safe guide to follow is the Jefferson trade mark. You can depend on quality in performance when the name "Jefferson" is on the product.

Jefferson Transformers are made by transformer specialists—the world's largest manufacturers of small transformers. There is a very definite reason why leading radio engineers specify "Jefferson." You'll find it in the clear, sweet, life-like amplification which Jefferson Transformers give. Sold by the better dealers, used by manufacturers of high grade radio sets.

**JEFFERSON ELECTRIC
MANUFACTURING CO.**
501 So. Green St., Chicago, Ill.

Makers of Jefferson Radio, Bell Ringing and Toy Transformers, Jefferson Spark Coils for Automobile, Stationary and Marine Engines, Jefferson Oil Burner Ignition Transformers.



JEFFERSON RADIO TRANSFORMERS



There is a Jefferson Transformer for every radio need.



**JEFFERSON
Tube Rejuvenator**

Keep your radio tubes like new! Rejuvenate them regularly. AT HOME, just as you recharge your storage battery, Jefferson Home Rejuvenator doubles and triples tube life, quickly gets for itself. Raises your set's efficiency to 100% and keeps it there! Completely restores paralyzed or exhausted tubes. Takes large or small tubes—types 201-A, 201-A, UV199, C-29, 5-V-A. Don't be without this long-awaited radio necessity. \$7.50 at leading dealers.

dab of rouge. Pardon the oversight.

THE second part of the radio work from the Metropolitan tower is the Tower Health Talks on Monday evenings under the direction of Dr. Lee Kaufer Frankel, Director of the Welfare Work of the Metropolitan. Few people, even under the policy holders, realize how amazingly far-reaching this welfare work is. It is divided into three parts. The first of these is the Free Nursing Service, which the company extends to industrial policy holders in acute cases of illness. This system covers four thousand towns and cities. In most cases the company has contracts with local nursing associations who supply the nurses while the company pays the bill. Last year about five hundred forty-five thousand patients were cared for under this service with an average of five visits per case. About one-half of these cases were maternity cases in which the visiting nurse gives pre-natal care and instruction in the early days of the child's life, thereby saving thousands of patients.

The second part of the work is that known as demonstration work. What this consists of may best be judged from the results in two instances. The Metropolitan conducted a demonstration in a village in Quebec, where the infant mortality rate was cut down from over more than three hundred babies to ninety-six out of one thousand born. The result so impressed the Provincial Government of Quebec that they recognized the company's achievement by appropriating \$500,000 to go on with the same work in the Province. A similar demonstration in Framingham, Mass., a town of approximately seventeen thousand inhabitants, cut the infant mortality 40 per cent. This demonstration cost the company \$200,000.

Returns, of course, came not from one town, but from the others who followed the example which the Metropolitan set. For instance, Framingham became so interested in the demonstration that it raised its health appropriation from forty cents to more than two dollars per capita. This was conducted under the direction of Dr. Donald B. Armstrong, then with the National Health Council, and now Dr. Frankel's assistant. Among the cities which followed this example are Syracuse, N. Y.; Mansfield, O., and New York City itself.

The third method of health propaganda is the literature circular. This consists of the circulating of a number of health pamphlets on topics selected by Dr. Frankel and compiled by experts whom he designated to do the work. We find among them such things as "All

About Milk," by Milton J. Roseneau, Professor of Preventive Medicine and Hygiene at Harvard University; "The Health of the Worker," by C. E. A. Winalow, Professor of Public Health, Yale School of Medicine; and "Care of the Teeth, a Peep Into the Future," by Thaddeus P. Hyatt, D. D. S., Dental Director of the Metropolitan Life Insurance Company, lecturer for the Department of Education and chairman of the Oral Hygiene Committee of Greater New York.

The primary purpose of these pamphlets is their distribution by salesmen among the industrial policy holders, of whom there are sixteen million. The salesman's work takes him directly into their homes for the collection of premiums and he has, therefore, an excellent opportunity to take with him each time one of these pamphlets. The pamphlet in no wise interferes with the work of the physician, but on the contrary insists that the physician be called immediately and proper care be given. These pamphlets have also been used at the request of teachers in more than six thousand classrooms in 1924, and many of the other policy holders send in requests for them also. In the fifteen years from 1910 to 1925, through this welfare work, the death rate of Metropolitan policy holders has fallen much more rapidly than that of the general public.

Now we have this last step which is the use of radio for the dissemination of information.

Dr. Frankel does not personally give all the Monday evening talks, but some of them are given by outside experts; for instance, Dr. Iago Goldston talked on "Noises Are Poisonous," and Mrs. Aida de Acosta Root, daughter-in-law of Elihu Root, talked on the "May Day Festival."

The radio work itself comes under the direction of Robert Lynn Cox, second vice president of the Metropolitan, who is in charge of radio and advertising. Mr. Cox, who is president of the New Jersey State Board of Education, was formerly a lawyer in Buffalo. He became intensely interested in insurance law, and combining this with his knowledge of advertising, which won him the \$1000 prize for an advertisement, entitled "One Hundred Years to a Day," he found himself particularly well equipped for the work which he directs at the Metropolitan.

It is apparent that with the tremendous facilities of the personnel of the Metropolitan, the health information now going on the air could not be surpassed, and the impetus thus given to the promotion of public health is so valuable that it is practically impossible to estimate the effect upon the general welfare of the country.



Secretary
List Price, \$140.00



Baby Grand
List Price, \$110.00



Concert Grand
List Price, \$132.00

WHO OWNS *the* ETHER?

UNCLE SAM is still struggling with the radio broadcast problem because the rush for broadcast licenses seems to continue unabated. From some points of view the job of assigning licenses for broadcasting stations looks hopeless. But there seems to be one real test that never fails. Fortunately this test is one which gives first consideration to the broadcast listener. Every one is beginning to realize that unless the listener gets what he wants, when he wants it, without undue interference or trouble, the industry as a whole is going to suffer.

This means that a real appreciation is growing of the common interest of manufacturers of equipment, operators of broadcasting stations, wholesale and retail stores, and the householder who enjoys anything from the home-made crystal outfit to the finest Console model. And it is quite evident that it is the broadcast listener, the general public of radio, who owns the ether rights and whose interest in the use of the ether for radio must fix all fundamental plans and policy.

Not many months ago, at an important radio conference, the various conflicting interests among broadcasters represented each argued that he had some right superior to that of the other. One man thought his station should be given preference because it was already established. Another argued that because his station served the municipality it ought to be given public priority privilege. The third, serving a newspaper, claimed to be an important agency of news distribution. Still another, because of its strategic geographic position, claimed privileges greater than those that it was willing to accord neighboring stations.

Very little progress was made in discussing these conflicting rights and claims as to who was "best" until one spirit in

By R. S. McBride

Washington Representative of "Radio in the Home"

These photographs show the very fine type of cabinets that are becoming increasingly available at reasonable prices for the man or woman who wants the radio set to become an integral part of the furnishing of the home. Such cabinets are being built to house any of the standard "box" type radio receivers. The particular ones shown here are offered by the Knickerbocker Talking Machine Company of New York



Chest
List Price, \$140.00

the group, braver than the rest, enunciated the principle that all of them were wrong and that the only real test was *whether one station gave the broadcast listener what he wanted better than the others.* This may not have been a particularly popular pronouncement at the minute, but in any event it seems to be an irrefutable conclusion.

Now that we, the B. C. L's of radio, realize our power, this is the question for us to consider—what shall we do about it? If we can, as a group, but make up our minds what we want and let our decision be known, it is safe to say that Uncle Sam will do the rest for us. Certainly the desire to get us what we want exists in Washington. The only question that remains is whether the law is quite ample to cover every contingency.

Let us suppose that the postman on our route was able to carry only thirty pounds of mail on each of his trips twice daily, but that there were forty or fifty pounds of mail coming to the station that had to be distributed on his route. It would not take long for the Postoffice Department to discover the need of another carrier and they would promptly shorten the route so that we would get all our mail on time regardless of season or weather.

But in radio we cannot put on more postmen to carry the extra load of radio broadcasting whenever there is more material to be sent out. When there is a radio traffic jam of this sort some of the radio business has to wait, or, perhaps, never gets delivered at all.

If this were the case with mail it would not take long to decide that the mining stock promoters' sheets, the real estate advertising, the department store circular letters, and like material, which is alright in its place, but of much less value than



A STRAIGHT-LINE, FREQUENCY ACHIEVEMENT

RUGGED, compact, sublimely efficient, with all the refinements of 15 years' experience, comes the latest Hammarlund achievement—the condenser that distributes stations equally over your dial and solves the problem of critical tuning. You will recognize many distinctive "HAMMARLUND" features that have won world renown. Others are new—the perfections of advanced engineering and the natural progress of the radio art.

Soldered, non-corrosive brass plates, with sturdy tie-bars that insure permanent alignment; one small piece of Isolastic insulation placed outside of the electro-static field; warpluss aluminum frame, grounded to the rotor; adjustable ball bearings at both ends of rotor shaft; bronze clock-spring piston; single-hole mounting; a separate "hand-capacity" shield for use if needed; made in all standard capacities; a quality product at a moderate price.

At the Better Dealers. Write for Descriptive Folder
HAMMARLUND MANUFACTURING COMPANY
 424-438 West 33d Street New York City

For Better Radio
Hammarlund
 PRECISION
 PRODUCTS



MODEL 5-700

The super-detector, amplifier, and a 4 power tube. 3 volt. 1 1/2 amp. Standard Base.

\$5

THE SUPER-TUBE

The Giant Tube With the Small Appetite

The super detector—the super amplifier—the ideal oscillator in this giant power and Transmitting Tube. A giant in power—yet consumes only 1 1/2 amperes. To get the utmost out of your set and complete satisfaction, use this super tube in any one or all stages of your set. The difference in price is well worth it. On sale by authorized dealers everywhere. 8-1688 — 5-volt — 16/100-amp. detector-amp. \$1.00. Standard type tubes—\$2.50.

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Make \$100 Weekly— I Will Show You How!



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YOU can do it in your spare time—evenings. Lay the foundation for a permanent, profitable business of your own. Give it all your time when you've proven the big opportunities it holds for you. Sell what the public wants—

Sell Radio In Spare Time!

Demonstrate the Ozarkia in your own home, or in your prospect's home. Sales experience not necessary—we teach you! Ozarkia instruments are priced right, with sales help, national and local advertising, make your selling easy.

12 Selling Lessons FREE!

The Ozarkia plan of selling radio is entirely different. Most practical—going to explain. Sales are made quicker and easier. Knowledge of radio not essential. You are never asked to sell without charge. To be successful with a 100 men proves the merit of our teaching.

3,100 Men Are Doing It!

The Ozarkia organization today consists of 3,100 men. In territory and over covered the right men in wanted. \$100 weekly in spare time is not unusual. Many Ozarkia men are making far more—some have been with us for three years.

FREE Book Tells How—

Write me personally—tell me about yourself, and I will send you a complete book, "Ozarkia Plan 100," in which you will not only learn the details of the plan, but also the names of your territory. To be sure of my personal attention, attach coupon below, to your letter.

OZARKIA (Incorporated)
 127 Austin St., Av. D. Chicago, Illinois

My Name: _____
 My Address: _____
 My City: _____
 My State: _____

I am greatly interested in the FREE BOOK "The Ozarkia Plan" whereby I can sell my radio instruments.

first-class mail, is the part that would have to wait. We certainly would not tolerate a scheme that allowed this advertising material to delay delivery of important letters or prevent prompt communication with friends or distant members of the family. No more are we going to permit any interference with the kind of radio broadcasting that we really want by trash or advertising material that has little if any appeal or value to the listener.

We must not forget in this connection that the number of radio messages which can be going out through the ether in any neighborhood at any time and be usefully received on our home sets is limited. The Post-office Department can put on more and more carriers. In fact, the more business they have the more likely it is that additional carriers can be used with profit.

But in radio, Mother Nature has fixed a limit beyond which we may not go, because after a given number of messages are on their way more simply create confusion, not additional communication.

In a recent article, the close relationship between radio and the public service companies was discussed. It was made clear that the general principles which have developed all over this country for regulating gas, water and telephone business are also applicable to radio broadcasting. Broadcasting certainly is a "public service" agency, and the broadcaster who spells his "Service" with a capital "S" and makes the "PUBLIC" all capitals in his plans and policies soon becomes our favorite station operator. It is what we want and when we want it that determines what he must do.

So, too, in the street-car business. Five-minute intervals between street cars from midnight to 6 A. M. could easily be arranged because there would be very few automobiles and little likelihood of traffic delay. But the public service rendered would be almost zero, and the annoyance to those who tried to sleep as the cars bumped over crossings would far outweigh any supposed advantage.

In other words this frequent service is needed at rush hours, but is no good at times when the public does not want it. It may actually become an annoyance. Similarly extra radio service when or where it is not wanted is more likely to be an annoyance to many than it is a pleasure, even to a few.

Down in Washington at the Department of Commerce the radio inspection service of the Government is trying to figure out how best to determine for every part of the country just what broadcast service is being

rendered and how improvement may be made. There can and will be established in Washington general rules for the country, and the granting of licenses for every station, from the small radio shop or amateur with two or three watts power up to the powerful stations that nightly reach from coast to coast, doubtless must remain in the hands of these Federal officials. But no one understands better than Uncle Sam's experts in Washington that each local problem must be solved on its own merits. What may be broadcast in and near Podunk must be determined by the needs and wishes of Podunk listeners; and just as surely must the problems of New York and Chicago determine the licensing policy of these great metropolitan centers.

At present the Department of Commerce must grant a license to any one who applies for the privilege of broadcasting. The courts have ruled that the Secretary of Commerce may not exercise any discretion in this matter as to whether or not a new station can begin business. The only thing that the Secretary may do is to determine through his technical experts what power and what wave length may be employed—in other words, to what class of station the applicant will be assigned.

During the first few years of broadcasting this authority was enough because the number of persons desiring to broadcast their entertainment, educational matter or propaganda was limited. But we certainly have already reached, if not much exceeded, that number of stations which can effectively serve the public.

There seems to be only one possible answer, namely that the Government must have authority to refuse licenses to some of those who come, and to compel each new applicant to demonstrate what excuse he may have for existence before he shall be given the right to jazz or orate on the air. Just how the law can best be drawn to guard this privilege has not been determined, but it is certain some such law must be formulated, and that it should be passed by the next session of Congress.

In my earlier article I pointed out that those who wish to start any other kind of public service company had to get a "certificate of public necessity and convenience." This means that they must go before the proper authorities and show what service they intend to render and the probable public consequence of their operations. If the new company appears able to do something useful for the public that is not already provided for, it is quite easy to grant them the necessary franchise. Or if it were a valuable prospective radio broadcaster, it would be quite easy to show the Federal

authorities that it deserved a broadcasting license. And it should be evident to any one that unless the company can show such useful purpose to be served by its existence, it is not fair to let it disturb the listeners' enjoyment of good programs now available simply because it happens to desire this right.

No one can discuss this subject long, however, without being confronted with the question of censorship. Indeed, it is very proper to ask any one who proposes the limiting of radio licenses the question: "How do you propose to determine whether the newcomer is better than those we already have?" And I must confess that that is not an easy question to answer.

Let us suppose that Uncle Sam, in the interest of highway safety, should set about fixing uniform traffic rules. It would be quite all right to seek to have a uniform system for headlights and tail lights of cars. It would also be desirable to have a nationally uniform scheme for signaling when one wishes to stop or turn right or turn left; but it is hardly possible to write into a national traffic code some such rule as "There shall be no left turn at 7th and Main streets." This corner may be very busy in our home town, but a quiet, inoffensive intersection in the nearest neighboring town.

Is it not equally true in radio? What is needed in New York may not serve at all well in Chicago, and certainly what suits these big cities is not appropriate for those of smaller size or for suburban territory.

Unfortunately, it is not possible to place all of the authority for radio regulation in the hands of the separate States or cities as we do traffic rules. Even if each of them did a good job by itself the result would be chaos. This is necessarily true because anything put on the air travels without regard to State and city lines. The radio wave, once started, certainly demonstrates that these marks of political subdivision are, as our old geographies used to say, "artificial lines running upon the surface of the earth."

Jazz in Chicago, unrestricted, will spoil lectures from Milwaukee, education from Madison, and grand opera from Cleveland quite effectively, if on the wrong wave length or sent out with too high a power, as any nearby disturbances. Our radio traffic, therefore, needs a national traffic officer on important principles, but it also needs careful consideration of the local point of view.

If Chicago, which now has thirty-two stations within its limits or nearby territory, wants this number of stations it is really of no concern to Milwaukee, Madison or Cleveland, but it is very much of concern to these other important communities that Chicago does not occupy thirty-two out of the very limited number of radio broadcasting channels. Any such proceeding would not give the other communities any chance at all to do a reasonable amount of broadcasting.

In other words, it is not the number of stations that causes trouble, but the number of different wave lengths used. Let Chicago continue its five Class B wave lengths if it will, asking its local stations to share these in any way or in any proportion that serves the local need best. But please, Chicago, do not ask us to give up twenty-seven more wave lengths for your convenience! We doubt, even if you had all the thirty-two, whether you would be materially better off than now; and we are sure the rest of us would be much worse off.

At the present time the only way the radio business can succeed is to have more and better sets purchased every year. But it is very certain that we, the would-be listeners, are not going downtown and spend \$200 or \$300 for a new radio set, no matter how fine a piece of furniture or how perfect a reproducing unit, unless it brings us what we want. We would like to buy a fine console model from which we could get our choice of splendid programs at will, but \$200 or \$300 is far too much money to spend that way unless results—that is, good programs undisturbed by too many stations, are going to be available.

Rest assured, therefore, that the business men in radio are not going to encourage the continued increase in number of stations which spells only disaster for the trade. They are going to make it certain that our fine new sets can be purchased without fear that they will fail to give the service which we have come rightly to expect.

We listeners can, therefore, look forward to that time without any misgivings and can anticipate fair and impartial findings. And above all we can congratulate ourselves in advance that any finding will be with the idea of service to the listener. Without recognition of the listener's ownership of ether rights there can be no progress—in fact, not even permanence for the present radio business.

"As efficient as Radion Panels"

The best recommendation for these Radion low-loss parts



THE very latest developments in radio are embodied in the complete line of Radion low-loss parts—molded of Radion, the insulation made to order for radio purposes exclusively.

Leading set manufacturers and thousands of amateurs know by experience that Radion Panels are most effective in reducing surface leakage and leakage noises. This means lowest losses and greater efficiency, especially noticeable in super-sensitive circuits. All the Radion low-loss parts have the same high-resistant characteristics of Radion Panels.

You can now get Radion Sockets, Dials, the new Radion Loud Speaker Horn, Tubing, Binding Post strips, Insulators, etc. Radion Panels in black and Mahogany come cut in standard sizes for whatever set you wish to build.

Send for booklet, "Building Your Own Set." Gives wiring diagrams, front and rear views, shows new set with slanting panel, lists of parts and directions for building popular circuits. Mailed for 10 cents.

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NEW!
Practical types of low-loss Radion sockets for the new tubes and a socket adapter, if you like, for the old style bayonet type tube.

No. 2 socket for new UX tubes with collar adapter for old type tubes. No. 3 same as No. 2, without binding posts.

No. 4 socket for new UX tubes. No. 5 same as No. 4, without binding posts.

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The Superior Insulation
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Dept. N-11, Mercer St., N. Y. City
Please send me your booklet, "Building Your Own Set," for which I enclose 10 cents in stamps.

Name

Address

How to Build the SUPER-FIVE



Write today for the QUADRA-FORMER BOOK. It will bring you a new radio experience. Profusely illustrated with photographs, drawings. It takes you step-by-step through the making of the SUPER-FIVE, an exceptional 5-Tube Receiver developed by engineers of the Gearhart-Schlueter Radio Corporation.

Enclose 25c and You'll Have It by Return Mail

GEARHART - SCHLUETER
RADIO CORPORATION
714 Voorman St. Fresno, Calif.

"A new 5-Tube set with all the power and scope of the best of the Super-Five" is now available. Write for it to M. Moody, Editor of Radio in the Home, Philadelphia.



When the Loos Brothers Sing from W.E.B.H.



Robert Loos sits at home a half hour from his university as though they were singing in the same room.



Karas Harmonik Transformers Amplify Radiocast Music With Absolute Fidelity

NO sooner had Karas Harmonik Transformers been introduced than letters began to pour in from all over the country. Exacting set builders could not restrain their enthusiasm.

"Now I know radio as I never knew it before." So Mr. E. M. Lebeck, of Kokomo, Ind., expressed himself. "Karas Harmoniks bring in every voice and every instrument as distinctly as one could get them in the room," wrote the Rev. Wm. Steinhorn, of Columbus, O. "I consider your transformer a real musical instrument. Like a good violin, it has the tonal qualities at all pitches covering the musical scale." That was the comment of Mr. Walter Krause, of 7807 Burham Ave., Chicago.

These few reports—picked at random from scores of letters—tell you more convincingly than we can tell you, the wonderful results YOU can obtain through installing Karas Harmonik Transformers in your set. Remember, the finest of loud speakers can't overcome the shortcomings of defective or inefficient transformers.

Meet good radio dealers carry Karas Harmoniks. If your dealer is out of them, order direct of us. Send no money, just pay the postman \$7.00 each on delivery. Remember—absolute satisfaction or your money back after 30 days' trial.

KARAS ELECTRIC CO.

4045 N. Rockwell St.

CHICAGO, ILL.

"More Than Just a Name"
CALVERT
LABORATORIES

Official Service Station
"Radio in the Home"

Mr. Merrill Neely, formerly in charge of experimental and development work in Radio to the Home's laboratory, is now in charge of our Service Department.

Mr. Neely has personally built and tested every hookup and circuit described in Radio to the Home, including this issue, and we are prepared to build or service any circuit or set.

We have first hand information on the "Violetron" heretofore described. Write us for quotations on complete sets or list of parts.

RADIO REPAIRS
SETS AND ACCESSORIES

1212 Jefferson Bldg.
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THE NEW
MULTISTAGE
MELOFORMER

A NEW audio frequency transformer scientifically combining tone and volume in correct proportions.

Construction radically new. Will work three stages.

Factory type requires only 1 1/2" of space. THINK THIS OVER.

ROBERTSON-DAVIS CO.
412 ORLEANS ST.
CHICAGO, ILL.

Editorially Speaking

(Continued From Page 4)

this way have become better and better; artists of national reputation have been heard quite frequently, and the entire tone of radio broadcasting has been raised with a beneficial effect upon the culture of the American home which must be felt in a better civilization in the years to come.

Just at the time that this issue of the magazine is going to press, we are in receipt of all the news of the greatest of all of these public benefactions. It comes in the form of the announcement from A. Atwater Kent of the virtual completion of arrangements for a series of programs, which, it might almost be said, surpasses any one series of concert programs ever undertaken by even the greatest of the impresarios.

On the concert platform, the artists gathered together for this series would attract hundreds of thousands of dollars to the box office and the backer of the series could depend upon making a fortune. In the case of Mr. Kent, there is no box office, and he is giving these artists to the radio public free of charge. In return, he may or may not sell some of the radio sets which his company manufactures. Personally I hope he does. I hope he sells a million; he will richly deserve it.

But this is a typical instance of what I have just pointed out—that the man or firm doing this sort of thing must be given credit for a very large measure of pure public-spirited benevolence.

There can be not the slightest doubt that this series of concerts will result in the sale of thousands of radio sets. But this does not necessarily mean that they will be the kind of sets that Mr. Kent manufactures. He cannot compel the public to buy his particular sets for the reception of these concerts; if he could, then it would be a business proposition pure and

simple, and instead of calling him a public benefactor, we should simply admire him as a farsighted and shrewd business man not afraid to spend a lot of money with a fair certainty of making a lot more in return.

This series of programs, however, will simply create a tremendous demand for all good radio sets. Mr. Kent is taking his chances that his company will receive a fair share of this business. The thing that impresses me most favorably about the whole plan is the fact that Mr. Kent must know that his competitors are going to do a tremendous business also on his money. It requires a man of unusual vision to face a situation of this kind, and be willing to boost the business of his competitors in this way on the chance of also boosting his own.

There are organizations of manufacturers of radio sets who meet in convention and hold long discussions about the best method of stimulating business. If these men could only be brought to the Kent viewpoint, their obvious plan would be to pool all of their financial resources possible into a great fund and to place upon the biggest link of broadcasting stations available the very best programs that money could buy.

This is the solution of the problems which are perplexing the radio industry today. This is also the solution of the much-mooted problem of how to make the interest for radio continue throughout the Summer.

Radio interest will always rise and fall with the rise and fall of the programs broadcast. Put on a real first class program in the middle of July or August and you will get as big an audience as you will in December or January.

But it costs money. If there were more Kents in the industry, the problem would be easy of solution, and the radio manufacturer and the dealer, and you and I, would all be happy in radio twelve months in the year.

Popular Song Writer Gives His Views on Broadcasting Fees

WE ARE in receipt of a letter from a composer of popular songs, who expresses surprise that we have taken an attitude "against the composer of musical entertainment for radio listeners," referring to the editorial, "Shall Tin-Pan Alley Ruin Radio," which appeared in the October issue of this magazine. The writer proceeds to give his views on the subject.

A point that we would like to make clear to the writer of the letter and others interested, is that the editorial in question in no way took exception to the right of composers to be properly rewarded for their work, but rather to the varying and exorbitant demands that have been made, and are still being made, upon broadcasting stations by the Society of Composers, Authors and Publishers. We quote from that editorial: "There is not a broadcaster in the business today who does not most cheerfully admit that the man who writes a song and the man who publishes it and all of the men who have to do with making it popular are

fully entitled to a just reward for their talents and their efforts. Every broadcaster is willing to pay his share to see that this reward is adequate. But it should be remembered that the word *adequate* should also be held to include the word *reasonable*."

Simultaneously with the receipt of the above-mentioned letter there comes to hand the Cleveland Plain Dealer with an article on the subject. Here is an excerpt:

"Beginning today (October 2), there will be no broadcasting from the Euclid Music Company studio of WTAM, Hotel Statler, the Music Box Restaurant, Euclid Beach Park or Public Hall.

"The demand which brought this decision, according to S. E. Baldwin, manager of the radio station, was for payment of \$25 for each hour of remote control broadcasting, in addition to a fee of \$1000 yearly for the Home Studio. The demands also included a fee of \$25 an hour for 'courtesy programs,' in which credit is given to a firm furnishing the entertainers. This caused cancellation of such features as Carl Rupp's Hollenden entertainers.

"Accession to the demands would have meant an increase in the cost of broadcasting over WTAM by nearly \$100 a day, according to Mr. Baldwin."

The letter purporting to give the other side of the story follows:

THE LAMBS
130 West 44th Street
New York

October 3rd, 1925.

Mr. Henry M. Neely,
Philadelphia, Pa.
Dear Mr. Neely:

I am very much surprised that you have taken the attitude, as expressed in the magazine "Radio in the Home," against the composer of musical entertainment for radio listeners.

I have constantly performed free of charge on the air, and my songs have been sung the country over. May I add my song "Dear Old Pal of Mine," is one of the most popular on the air today.

Up to the present I have never received a cent for all I have contributed to radio. I wonder if the inventor of the "tubes" or other patents have been treated the same. My musical compositions have dropped seventy-five (75%) per cent in the sale of sheet music and phonograph records, etc.

The answer is—the public likes "Dear Old Pal of Mine" on the air, but instead of buying a copy of the song and playing it on the piano, or buying John McCormack's record of it, they have closed the piano and the Victrola—which paid me royalties—and bought a new tube and new radio set, to hear more music on the air. The public has tired of the piano and phonograph, and adopted the radio. All your friends will tell you so.

Well, if they want to hear my music that way—through radio—then through radio I must receive my money, or else stop writing. If they take it from me without paying my price for it, then surely the radio corporations of America will let me have their patents at a price I would suggest. That's fair, isn't it?

I have written a song and I reserve the right, according to the laws of the United States, to ask any price I want for it. I am not forced to sell it to any one, whether it is the American Telegraph and Telephone Company, Eveready Batteries, Silvertown Cord Tires or all the finest hotels in the United States who are using radio for an advertising campaign. Nor is DeForest forced to sell his patents for a price. If they don't want to pay me a living, then let them use something else.

You "rap" the Society of Composers, Authors and Publishers. All I can say is that great corporations stole and stole our works until we had to do something, and the Society's cheques have been very useful and I wish them all the success in the world. We only represent ten per cent (10%) of the copyrighted music in the country, but I guess it is wanted, hence this unpleasantness.

We are not starving nor pitiful. All I personally wish is that radio stop using my music until they pay me a living. That's not much to ask.

As for TIN-PAN ALLEY, I have a lot of respect for them, and so has the country we live in, since it began. Through all its wars and particularly this recent World War, I think we are very much indebted for such lifting strains as "Over There," "There's a Long, Long Trail," "Where Do We Go From Here Boys?" and in fact any good song.

Come to New York some time and see me and other composers, and I feel that you will not be so eager to rush the fountain of the radio—the fellows who create songs for the entertainment of the "listeners-in."

Yours very truly,
(Signed) LIEUTENANT GITZ RICE.

P. S.—May I dare to expect that this letter will receive the same publicity as your recent article did.

Getting 'Em Up in the Morning

(Continued From Page 24)

"Reductionists," as Bill Stradmann likes to call them, like to do their stuff to the tune of some popular song—so he

brings a piano-player with him and together, they give the commands to "bend forward—one—two—and—back," etc. He has found that playing popular music is an incentive to the timid souls who tune in for the first few times to take an interest in

the work, and they are soon sending their letter of enrollment in his large class of "benders." His work has been very uplifting.

Physicians have indorsed these exercises and several of them are taking the course. Letters have been received from members of the class in which they tell of their doctors recommending the work for the patients.

Drills are strenuous and the best gymnasts feel their effect. There is one drawback to exercising via radio, and that is the inability of the instructor to correct his pupils as he does in the gymnasium. While there are many who slight the movements simply because the director cannot see them, it must be borne in mind the full effect of the exercises will only be the result of the sincerity of the pupils.

The radio class conducted by WLW has the privilege of asking for corrective exercises. Nearly every request has to do with reduction and special exercises that will reduce everything from the neck down to the ankles so as to answer the dictates of fashion. One plump member of the class told of her experiences with the full-knee bend exercises and how, with the aid of door jambs, chairs, step-ladder and other handy things, she was able to negotiate the work. A few remarks of encouragement tend to keep up the spirits of the heavier members of the class. Music, however, is most important in keeping them jolly for a class of physical-culture students working without music would be like a parade without a band.

An obesity pamphlet is mailed to all heavyweights in the class with rules for reducing and suggested menus of meals not exceeding 1400 calories daily. With these aids, it has been found that members have been able to reduce as much as twenty pounds, while the lighter members of the class have gained from two to five pounds.

It is difficult to impress the beginners with the fact that exercises will reduce those who are too plump and put on weight for thinner members of the class. It is not an easy matter to build up muscle as quickly as it is to take off fat.

It is only by letters from the members of the class that the physical director can become acquainted with them and know their problems. In some cases, the letters are answered through the radio station. Many have been benefited through the advice given, for it is easier to put a class through the work when the class is visualized by the director.

Na-Ald Sockets and the new standard tube bases

Adapters for old sockets—and a brand-new socket too



Adapter 418-X

RADIO fans can now use any of the new tubes in the famous Na-Ald De Luxe Socket. This is the socket

that has two points of contact with each tube terminal. It is the socket with the self-scraping contacts that may be easily cleaned by simply rotating tube three or four times without removing it from the socket. It is also the socket proved by laboratory tests to be the most efficient in low losses and low capacity.



Adapter 401-X

The Na-Ald De Luxe Socket will take the new tubes UX-201A, UX-118 and UX-115 without an adapter. By the use of this adapter No. 418-X it will take the new small base tubes, Nos. UX-190 and UX-180. 418-X sells for 35c.



Adapter 480-X

Other Na-Ald adapters and the new socket

The Super-Het No. 480-X adapter, equipped with cables for connections, enables the owners of Radiolas Super-Het to get the great increase in volume and clarity the new UX-180 tube develops. Price of 480-X Adapter, \$1.85. There is a new adapter for use in making the shift from WD-11 to UX tubes. It is especially designed to enable the users of Radiolas II, III and III-A to enjoy the



New Socket Improved operation 481-X

new tubes provide. Price 481-X, 75c.

The 401-X Na-Ald Socket is a brand-new socket that will take any of the UX series of tubes without an adapter. Price 35c; No. 481-X cushion mount, 80c.

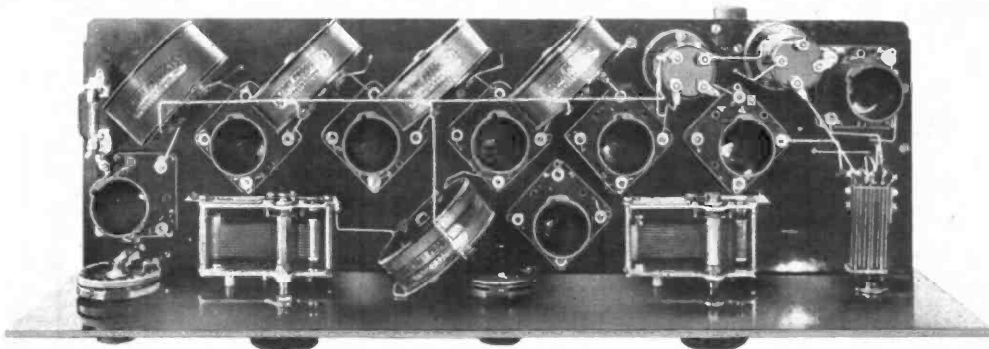
You can obtain Na-Ald adapters, sockets or dials at radio, electrical and hardware stores everywhere.

Write for catalogue and free information, "What to Build," giving tested selected circuits.

ALDEN MANUFACTURING CO.

Also
Manufacturers of the famous Na-Ald Dials
Dept. J 11 Springfield, Mass.





The simplicity of instrument assembly and wiring is an outstanding feature of the set

A SUPER-HET that "SUPES"

THE superheterodyne receiver is commonly called the "Rolls-Royce of Radio"—and a lot of other names, too, that don't sound anything like Rolls-Royce.

Paradoxical as it may seem, the superheterodyne is the most praised and most damned circuit known today, and has probably caused more grief and a greater waste of money than any other known circuit or combination of circuits. Yet, basically the superheterodyne is, I believe, undoubtedly the finest circuit now available to the man who builds his own receiver. However, let me say at this time, that there are many others probably better able than I to discuss the merits or demerits of the superhet, and it must be remembered that this article is based chiefly on the results of my own personal experiences.

It is unfortunate but true that the majority of home-made superheterodynes have failed to function according to the expectations of the builders. I say "majority" advisedly, for during the past eighteen months it has been my privilege to read hundreds of letters from fans seeking technical advice, and the majority of those

By *Leslie G. Biles*

Technical Editor of "Radio in the Home"

who had built supers were dissatisfied with the performance of their sets.

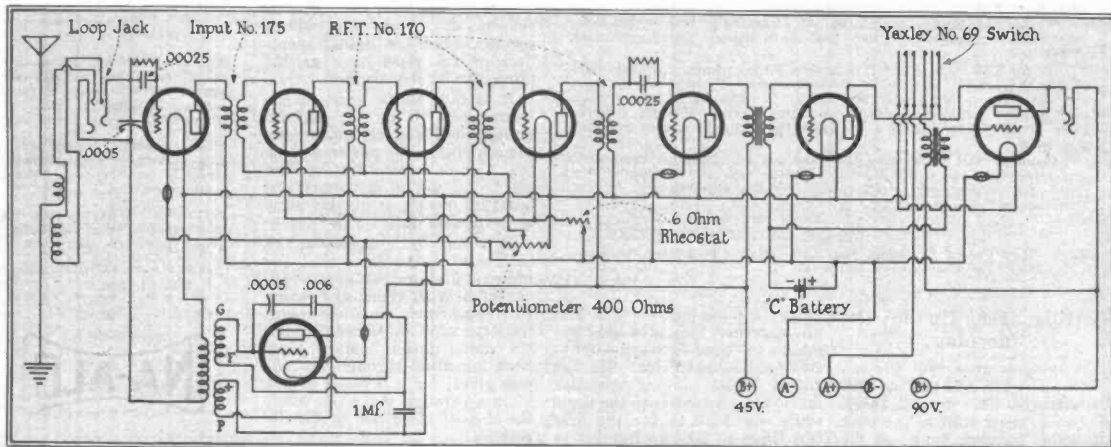
The use of inferior or substituted parts and an insufficient knowledge of high frequency current were responsible for a great deal of the trouble; others, having built their sets of high quality apparatus, were having difficulty due to minor mistakes which could be easily adjusted. The chief complaint, however, was the inability to tune in stations at great distances.

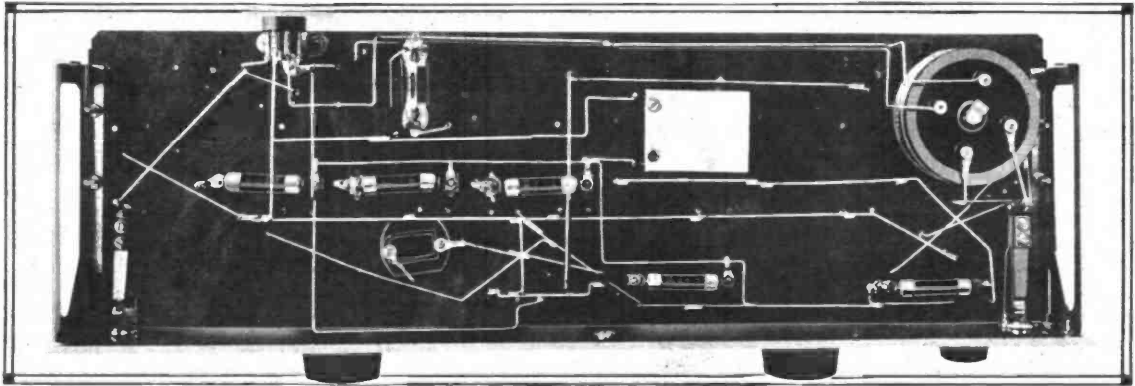
These letters provoked sympathy for the builders, many of whom could ill afford to spend a hundred dollars for a set that would not function properly. The real trouble is that the public has been fooled into believing that the superheterodyne will perform miracles. Such statements as "California on a one-foot loop," "coast to coast reception," "DX like locals" and other untruthful advertising and misstatement of facts by unscrupulous manufacturers have

done incalculable harm to the superheterodyne, and it is only now that their absurdity is beginning to be understood.

California on a one-foot loop (even from the coast of Maine) is no marvelous achievement for a superheterodyne if receiving conditions are ideal, but it cannot be done consistently. In fact, I know of no receiver—superheterodyne or any other type—that has a consistent, night after night receiving range of 3000 miles. There may be such an animal, but in hundreds of sets which I have tested I failed to find one which could boast of such performance.

During the international receiving tests last winter Madrid, Spain, and Aberdeen, Scotland, were received at my home in Delanco, N. J., with a receiver of the same make as that shown in the accompanying illustration, yet it could not truthfully be said that this set would bring in European stations consistently. The Pacific Coast stations were heard spasmodically throughout the winter months, but the consistent range of the receiver was about 1500 miles. By "consistent range" is meant clear and dependable loud-speaker reception, night





after night, using a loop antenna. With an outdoor antenna the DX range could be increased several hundred miles.

The prospective builder of a superheterodyne should avoid apparatus of unknown make and accept only such parts as are endorsed by reputable publications or those which he knows have proved successful in the hands of some of his friends. This advice is based on fifteen months' personal experiments with forty-one makes of superheterodynes, during which time, sixty-nine supers were constructed. In addition to these, I had the pleasure of conducting numerous experiments in conjunction with Captain H. J. Adams, Signal Corps, U. S. A. Captain Adams is considered one of the foremost authorities on superheterodynes in this country. Out of all the numerous types we tested we found but seven which, in our opinion, were worthy of serious consideration.

Some of these outfits were entirely satisfactory as far as tonal qualities were concerned, but they were utterly lacking in sensitivity and selectivity. Others were selective, but the transformers were peaked so sharp as to cut the side bands—resulting in poor quality of music. Still others were unstable or low in amplification.

A superheterodyne to be thoroughly satisfactory must have excellent selectivity—sharp enough to separate stations operating on wave lengths ten kilocycles apart. It must have volume to spare, and there should be absolutely no interstage oscilla-

There are very few long leads used in this set, and most of them are under the sub-panel. The use of automatic filament controls (Amperites) simplifies the operation of the receiver

tion—that is, the radio-frequency amplifiers should never oscillate. These three points depend upon the design of the intermediate transformers and the oscillator, and it is in only the very best transformers that these points will be combined.

Of the several types of transformers on the market, the iron core probably predominates. This is due, undoubtedly, to the fact that these transformers have no distinct resonance point and, therefore, require no matching. This type of transformer puts the burden of matching a "filter coupler" on the man who builds the set. This is truly a disadvantage, for contrary to some opinions, this coupler cannot be tuned by the use of matched condensers, as the inductance of two apparently equal coils is seldom, if ever, alike.

The correct matching of this coupler requires the use of a high-frequency amplifier and a calibrated oscillator, which is a difficult layout for the novice to handle, and upon the accuracy of this matching depends the selectivity of the set.

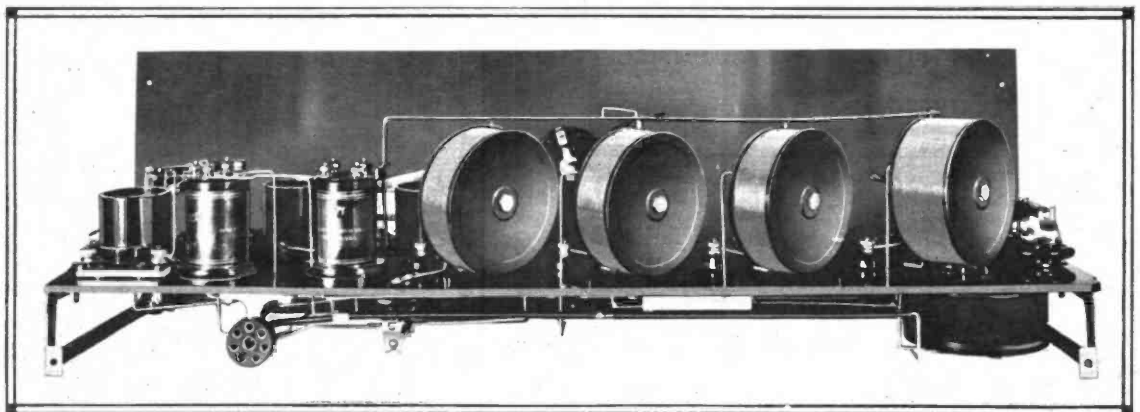
The iron core transformer, due to its

Rear view of the set showing the method of mounting the transformers

heavy losses, prevents, in a measure, interstage oscillation. But due to its necessarily high impedance, it works well only with the one type of tube for which it was designed, and then, for the best results these tubes must be matched. Due also to these losses, the iron core transformer cannot be used satisfactorily above 45,000 cycles, and at this comparatively low operating frequency, the heterodyne beats are quite close together, which shows favor to higher intermediate frequencies for convenient tuning.

The air core transformer, when properly designed, presents none of the objections of the iron core, and at the same time, has many distinct advantages. The air core transformer has a resonance curve many times sharper than the iron core type, which means that the filter coupler does not have to be so accurately tuned, and that the circuit will be more selective and easier to construct. Inasmuch as these transformers may be operated on a much higher frequency, the heterodyne beats are spread apart, making tuning much more convenient. There are no core losses in an air core transformer, and consequently, the possibility of distortion due to this loss is eliminated. Due to the truly resonant characteristics of these transformers, the applied grid voltage should be higher, resulting in higher amplification.

However, air core transformers, in order to possess these advantages, must have their resonance points accurately matched,





The clear tone of The Amplion comes from 30 years' experience in creating loud speakers



Distinct voicing of commands at sea is vital. At left, one of the natural loud speakers produced by the Amplion organization and installed on over 1,000 ships of leading navies and shipping companies throughout the world.



Clarity is also essential to full enjoyment of music. Thirty years' experience in creating loud speakers, unrivaled for clearness of tone, makes The Amplion. Ask to hear the improved new Amplion Dragon, AR-19, illustrated above.

ALL who hear the Amplion are won by its wonderful clearness and deep, full, life-like tone-qualities which have made it the world's largest-selling loud speaker.

The explanation is that The Amplion was evolved by the actual originators and oldest producers of loud speakers. Long before radio attained general popularity, Graham loud speakers had been adopted—because of outstanding excellence—by the exacting British Admiralty and naval experts of other nations. The Amplion, introduced in 1920, was based on thirty years of successful experience.

Hear The Amplion in comparison with any or all other radio reproducers. Let your ears tell you why it is so widely known as "The world's finest loud speaker." Amplion Loud Speakers, \$12 up. Phonograph units in two sizes. Interesting literature and dealer's address on request.

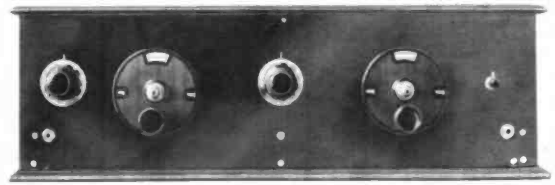
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AMPLION

The World's Standard Loud Speaker

The supremacy of The Amplion has won world-wide recognition and leadership in sales. Partial list of nations in which Amplions are ruling favorites among music-lovers:

- UNITED STATES
- DOMINION OF CANADA
- ENGLAND
- SCOTLAND · WALES
- IRELAND
- NORWAY · SWEDEN
- DENMARK
- HOLLAND · BELGIUM
- FRANCE · SPAIN
- SWITZERLAND
- ITALY · JAPAN
- SOUTH AFRICA
- NEW ZEALAND
- AUSTRALIA



Front panel view of the Victoreen Superheterodyne. Vernier dials are an absolute necessity on this type of receiver. The Marro dial used on the receiver shown in the illustration is an exceptionally fine vernier and makes the sharpest kind of tuning a real pleasure

but unfortunately there are very few of them matched to any stated precision.

An air core transformer, whose resonance curve has been shifted by means of a condenser across the secondary, is the ideal transformer for intermediate amplification, and providing the matching has been done at the factory, it possesses many advantages. However, it should not contain a condenser which can be varied from the outside, for if it has been properly designed, it will never require adjustment.

This type of "resonant" transformer has a much sharper resonance curve than other types.

Because of the condenser, the secondary circuit exhibits true resonance characteristics. For instance, it permits the use of a primary whose value of impedance is lower than the usual practice, which enables it to be used with either 199 type or 201A type tubes, with results equal to the relative amplification values of the tube. On account of lower inductance value of the primary, interstage oscillation is absolutely prevented. This is a wonderful improvement.

Another feature made possible, only by the use of the condenser, is the stability of the circuit. This makes the matching

The Sensation of the Season

MODEL S-F-5

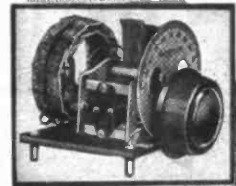
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FRESHMAN MASTERPIECE



Encased in as fine a heavy 5 ply solid, genuine mahogany cabinet as ever graced any radio set.

\$60.

Every part embodied is newly constructed resulting in greater efficiency and finer tone quality. The illustration shows our new straight line wave length, low loss condenser and vernier device, permitting the reception of stations over a wave length from 190 to 550 meters.



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AMERICAN RADIO ENGINEERS, Dept. 11, House Bldg., Chicago, U.S.A.

of tubes and the length of leads, etc., of negligible importance. This is true because, without the condenser, the only capacity present, is the distributed capacity of the transformer secondary, which is naturally small in comparison, and when this value is small, a very, very small change is apt to throw the resonance curve many meters off.

The transformers used in the receiver shown herewith are guaranteed by the manufacturer to be accurate within 1-3 of 1 per cent of the frequency. These transformers are tuned to 88,000 cycles (3400 meters). At this frequency, interference from harmonics is at a minimum, and tuning is much sharper than at higher wave lengths.

Following is a list of material which we used at Station 3XP to build this receiver:

3 Victoreen RF Transformers, No. 170.

1 Victoreen Input Transformer, No. 175.

1 Victoreen Oscillator, No. 150.

2 Amsco Allocating (straight-line - frequency) Condensers, .0005 mfd capacity.

2 Marco Vernier Dials.
8 Benjamin Cle-ra-tone sockets, standard base.

2 Sangamo Grid Condensers, with mounting, .00025 mfd.

1 Sangamo Fixed Condenser, .006 mfd capacity.

1 Sangamo By-pass Condenser, 1 mfd capacity.

1 Eveready 4½-volt Flash-light Battery.

1 Yaxley 400-ohm Potentiometer.

1 Yaxley 6-ohm Rheostat.

1 Yaxley 6-pole, 3-way jack switch, No. 69.

1 Yaxley Single-Circuit Jack.

1 Yaxley Double-Circuit Jack.

2 Meloformer Audio Transformers.

1 Panel, 7 x 24 x 3-16 inches.

1 Panel, 6¼ x 23 x 3-16 inches.

1 Jones Multi Plug and Battery cable.

2 Daven Grid Leaks, 2 megs each.

1 Pair Benjamin Panel Brackets.

5 Amperites, No. 1A.

The apparatus mentioned above is a list of the parts used in the construction of the superheterodynes shown in the photographs. Substitution of other makes of parts of equal value may be made for some of the apparatus mentioned, but if the same layout is used as that shown, the parts substituted should be of the same physical dimensions.

The sub-panel method of assembly makes a much neater looking layout than the base-board method, although the latter method is not as difficult and may be used if desired. In fact, it makes little if any difference what style or method

of construction is followed as long as the wiring diagram is strictly adhered to.

First of all, make sure that all the necessary parts are at hand before beginning to lay out the panel. Place these instruments in their respective positions and then compare the temporary layout with the picture of the finished set. This method of checking will enable you to detect any mistakes in getting the instruments in their positions before drilling or assembly has been started. Make frequent reference to the pictures and diagrams.

Mount the panel instruments and sub-panel brackets first, and then fasten the sub-panel temporarily to the brackets. Place the transformers and sockets in their positions and mark the mounting holes on the sub-panel with a scriber. The input transformer is mounted at the left end of the sub-panel. The positions of the oscillator-tube socket and oscillator coupler are clearly indicated in the photograph—between the tuning condensers. It is suggested that the mounting screw holes in the sub-panel be tapped for 6-32 screws. The screws should be cut to the proper length so as not to protrude through the subpanel and cause a short circuit.

Now fasten the instruments on the sub-panel and the set is ready to be wired. Use No. 14 round tinned bus bar. Be careful with the work and the use of "spaghetti," or other insulating material will not be needed.

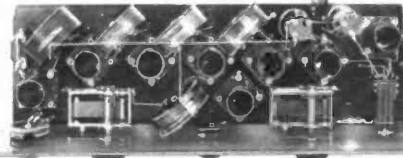
When making soldered connections, do not, under any circumstances, use acid flux. Rosin-core solder is best for this purpose.

Each soldered joint should be electrically as well as mechanically perfect. A good soldered joint should present a smooth round surface. This can only be obtained by keeping the iron at the proper temperature to make the solder flow freely. A good electric soldering iron is recommended for this work. When soldering a joint, hold the parts firmly so they cannot vibrate and then apply the iron with a small amount of solder. Hold the parts firmly until cold. Now to proceed with the actual wiring of the set:

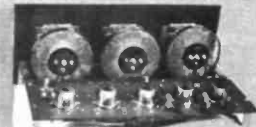
First run the wires to the grid and plate terminals of the sockets. Do not solder to the terminals—loop the wires and fasten them securely under the knurled terminal nuts. The wires should be bent at right angles with a slightly rounded curve rather than at sharp angles. Do not carry this right-angle bending to extremes. Keep the wires as short and direct as possible.

Now wire the filament circuit. If the Jones cable is used (and it makes an excellent and very convenient battery connector), run a wire from the "red" terminal

Kit Complete Parts
Victoreen Super Heterodyne
Set Special at **\$69.50**
Including The Same Parts Exactly as Described in this issue of Radio-in-the-Home



One of the few superheterodynes with air-core transformers. Wonderful selectivity—enough to separate stations on two or three meter wave difference. Remarkable volume—enough to operate loud-speaker on far-distant stations. No self-oscillations—no annoying whistles or squeals from the set. Easier tuning because air-core transformers operate at higher frequencies. Set simplicity itself. Dials always log. A demonstration will convince you. Tubes, batteries and aerial, of course, not included. Packed, ready for you anywhere.



Kit Complete Parts, Wonderful
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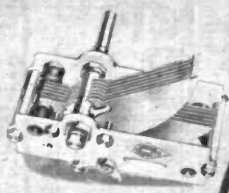
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of the cable connector to the third spring of the switch jack. Connect from the second spring of the switch jack to the positive filament terminal of each socket, except the last audio, and to one side of the potentiometer. The negative filament terminals of the three RF amplifier tube sockets are connected to a common lead and fastened to one side of the rheostat. The negative filament terminal of each of the remaining five sockets is connected to one terminal of an Amperite. Then run a lead from the "green" terminal of the cable connector to rheostat and each of the Amperites, and also to one side of the potentiometer. This completes the wiring of the filament circuit.

Next the high tension of "B" battery leads should be connected. In the photograph, this wire is plainly shown running over the tops of the intermediate-frequency transformers. This wire runs from the "blue" terminal of the cable connector to the "plus" terminal of the input transformer, oscillator coupler, the three intermediate transformers and to the "B" terminal of the first audio-frequency transformer.

Now connect the "F" terminal of the input and first two intermediate transformers to a common lead and fasten this to the middle terminal of the potentiometer. Connect the "F" ter-

terminal of the third intermediate transformer to the positive filament lead. The one mfd. bypass condenser should be fastened under the sub-panel and connected across the "plus" and "F" terminals of the oscillator coupler.

If the antenna coupler is used, this should be fastened under the sub-panel, as shown in the photograph. The "ant." terminal is connected to the "black" terminal and the "gnd." terminal connected to the "brown" terminal of the cable connector.

The top spring of the loop jack is connected to the nearest terminal of the pick-up coil on the back of the oscillator coupler and the remaining terminal of the pick-up coil is connected to the positive filament terminal of the oscillator tube. The second-from-top terminal of the loop jack is connected to the "F" terminal of the antenna coupler. The third terminal of the jack is connected to the "G" terminal of the coupler. The bottom spring of the loop jack is connected through the grid leak and condenser to the "G" terminal of the frequency changer tube socket (first socket at the left). The stationary plate terminal of the loop condenser is connected to this last wire between the jack and grid condenser. The rotor plate terminal of the condenser is connected to the line

((Continued on Page 45))

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The SUPER BOOSTER

By E. T. Flewelling

In Which I Sign a Letter

IN THE October issue of *Radio Broadcast*, Arthur Lynch, the editor, devotes two valuable pages to an exchange of letters concerning what he considers an unfavorable comment by Mr. Flewelling on one of the circuits published in his magazine.

These two pages are ended with a letter of very abject apology, with my name signed to it.

The fact of the matter is that I never wrote that letter. Mr. Lynch wrote it and sent it to me, asking me to sign it. I declined to do so and sent him a substitute letter which did not seem to satisfy him, so I sent him another. Apparently, Mr. Lynch does not like my style of letter writing, for, without any permission from me, he went back to his own letter and attached my signature to it.

In order to ease Mr. Lynch's conscience—if you can call it that—and also to protect him from any unpleasant legal consequences, I hereby sign that letter and, so far as I am concerned, the incident is closed.

HENRY M. NEELY.

IN THE September issue of *Radio in the Home* my article on the Superhet Converter described how to construct a simple two-tube outfit for converting any five-tube neutrodyne or radio-frequency receiver into a superheterodyne. It may be remembered that I recommended the use of a temporary panel in order to pave the way for any improvements in the converter that might be worked out. I believe that the problem has been carried about to its end and wish, therefore, to outline its present standing.

For superhet selectivity, ease of handling only two controls, and decidedly advantageous operating characteristics, it is recommended that the converter exactly as described in the September issue be considered a finished product. Test converters have been operated under all kinds of conditions and we do not feel there is reason for making any change whatever in the design as described.

My readers may remember that I spoke of one dial control for the converter. It

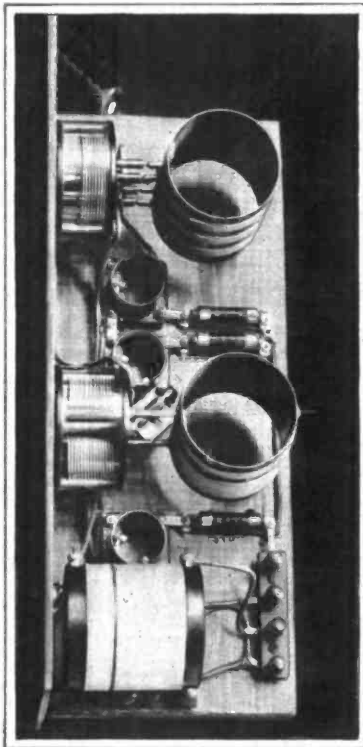


Fig. 1 The photograph above, is a view looking down on the Super-Booster, showing the placement of the apparatus.

To the left below is the usual schematic wiring diagram, and to the right is a diagram of the output as used with the converter.

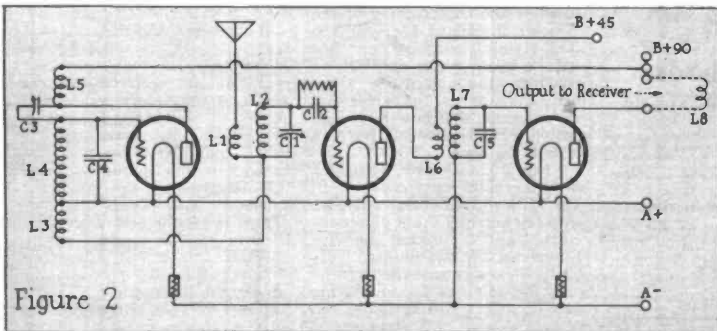


Figure 2

was hoped that we might be able to work this out in the face of well-known theories, but results were not up to the standard. With the tuning coil connected in the manner shown in the September article, but wound upon the same tubing with the oscillator coils, no oscillator coupling coil is needed as the tuning coil will then be tightly coupled to the oscillator circuit. With such a scheme it will be found that the oscillator tuning will directly affect the detector tuning and the outfit will function as a superhet converter with only one dial. The unfortunate part is that the tuning is restricted and the volume is considerably weakened. Those who like to experiment might find this an extremely fertile field.

The converter then is considered as a very satisfactory adjunct to one's present receiver, but while excellent results have been obtained with it in operation on a loop antenna, there is room for improvement. If the converter is used as a separate unit there is a most excellent opportunity to add an additional stage of intermediate amplification. Additional radio-frequency amplification is always welcome, especially so now that we have low-priced tubes, if it can be used without adding too much in the way of controls.

The Super-Booster has been designed to cover the need for greater radio-frequency amplification, reception on a loop antenna, to simplify present operation and secure the utmost in distance reception.

If you have a good five-tube receiver, you will secure excellent results with the Booster, because it really will boost.

If your receiver is not as good as it might be, then the Booster will be still more valuable, because it will make your receiver far more sensitive, selective and easy to operate, than it is at present.

The converter operating from a loop antenna brought in stations from all over the country under good conditions, but the Booster just about doubled the volume so that we consider it well worth while.

Construction features are identical with the converter, but the set uses one more tube or stage of radio-frequency amplifica-

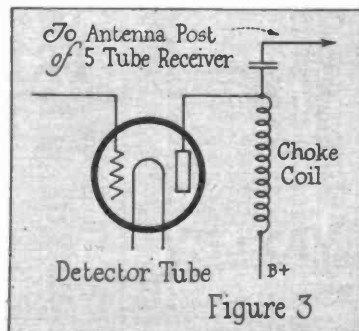
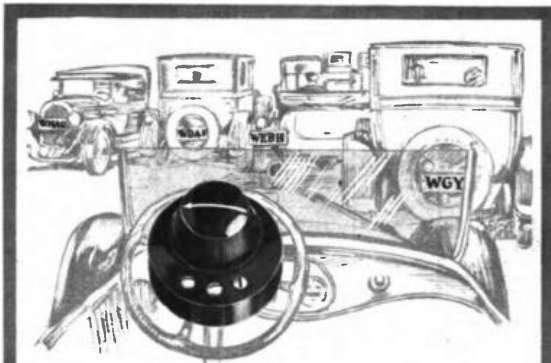


Figure 3



Through the "Radio Traffic"

WHEN you run into a flock of high-powered broadcasting stations, all riding the ether at the same time, can you pick your way through to your desired destination without getting tangled up in the jam?

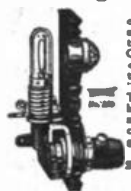
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2000 Cottage Grove Ave., Dept. 200, Chicago, Ill.

tion and is mounted upon a 17x 18-inch panel. This really amounts to having an eight-tube superheterodyne, and although we are at a disadvantage in having an intermediate amplifier operating at about 600 meters instead of about 6000 meters, yet the writer has seen a great many standard superheterodynes that could not equal the Booster in front of a good five-tube receiver. Incidentally this speaks remarkably well for the present commercial type of receiver.

Fig. 1, a photograph of the Booster, shows the layout and constructional details very clearly. It should be again emphasized that the manner in which the parts are laid out and mounted is of extreme importance, and that the design is an excellent one to follow if one contemplates constructing a superheterodyne of any type. It will be noted that special jacks are mounted upon the condensers to fit headphone cord tips that constitute the terminals of the various coils. This was done in order to secure interchangeable plug-in type coils. Plug-in coils of this type are very highly recommended, but if one lacks the mechanical means to meet such construction no harm will be done if the coils are mounted in the relative positions as shown in the photo and short, direct leads run for the connections. The points to be emphasized are simply the relative positions of the parts and the short, direct connections.

If it is desired to build the Booster exactly as shown, one simply mounts headphone or loud-speaker cord tips on the cardboard tubing, so spaced that they will enter small jacks that are mounted directly upon the condenser terminals.

The wiring diagram of the Booster is shown in Fig. 2, and while it might seem a bit complicated, it really is extremely simple if the parts are laid out as shown. Two dials and a filament switch are the only controls on the panel, because rheostats and potentiometers are not used, as can be seen by inspection of the wiring plan. Lack of space, the simplicity of design and the fact that the September article gave details of construction, make it seem unnecessary to show the construction of the Booster in accordance with the SXP-style of building. Our time will be much better spent if we consider the operating characteristics of the converter and the Booster, and how it is connected to the receiver with which it is to be used.

Fig. 3 shows how, by use of a choke coil, we were able to shunt the output of the converter into the antenna input of the receiver and thus use but one wire to connect the two outfits. This method is very satisfactory and may be followed in connecting the Booster to its receiving set.

In such a case, of course, the output would be taken from the radio-frequency amplifier tube instead of the detector tube and Fig. 3 would read "amplifier tube" instead of "detector tube." The choke coil simply consists of 100 turns of wire, preferably No. 30, wound single layer on a three-inch tube.

The single wire carrying the output to the receiving set is broken by the insertion of the small .00025 mf. fixed condenser in order to avoid the danger of placing the "B" battery voltage on the filament circuit of the receiver.

In the layout of the Booster we are showing the output with two wires to the receiver, so as to save the use of the choke coils and to secure the maximum transfer of energy. Connection is made from the two "output" binding posts, as shown in Fig. 2, to a coil coupled to the first coil in the receiver. This coupling should be very close and can be secured by winding No. 22 or No. 24 DCC wire directly upon the first coil of the five-tube receiver or upon a tube that will fit inside of the first coil. The winding will be of approximately 20 turns (I say approximately because I shall refer to this point later in this article under the heading of regeneration).

The values of the coils and condensers, as shown in Fig. 2, are given as follows:

- C1—.0005 mf. variable
- C2—.00025 mf. grid condenser
- C3—.00025 mf. variable
- C4—.00025 mf. fixed
- C5—.0005 mf. semivariable

Condenser C4 is used to broaden out the oscillator tuning so that the two dials will read more closely alike. All coils except L8 are wound on 3-inch tubing with No. 24 DCC and all are wound in the same direction.

- L1—10 turns
- L2—50 turns
- L3—10 turns
- L4—16 turns
- L5—16 turns
- L6—25 turns
- L7—55 turns
- L8—20 turns

All of the coils are spaced about 1/4 inch apart except L1 and 2 and L6 and 7. The greater the distance between L1-L2 the greater the selectivity, minimum distance 1/4 inch, as noted under "regeneration" below. L6-L7 are closely coupled.

It will be remembered that the dials on the five-tube receiver are all adjusted for best reception at about 600 meters which is the intermediate frequency at which the Booster is to operate. This means that our R. F. amplifier tube must be tuned to match the receiver, and this is done by the semifixed condenser C5. Once this condenser is set for best reception it need not be touched again, and for this reason the more compact type of semivariable condenser is specified. There are several such condensers on



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Name, addresses and occupations of two references are on sheet attached.

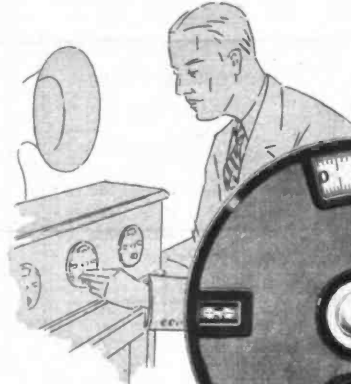
the market such as the XL, the Turn-it, etc.

Inasmuch as I feel that the directions for building the Booster are very easily understood and because I believe the Booster to be a very valuable addition to one's present receiver I am rather anxious to have my readers thoroughly understand just how the subject of regeneration enters into the case rather than to take more time on constructional details.

In exactly the same manner as it affects all receiving sets, regeneration will affect the Booster. Use regeneration to the utmost and you secure maximum results; neglect it and you secure practically nothing. It is unfortunate that regenerative effects vary as the frequency is increased or the wave length shortened. This action forces us to choose a happy medium if we are to reduce our controls to a practical point. It is, however, one of the strongest reasons for the use of the Booster because we operate most of our apparatus at one frequency and need not change as we tune in various waves. The varying effect does, however, influence the Booster detector because it must meet the requirement of tuning over the broadcasting band of 220 to 535 meters. With our detector circuit then, we must try to secure the happy medium.

Regeneration leads to oscillation or squeals. Increase the resistance of the input circuit L1-L2-C1 by using a high resistance antenna and the effect is to reduce the tendency to oscillate, weaken the regenerative effect and broaden the tuning. Reduce the resistance of the antenna and the tuning circuit and the reverse is true.

Substituting a loop for the coils L1-L2 means as a rule much less resistance in the grid circuit; this means greater tendency toward oscillation because regeneration has not so much resistance to overcome. Regeneration in the Booster is affected by the plate coil L6 of the detector tube. We specified 25 turns for this coil because that seemed best to suit our loops and antenna, 35 turns was better over 325 meters, but the receiver oscillated badly under this wave. The coil L6 should, therefore, be wound with the idea of using more or less turns in proportion as one may wish to secure the maximum. It is quite often thought that loop tunes broadly, but this is not really the case inasmuch as the broadness will be overcome in proportion as regeneration is used. Increase the turns of coil L6 and you can easily sharpen the loop-tuning to the point of oscillation. The same line of thought applies to the output coil L8, although this coil has only to meet the requirements of one frequency—i. e. the intermediate frequency—and is not critical, the object



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Several noted set manufacturers have already adopted MAR-CO dials. Circuit designers are specifying them. Put MAR-CO dials on your present set—or on the new set you buy or build. Till then, you can never know what a difference a dial can make, Martin-Copeland Company, Providence, R. I.

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Three sizes to tune with any .00035, .00025, .00015 Condensers. Ten days' trial. Money gladly refunded if not satisfied. Size and type of condenser. Parcel Post, C.O.D., \$4.00. Write now.
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167 Lovell Street Elgin, Ill.

is to use as many turns as possible without causing oscillation. The antenna is coupled more closely to the receiver as the number of turns in L1 is increased or the coil is brought closer to L2. This means that this coil will affect the sharpness of tuning and affects the number of turns used in L6. It may be necessary in cases of severe interference to reduce the number of turns in L1 to 3 or 4, and if this causes oscillation, to reduce L6 a few turns to stop it.

The above remarks, while made with particular reference to the Booster, also apply to the design of a standard superheterodyne. They are really the underlying reasons for the trouble experienced by the amateur in building a superheterodyne.

It is the writer's humble opinion that we should pay far more attention to the study of regeneration, its causes and effects, because it is undoubtedly the controlling influence in all present-day radio reception; the heterodyne principle being the one outstanding exception. I have emphasized this matter of regeneration because I wish you to have success with the Booster, and I know that in this case at least, success is very dependent upon its proper use.

If, when the Booster is put into operation, one experiences trouble, it is comparatively easy to locate the cause if one is familiar with the effect. The two dials are turned, as in tuning, so as to have about the same readings; they will not match exactly but will run fairly close. If, when they are run as described, short snappy whistles result as they are tuned, one can be sure that the detector-tube is oscillating. It is assumed that the Booster is operating on the loop or antenna that one intends to use and if so the remedy for the troublesome oscillation will be the removal of a few turns from the coil L6. It is recommended that 2 or 3 turns only be removed at a time.

If turning the dials or starting the set with the dials approximately together produces a continuous whistle, the indication is that the coupling coil L8 has too many turns and the same procedure may be followed. In the opposite case of clear reception with insufficient volume the number of turns on these coils may be increased.

If the condenser C1 tunes broadly, coil L1 may be reduced as described above or L6 may be increased.

In tuning for the first time one should be cautioned to use patience and care in tuning the dials because C3 will tune so sharply that the stations come in or go out within a fraction of a division.

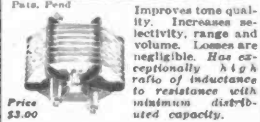
Once a few stations are logged the rest will be easy. As a gauge upon the Booster

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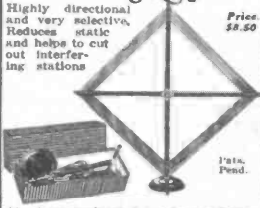
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Operates from light socket. Supplies the uniform voltage necessary for perfect reception. Absolutely noiseless. Guaranteed not to set up the slightest hum. No acid to spill. No moving parts to get out of order. Requires no attention. An easy to operate as switching on a light. Convenient and dependable. The least expensive plate current supply because of its long life. In handsome walnut case. Price complete, \$15.
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Sangamo Condensers have sealed edges

EVERYBODY who is up to date on radio knows that "Sangamo Mica Condensers are solidly molded in bakelite." Front, back, and sides—all enclosed in one solid jacket of smooth brown bakelite. Why such a radical change from the usual method of manufacturing fixed condensers? Simply this. Exposed edges permit moisture to creep in.

It has been proved in official testing laboratories that a condenser, though accurate when made, may increase its equivalent series resistance twenty times over in a few weeks, because it is injured by moisture, absorbed through the edges, from humidity or salt air. Then it no longer acts as a condenser, but as a resistance unit, causing distortion noises that are often mistaken for static.

The edges of the Sangamo are sealed tight permanently. A doubting Thomas boiled one for 10 hours in water, dried it off and then tested the capacity. There was no change! You do not have to look for water to plunge your condensers to. Moisture is in the air all the time—causing condenser trouble that spoils fine reception.

India upon Sangamo mica condensers and keep the moisture out! Accuracy guaranteed within 10 per cent of marked capacity. They are accurate—and stay accurate.

Dealers have them or can quickly procure them.

Sangamo Electric Company
Springfield, Illinois

RADIO DIVISION, 50 Church Street, New York

SALES OFFICES—PRINCIPAL CITIES
For Canada—Sangamo Electric Co. of Canada Ltd., Toronto.
For Europe—British Sangamo Co., Posters End, Middlesex, Eng.
For Far East—Asahi Engineering Co., Osaka, Japan

No-day
-in every
good set!



Tone Clarity Beyond Expectation
Just pull the switch and note the clarity and richness of tone any Ampelite-equipped set gives you. Ampelite is the automatic rheostat which does away with hand rheostats and filament meters. No guessing. No adjustments as to correct tube current. Tubes last longer. Makes any novice a master operator. Insist upon Ampelite when you buy or build. Price \$1.16.

Write for free book-ups
RADIALL COMPANY
Dept. R. H. -13, 96 Franklin St., N. Y. City

AMPERITE
The "SELF-ADJUSTING" Rheostat

when it is operating correctly the following is given. The Booster when operating from a loop with a good five-tube set will give loud speaker volume approximating that of the receiver operating alone on an ordinary open antenna. This means 500 to 1000 mile loud speaker loop operation as a matter of course.

The regular ground connection as used at present may be left on the five-tube set or removed for greater directional effect when using the loop. The ground connection is, however, preferably kept as at present unless the set is operated close to a broadcasting station. Greater selectivity is obtained without the ground connection. Stations should be completely in or out within one division of the oscillator dial and two to three divisions on the tuning dial, while it should be easy to separate completely stations 2 to 4 meters apart depending among other things upon what part of the broadcasting band they are operating in.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.
Required by the Act of Congress of August 24, 1912

RADIO IN THE HOME

Published Monthly
At Philadelphia, Pennsylvania
For October 1, 1925
State of Pennsylvania }
County of Philadelphia }

Before me, a Notary Public in and for the state and county aforesaid, personally appeared George W. Kraft, who, having been duly sworn according to law, deposes and says that he is the Secretary-Treasurer of the Radio in the Home, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the month shown in the above caption, required by the Act of August 24, 1912, embodied in Section 1111, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:
Publisher, Henry M. Neely Publishing Co., 608 Chestnut St., Phila., Pa.
Editor, Henry M. Neely, Delanco, N. J.
Managing Editor, none
Business Managers, George W. Kraft, 5008 Larchwood Ave., Phila., Pa.; Henry M. Neely, Delanco, N. J.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)
Henry M. Neely Publishing Co., 608 Chestnut St., Phila., Pa.
Henry M. Neely, Delanco, N. J.
John C. Martin, Wycoffe, Pa.
George W. Kraft, 5008 Larchwood Ave., Phila., Pa.
Norman Neely, 623 S. Washington Square, Phila., Pa.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: (If there are none, so state.)
None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of bona fide owners; and that affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock and other securities than as so stated by him.
GEORGE W. KRAFT,
Secretary-Treasurer.

Sworn to and subscribed before me this 23rd day of September, 1925.
(Real) CHARLES E. JOHNSTON,
(My commission expires January 7, 1927.)



The Climax of Our Achievements

Since the beginning of broadcasting, B-T apparatus and circuits have set new standards of efficiency. The first three-circuit tuner, the first vernier condenser, the "nameless"—all B-T triumphs.

The B-T "Counterphase-Six"

Three stages of radio-frequency—only two tuning dials—sharp, selective, sensitive—requires only a short indoor aerial for distance reception—the "Counterphase-Six" is truly the climax of our achievements.

Either complete set or kits for the home builder. See your dealer.

Send for Illustrated Circulars

Flewelling Indorses B-T Sockets

This noted radio authority writes:

"The standard tube sockets of your manufacture have so met the approval of my laboratory staff that we have decided to use them practically exclusively."

"In your side contact type of socket, contact is always solid and reliable and it was this feature combined with the other very apparent advantages of the socket that was responsible for the above decision."

The only Socket that is equally efficient with both navy base and the new UX tubes either large or small.

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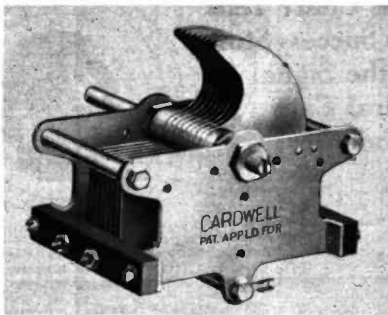


"Better Tuning," gives the facts. Send 10 cents.

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TYPE "C" Cardwell Low-Loss condensers afford

all the desirable characteristics of straight-line tuning. Rugged, well-built and efficient, they will never be excelled. Write today for Booklet 71-B, which tells of these and other Cardwell products. In it is described the Equitrol dial which makes any standard condenser straight-line. All good dealers carry Cardwells.

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81 Prospect Street, Brooklyn, N. Y.

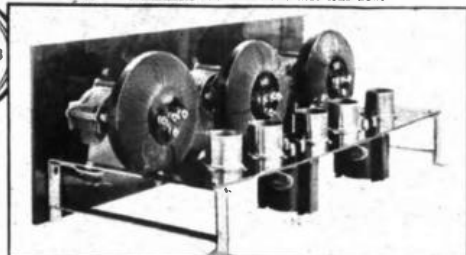
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Build the phenomenal new type radio with this amazing kit

Everyone wants one of these revolutionary receivers that are amazing engineers. You may build your own in a surprisingly short time from this remarkable kit. Free book that tells how.



The new Eric Circoloid Five Factory - Built Kit - as you receive it. Ready, set, feasible, so it delivers loads and shorts on a wire in an evening. Price, \$40.50



HERE is an easy way to have the new radio that is astonishing radio fans everywhere. You make a big saving and have the fun of building your own set besides.

The amazing new inductance principle found in these kits belongs to Eric alone. No other set, regardless of price, can offer it to you. It is based on a different kind of coil—the Eric "Balloon" Circoloid. Four striking advantages result:

1. Greater Distance. Circoloids have no measurable external field to affect adjacent coils or wiring circuits. This makes possible higher amplification in each stage, with increased sensitivity and greater range.
2. More Volume. Higher r. f. amplification enables Circoloids to bring in distant stations scarcely audible in ordinary sets with volume enough to fill an auditorium.

DEALERS—Exclusive franchisees are available to high-class dealers in localities still open. Write or wire immediately. Trade Mark Registered.

3. Increased Selectivity. Circoloids have absolutely no pick-up qualities of their own. Only signals flowing in the antenna circuits are built up.

4. Finer Tone Quality. The self-enclosed field positively prevents stray feed-backs between coils. Hence no buzzing or distortion. Tones are crystal clear.

Write for free information on kit—also book

See how a few minutes of fun will give you the newest and most phenomenal set known to radio science. Examine it at any Eric dealer's, or send the coupon for full information, illustrations and diagrams contained in the remarkable book, "Circoloid Hook-ups."

Electrical Research Laboratories
2540 Cottage Grove Ave.
Dept. 20R, Chicago, U. S. A.

Send me the new book explaining Circoloid principle and hookups.

Name _____
Address _____
City _____ County _____ State _____



This Chart Tells the Success Story of the Signal Spiral Cam Condenser



THE Signal Spiral Cam Condenser is the only condenser on the market equipped with this unique and highly efficient control. The distinct advantage of its construction is best illustrated by the chart reproduced above. Note the even distribution of stations over the complete 360° of the dial as compared to typical condensers of other types. It's all in the cam!

Other Important Features

The Signal Spiral Cam Condenser operates with velvety smoothness and with a complete elimination of back lash, permitting easy and accurate tuning. It is compact, being no larger than the old semicircular type. It is die-cast throughout, insuring absolute uniformity. It is designed for either single or three hole mounting, and air-core transformers can in turn be mounted directly on the condenser. Built in three sizes with unusually low minimum capacities in all sizes giving

a high tuning ratio. One price for any capacity—00035, 00025, 00005—\$4.00. See the Signal Spiral Cam Condenser at your dealers.

Signal Bracket Type Loop Aerial—Cuts out that extra piece of apparatus as it attaches right onto the end of your radio cabinet. The ideal loop for close quarters. See one at your dealers or write us for detailed literature.

SIGNAL ELECTRIC MFG. CO.

Dept. 11K, Menominee, Michigan
Branches in All Principal Cities

The Eveready Hour

(Continued From Page 16)

female voices: Good-night, Mrs. Bishop. Good-night. (Echo of sleigh bells and crowd in distance singing "Good-Night, Ladies.")

Rose: Wasn't it real nice of them to come over, John? I believe you knew about it all the time. Didn't you, now?

And here we are, alone again—just you and me, John, until Bill comes back. I'm so glad he came with his friends. They're fine folks and they're to be with us for a few days. Oh, I'm so happy, John. I could sing myself, I believe.

Glenn: Why don't you, Mother. Just as we used to years ago. Now, you sit right at the melodeon—just like that. That's right, and I'll stand here—with my hand on your shoulder—the way we sang so many times. Now you play. What do you want to sing most, Mother?

Rose: This (organ begins "When You and I Were Young, Maggie.") Rose starts singing. Father joins in. Sing several phrases together. Rose's voice breaks and with sob she cries—I can't go on John!

Glenn tries to carry melody along for a bar or two, throat tightens as he says with rising inflection—

There, Mother, that's all right. That's all right, Mother.

Orchestra

Plays theme on "Long, Long Ago" through closing announcement.

Closing Announcement (McNames): Just to let you know that the Eveready Hour of old-time songs as presented by the National Carbon Company, has come to a close.

Rules for Reducing Obesity

(Continued From Page 25)

cherries. Liberal portions of salads without oil or butter dressings. Green and leafy vegetables.

2. Foods Permitted Only Sparingly—Rich soups, fried foods, pork, veal, stews, hashes, potted meats, liver, duck, goose, sausage, crabs, lobster, preserved fish, salmon, blue fish, herring; hominy, oatmeal, rice, puddings, sardines, beets, macaroni and spaghetti, turnips, carrots, parsnips, sweet potatoes, potatoes, hot bread or cakes, nuts, candy, pies, pastry.

3. The average adult in a sedentary occupation needs from 2300 to 2800 calories a day. A good reducing diet is one that contains about 1400 to 1500 calories a day and, if selected properly, will not cause much discomfort or annoyance.

Menu—1400 Calories Per Day

Breakfast	Calories
Orange	100
Egg	100
Slice toast	100
Coffee, no sugar, no cream	0

Lunch	
Baked beans, ½ cup	100
Potato, small	50
Roll	100

Dinner	
Hash, 2 tablespoonsful	200
Onions, 3	100
Radishes, 6	25
Bread, 1½ slices	150
Butter, 1x1¼ in.	100
Apple fritter, 2-3	200

Breakfast	
Berries, cup	100
Slices toast	100
Coffee, cream and sugar	100

Lunch	
Stew, 3-5 cup	150
Turnips, ½ cup	50
½ Baked apple	100

Dinner	
Roast beef, 5x2½ in.	200
Potato, medium	100
Spinach, 1 cup	40
Asparagus, 10 stalks	50
Biscuits, 2	200
Butter, 1x1¼ in.	100
Peas, ½ cup	100

Breakfast	
½ glass orange juice	100
Poached egg	100
Dry toast, slice	100
Coffee, no sugar, no cream	0

Lunch	
Lamb chop	100
Potato, medium	100
Apple	100

Dinner	
Rice and tomato, ½ cup	200
Spinach, cup	40
Bread, 2 slices	200
Butter, 1x1¼ in.	100
Pis, average slice	250

Breakfast	
Pear	50
Dry toast, slice	100
Boiled egg	100
Coffee, cream and sugar	100

Lunch	
Sardines, 4	100
Tomato and cucumber, sliced	50
Bread, slice	100
Milk chocolate, 2 squares	50

Dinner	
Steak, 2x3 in.	200
Potato	100
String beans, cup	50
Bread, slice	100
Butter, 1x1¼ in.	100
Cake, 5x2 in.	200
Peaches, 1½	50

Breakfast	
Prunes, 3 and syrup	150
Egg	100
Coffee, cream and sugar	100

Lunch	
Corned beef, 4x4 in.	200
Cabbage, 2 cups	100
Crackers, 3	100

Dinner	
Steak, 4x3¼ in.	200
Half potato	50
Tomato and lettuce	75
Bread, slice	100
Butter, 1x1¼ in.	100
Jelly, tablespoonful	100

Breakfast	
Banana	100
Chop	100
Toast, slice	100

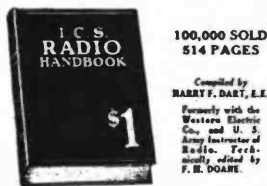
Lunch	
Cream cheese, 2x1¼ in.	100
Crackers, 3	100
Iced tea, sugar; cup	100

Dinner	
Lamb, 5x2½ in.	200
Potato	100
Peas, ½ cup	100
Lettuce, ½ head	25
Bread, slice	100
Butter, 1x1¼ in.	100
Apple sauce, ½ cup	150

4. Cold baths, besides improving the skin and aiding the circulation, aid acceleration of loss of fat.

5. Exercise such as you will obtain in the gymnasium at the Y. M. C. A. or in the radio class from Station WLW.

Every Radio Fan should have this book



100,000 SOLD
514 PAGES

Compiled by
HARRY F. DART, E.E.

Formerly with the
Western Electric
Co. and U. S.
Army Instructor of
Radio. Techni-
cally edited by
F. H. DOARE.

BE A RADIO expert—it's easy for the 100,000 who own this compact, complete Radio Handbook. Written in good, plain, understandable language. Crammed full of facts, every one useful and important. Explains how receivers and transmitters work, how to build and operate them. Whatever you or your friends want to know, it's here. Will save you many times its small cost.

TELLS ALL ABOUT: Electrical terms and circuits, antennas, batteries, generators and motors, electron vacuum tubes, most receiving hook-ups, radio and audio frequency amplification, broadcast and commercial transmitters and receiving, super-regeneration, codes, license rules. Many other features.

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THE RADIO RABAT CO., 1261 Oregon Cleveland, O.

DID YOU MISS THESE ?

The September issue of RADIO IN THE HOME contained complete final improvements of the Grimes four-tube Inverse Duplex and the Harkness three-tube Counter circuit.

Here are two "hook-ups" no radio fan can afford to miss.

Send 10 cents for copy (stamps will do).

Circulation Department
RADIO IN THE HOME

Public Ledger Building,
Philadelphia, Pa.

A Super-Het That "Supers"

(Continued From Page 38)

running from the jack to the pick-up coil.

The rotor plate terminal of the oscillator tuning condenser is connected to the "C" terminal of the oscillator tube socket, and then continue this line to the "C" terminal of the oscillator coupler. This connection is very important to avoid objectionable hand-capacity effects. Contrary to conventional practice in other circuits, the rotor plate terminal of the condenser used for tuning the oscillator should be connected to the "grid." The stationary plate terminal is connected on one side of the .006 condensers and then to "P" terminal of the oscillator tube and then to the "P" terminal of the oscillator coupler.

A special six-pole, triple-throw switch is shown in the diagram controlling the audio-amplifiers, and is mentioned in the list of parts. There are three positions for the switch knob. When in the upright position the tubes are not lighted and the set is not in operation. Throwing the knob pointer into one horizontal position lights all the tubes and connects the speaker jack to the output of the last tube. In the other horizontal position, however, the filament of the last tube is turned out and the speaker jack is connected to the output of the first stage of audio-frequency amplification. This will be found convenient when listening to nearby stations.

Directions for connecting the second and third spring of this jack have been given above. The first spring is connected to the filament terminal of the last tube. The fourth spring is connected to the "P" terminal of the second audio-transformer. The fifth spring is connected to the plate of the first audio-amplifier tube socket. The sixth spring of the switch jack is connected to the plate of the last audio-amplifier tube and also to the top spring of the speaker jack.

The "pink" terminal of the cable connector is connected to the bottom spring of the speaker jack and also to the "B" terminal of the second audio-frequency transformer. The "F" terminals of both audio-transformers are connected together and then soldered (underneath the sub-panel) to the negative terminal of the "C" battery. The positive terminal of the "C" battery is connected to the negative filament line. Fastening the "yellow" terminal of the cable connector to the positive filament lead completes the wiring.

Follow the color code as mentioned and fasten the leads of the battery cable to terminals of the "A" and "B" batteries. Connect the cable and try one tube in each socket to make cer-

Send for this RADIO BOOK FREE

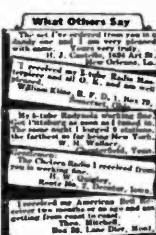


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You must have our catalog no matter what set or kit you want. Our line is complete and includes all popular sets, such as Superheterodyne, Heterodyne, Ultradyne, Reinartz, Regenerative, Radio Frequency, Browning-Drake, Reflex and all other latest circuits. Kits, sets and parts manufactured by all well known manufacturers such as: **Frast, Howard, Baldwin, Brandes, Western Electric, Columbia** and others.

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Our Catalog
Includes complete list of broadcasting stations and general information and facts about our free service division. Our radio engineers will help you solve all your radio problems. Send your name and address on a card or by letter. We will send catalog FREE.

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The Original Celatsite Wire

Celatsite is a tinned copper bus bar wire with a non-inflammable "spaghetti" insulation in five colors. Supplied in 30-inch lengths.

Flexible Varnished "Spaghetti"

A perfect insulation tube for all danger points in net wiring. Costs little more and is worth a lot more than the cheaper substitutes offered. Black, yellow, red, green, brown; for wires Nos. 10 to 18; 30-inch lengths.

Celatsite Battery Cable

For connecting A and B Batteries (or current supply) to radio set. Silk braid covering 5 strands Celatsite wire—5 feet long—a different color for each terminal. Prevents messy wiring and "blow" tubes. Adds greatly to the appearance of your set.

Stranded Enameled Antenna

The best outdoor antenna you can put up. 7 strands of enameled copper wire; maximum surface for reception. Enameling prevents corrosion and consequent weak signals. 100, 150 or 200 foot coils, boxed.

Loop Antenna Wire

You can make a good loop with Acme wire made of 85 strands of fine copper wire, green silk covered. Flexible; non-stretching; neat.

Flexible Celatsite

Flexible stranded wire for "point-to-point" and sub-panel wiring—latest method of wiring sets. 5 colors; black, yellow, green, red and brown, one for each circuit. 25-foot coils.

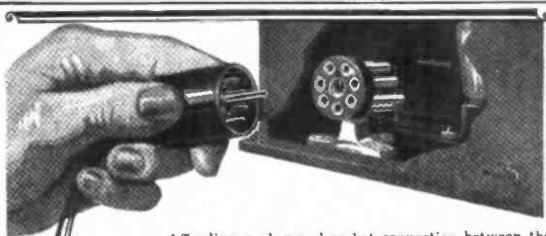
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Dept. R New Haven, Conn.

Also makers of fine enameled magnet wire and coil windings for Audio Transformers, Battery Chargers and "B" Battery Eliminators.

ACME Catalog



Affording a plug and socket connection between the radio set and all outside connections, Jones Multi-Plug is as essential to the radio as a cord and socket to the electric iron. For safety and convenience leading set manufacturers have adopted this item as standard equipment. You, too, need a Multi-Plug for the set you are building or the set you now have. See your dealer or write direct for descriptive folder B.

TYPE BM—For Set Building \$4.50
 TYPE BP—Adaptable to Any Set ... 5.00

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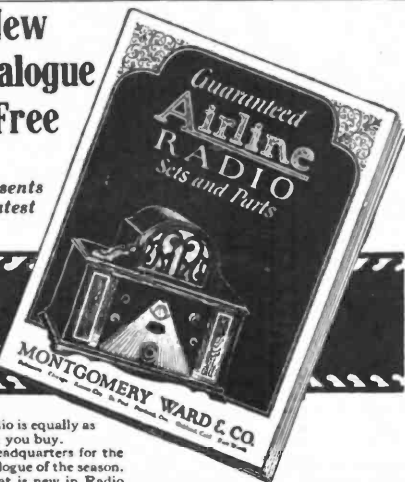


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Send to Radio Headquarters for the most complete Catalogue of the season. See for yourself what is new in Radio and what has been actually tested and approved.

See for yourself what low prices can be made on Radio when it is sold without the usual "Radio profits."

A Complete Radio Manual

This new 52 page Radio Catalogue shows everything in parts, batteries, cabinets, contains a list of stations, a radio log for recording stations. It shows the best of the new sets. One tube sets that give amazing results. Five tube sets with a single dial to turn.

Write to the house nearest you for your free copy of Ward's new Radio Catalogue. Address Dept. 3-R

ESTABLISHED 1872

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The Oldest Mail Order House is Today the Most Progressive
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Think of tuning in one station after another, by turning a single dial!

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Our 53 Year Old Policy

For 53 years we have sold only quality merchandise under a Golden Rule Policy. You can rely absolutely upon the quality of everything shown in this Radio Catalogue.

tain that no mistakes have been made in the wiring. When you are sure that everything is O. K. light all the tubes and plug in the loop and loud-speaker. The potentiometer arm should be turned about three-quarters of the way toward the negative side.

Start tuning by turning the oscillator condenser slowly, one degree at a time. For each setting of this dial, turn the first dial at the left, which controls the loop or antenna, slowly, in either direction. At some point you will hear a station operating, should any be on the air. Now carefully rotate the oscillator dial until you are right in the middle of the wave, at which point the signal will be strongest.

After a fairly distant station has been tuned in, the changing around of tubes may result in better reception. Certain characteristics of tubes make some better amplifiers than detectors and vice versa. On extreme long-distance signals, a careful adjustment of the rheostat on the intermediate amplifiers should be made. Roughly speaking this should be about three-quarters of the way to the full "on" position. Once this rheostat has been adjusted on a fairly distant station no further adjustment will be necessary.

The varying of the detector voltage is sometimes advisable should a hissing sound be produced when the potentiometer is turned to the negative, or full "on" position. This usually is found to be somewhere between 30 and 45 volts.

The total list price of the apparatus, panels, cabinets and everything else shown in the completed receiver is less than \$90.00. By using the baseboard method of construction and a less expensive cabinet, the total cost should be about \$75.00.

No matter how good the set is ahead of the detector tube, it is essential that the highest-grade audio-transformers be used if we are to expect faithful reproduction of speech or music.

In construction the Meloformer is a radical departure from the conventional design of audio-frequency transformer. It delivers volume that seems out of all proportion to its exceptional small size. One stage of amplification will be found sufficient for local and all nearby stations. For this reason it is desirable to use this Yaxley No. 69 switch so that the speaker may conveniently be switched from the second to the first stage of audio-amplification.

Sharpness of tuning depends to a large degree upon the selection of the proper type of tuning condensers. The AmSCO Allocating condenser (straight-line frequency) does just what its name implies, i. e., allocates or spreads the stations evenly around the dial.

I will buy for you!

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 I will buy any apparatus mentioned in this magazine and send it to you at its Regular Price plus only Parcel Postage and Insurance.

ARE YOU ACQUAINTED WITH THIS SERVICE?

It is conducted in co-operation with Radio in the Home, and is for the convenience of its readers.
 It is more than just a place to buy parts. Hundreds of my customers look to me to save them money and time. I sell parts for only those concerns that I HAVE TESTED and know to be good, and every instrument I send you bears my personal guarantee of immediate replacement if defective.

BE SURE of getting the exact parts that were used at 3XP for the VICTOREEN SUPER

by ordering them from me. Perhaps you already have some of the parts and the following list is printed for your convenience. Check up what you need and it will be on its way to you the same day order is received.

- 1 VICTOREEN 1 up a
- 1 Transformer No. 70. \$33.50
- 3 VICTOREEN R. F. Transformers No. 175.
- 1 VICTOREEN Oscillator No. 150
- 2 AMSCO S. L. F. .0005 Condensers 8.50
- 2 MARCO Vernier Dials. 5.00
- 8 BENJAMIN Sockets 8.00
- 2 SANGAMO .0025 Grid Condensers 1.00
- 1 SANGAMO .006 Fixed Condenser25
- 1 SANGAMO 1. Mid By pass Condenser 1.25
- 1 EVEREADY 4 1/2 Volt "C" Battery40
- 1 YAXLEY 400 Ohm Potentiometer 1.75
- 1 YAXLEY 5 Ohm Rheostat 1.35
- 1 YAXLEY 6 Pole Jack switch No. 69 1.65
- 1 YAXLEY Single Circuit Jack50
- 1 YAXLEY Double Circuit Jack50
- 2 MELOFORMER Audio Transformers 8.00
- 1 7" x 4" Black RADION Front Panel 3.00
- 1 7" x 2 1/2" Black RADION Base Panel 3.00
- 2 DAVEN 2 Mesh Grid Leaks 1.00
- 1 JONES Multi Plug Cable. 4.50
- 1 Pair BENJAMIN Panel Brackets70
- 5 No. 1-A AMPERITES. 5.50
- 20 Pieces Soft Tinned Bus Bar50

Above parts are identical with those used at 3XP, and their use assures you the same success. Write me for further information regarding this list before buying.

The Best 5-Tube Set in the World Is the

QUADRAFORMER

One built at 3XP brought in Pacific Coast Stations on several consecutive evenings. It has POWER, SELECTIVITY and a very wonderful tone.

I have two kits complete in every detail of Panel, Baseboard, Wire, Hardware, etc.

THE STANDARD QUAD. \$48.50

RAFORMER KIT.

THE "DE LUXE" QUAD. \$65.00

RAFORMER KIT.

SEAGULL TUBES

were endorsed by 3XP Laboratory in October. They are very fine tubes, especially on distant stations where quietness counts. I have \$2.50 ea. them in stock.

"Distance Makes No Difference"

E. M. CLARKE
 1523 Chestnut St. Phila., Pa.



Be Prepared to Tune in European Stations During the
Trans-Atlantic Test Period This Coming Season

Use a

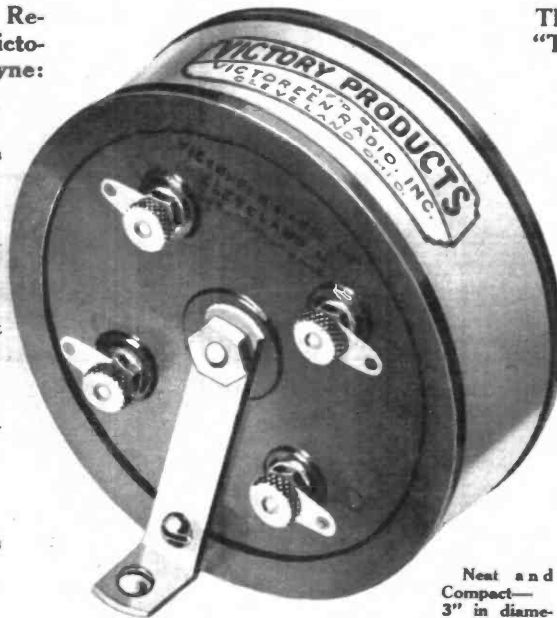
VICTOREEN Superheterodyne Kit

Containing "Tuned" R. F. Transformers of Air Core Construction

\$33.50 Kit of 5 Coils

Additional Parts Re- quired to Build a Victo- reen Superheterodyne:

- 2—.0005 Variable Condensers.
- 8—Vacuum Tube Sockets.
- 2—.00025 Grid Condensers with Mounting.
- 2—2 MEG Grid Leaks.
- 1—400 OHM Potentiometer.
- 2—30 OHM Rheostats.
- 2—6 OHM Rheostats.
- 2—Double Circuit Jacks.
- 1—Single Circuit Filament Jack.
- 1—Filament Switch.
- 2—Audio Transformers.
- 1—1MFD. Bypass Con- denser.
- 1—4½ Volt "C" Battery.
- 1—7x24-in. Panel.
- Base Board 8¼x23x½.
- Binding Post, Screws, Bus Bar and Solder Lugs.



Neat and
Compact—
3" in diame-
ter, 1" thick

Victoreen No. 170 R. F. Transformer—

No Oscillations, Howls or Squeals—No Matching of Tubes
Victoreen Air Core Transformers are not merely "matched," but are actually tuned to a guaranteed precision of 1-3 of 1%—another Victoreen feature.

Range—Clarity—Volume—Selectivity—Ease of Operation

*Ask Your Dealer for a Free Folder and Hook-up of the
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Box 321, Boise, Idaho.

The Victoreen Kit— "Type OM"—Consists of:

- 3—"Victoreen" No. 170 R.F. Transformers.
- 1—"Victoreen" No. 175 Input Transformer.
- 1—"Victoreen" No. 150 Oscillator Coil.

Should use of Aerial be preferred to Loop, the "Victoreen" No. 160 Antenna Coupler is required, at \$3.50 Extra.

Either

UV199 or 201A Type of Tubes may be used. A truly Victoreen Feature.

"B" Battery consumption is remarkably low—8-10 Milliamps, with Potentiometer at negative side—less than some 3 tube sets.

VICTOREEN MANGANIN RHEOSTATS



The only Rheostat with zero temperature coefficient—no matter how warm the unit becomes the resistance remains absolutely constant.

Victoreen Rheostats have double the number of turns of wire used on ordinary Rheostats—that means twice as fine adjustment.

Genuine Manganin wire used in all Victoreen resistances. This three terminal Rheostat simplifies wiring.

RHEOSTATS

- No. 2 (2 Ohms)
- No. 4 (4 Ohms)
- No. 10 (10 Ohms)
- No. 20 (20 Ohms)
- No. 30 (30 Ohms)

\$1.20 EACH

POTENTIOMETERS

- No. 200 (200 Ohms) \$1.50
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*Noiseless — Beautiful — Con-
venient—Single Hole Mounting*

For the "Entertainment Corner"

There is a corner somewhere in your home that is waiting to be changed by the magic touch of radio.

Crosley radio is a known quality—you will make no error in choosing it to create your "entertainment corner."

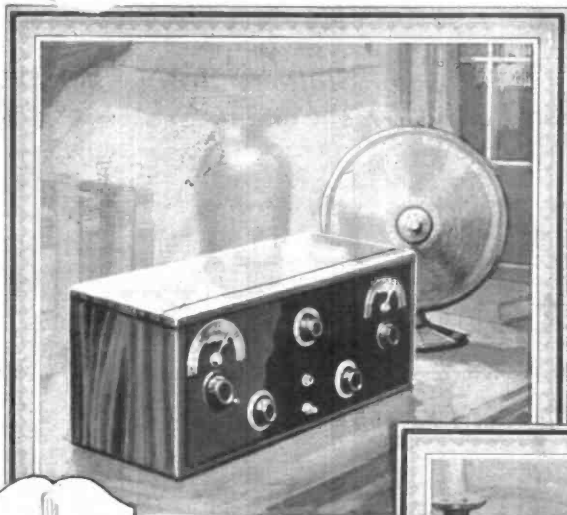
Satisfaction already delivered to hundreds of thousands of Crosley owners should guide you in such choice.

A trip to a Crosley dealer will enable you to make direct comparison and see for yourself that radio to give full measure of pleasure need not be costly.

THE SUPER TRIRDYN REGULAR

The famous Trirdyn hook-up—bringing stations in sharp, clear and without distortion on the Musicon. Oil-rubbed mahogany cabinet, compact, unobtrusive; 1936 improvements and refinements make this unsurpassable in sheer performance under all conditions. Price, without accessories,

\$45.00



THE CROSLY PUP

A genuine Armstrong regenerative double circuit receiver that gets distance and tunes through local stations. One tube. Price, without accessories,

\$9.75

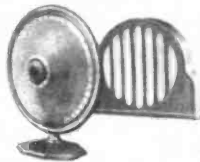
THE MUSICONE

Rapidly replacing thousands of horn-type speakers everywhere, 500,000 in use by January 1st. Reproduces full tonal scale without distortion. Lowest notes clear and mellow—highest, sharp and true. New low price,

\$14.75

In beautiful mahogany clock-type case, with grille front, the Musicone sells for

\$27.50



THE TWO TUBE 51 REGULAR

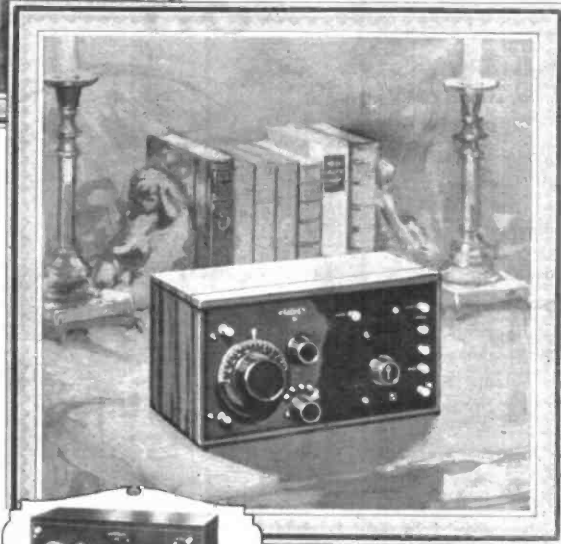
Probably the most popular set on the market if the number of sets sold is an indication.

This efficient little set uses any make of tube.

The cabinet is compact—takes up little room. The cabinet shields tubes and parts completely.

If the Crosley 51 is located in Central States stations all over the country should be heard nearby. Nearby stations on the loud speaker. Price, without accessories,

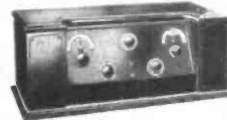
Now \$14.75



THE 3 TUBE 52 REGULAR

A source of enthusiasm wherever owned. Loud speaker reception under average conditions from all important stations if location is anywhere near central. Price without accessories,

Now \$25



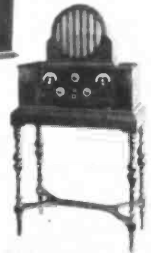
THE SUPER-TRIRDYN SPECIAL

De Luxe design—beautiful mahogany cabinet holds all batteries. Subpanel concealed wiring. Results obtained in comparison tests almost unbelievable. Price without accessories,

\$60.00

With table, specially designed to match and Musicone De Luxe, price is \$115.00. Table alone is

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Dependable Radio

Buy Crosley radio with confidence—with the assurance that your set incorporates the most modern radio developments—that it has been properly designed and carefully built so as to remain a source of permanent pleasure—that you are getting in every way a full dollar's value.

Crosley radio is easy to operate because of its simplicity. Its simplicity is one reason for its remarkable efficiency.

Crosley production volume has developed tremendous economies of cost that are reflected in the low Crosley prices. See the complete line at any Crosley dealer or write for illustrated catalogue:

Crosley manufactures receiving sets which are licensed under Armstrong U. S. patent No. 1,113,118 and priced from \$9.75 to \$60.00 without accessories. Add 15% to all prices west of the Rocky Mountains.

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

THE CROSLY RADIO CORPORATION, Cincinnati, O.

CROSLY RADIO

BETTER COSTS LESS



Why are receiver manufacturers turning to reflexing?

The successful application of the reflex principle to one tube in many of the leading receivers is a confirmation in itself of the soundness of my Inverse-Duplex System.

I am taking the next logical step in radio and reflexing the greatest possible number of tubes in sets built under rigid inspection.

With the exception of Inverse-Duplex licensees, many other set manufacturers would gladly do the same thing, if they could.

Fundamentally, by inverting the reflex system, I produce a perfectly balanced circuit—even demands on the tubes. Incidentally, I secure economy in operation—low first cost, low cost in maintenance, little strain on the batteries.

Because of the high amplification and the resulting volume of the Inverse-Duplex System, the tendency to operate the rheostat *low* actually prolongs the life of the tubes. This means a minimum tube strain, despite the fact that we get results equal to double the number of tubes.

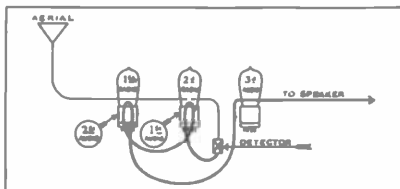


Chart Showing Circuit of Type 3-XP

Type 3X-P Receiver, my official laboratory model, was built and is sponsored by David Grimes, Inc. I recommend it highly.

Inquiries are welcome in regard to my system, and I shall endeavor to answer as many as possible in the columns of *Radio in the Home*.



Inside view of Type 3-XP showing position of 3 tubes and fixed detector.


David Grimes
 INCORPORATED
INVERSE DUPLEX SYSTEM
Insures Natural Tone Quality

Type 3-XP, with the most economical circuit on first cost and also on maintenance. Reliable without accessories at \$85 only





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INDEX TO THE BEST IN RADIO CIRCUITS, RECEIVERS AND APPARATUS

	Page No.		Page No.
FEBRUARY, 1924		Tube-Testing Outfit for Dealers.....	31
Circuit Tuning With Condensers.....	9	What Size Grid Leak Shall I Use?.....	43
Grimes Designs New Coil for His System.....	14	AUGUST, 1924	
Lots of Volume With This Three-Circuit Coil (Kelcoil).....	16	The Neutrodyne—Installation and Operation.....	9
Simplified Reflex for Real Quality.....	24	Audio-Frequency Amplifiers.....	11
How to Figure Your Aerials.....	26	Neutroformers in the Grimes 3XP.....	13
Two and Three Step Amplifiers.....	30	Correct Aerial Insulation.....	16
The "Levin Singletrol" Circuit.....	31	The Grege "Selector".....	18
Have You Heard the Short Wave Lengths?.....	38	A Tube That Eliminates the "A" Battery.....	34
Try This Turn of Wire Around Your Coils.....	41	SEPTEMBER, 1924	
MARCH, 1924		Grimes-ing the Hazeltine.....	7
Super-Heterodyne (M. & H. Circuit).....	7	How I Inverse-Duplexed the Neutrodyne.....	9
Push-Pull Amplifiers.....	12	3XP Style Wire-Ups of the Inverse-Duplexed Neutrodyne.....	11
Listen-in on the Short Waves.....	15	Radio-Frequency Amplifiers.....	12
Multitube Tuned-Plate Reflex.....	17	Plate Juice From the Lighting Socket.....	22
The Grimes Circuit for Dry Cell Tubes.....	24	Building Radio Sets That Work.....	24
Goodreau Answers Questions About His Famous Circuit.....	26	OCTOBER, 1924	
APRIL, 1924		On Resistance Coupled Amplification.....	6
Grimes Designs a Portable Inverse Duplex.....	8	The New Harkness Counterflex Circuit.....	11
Three Tubes in a Corona Case.....	10	3XP-Style Wire-Ups of the New Harkness Counterflex.....	14
The Langheim and Kaufman Circuit.....	14	New Sets of this Season.....	18
Goodreau's Solderless Portable Set.....	17	The Neutrodyne.....	24
Lightning a Danger? Not a Bit!.....	19	New 110-Volt Tube with Replaceable Filament.....	25
Don't Shield—Wire Up Correctly.....	20	Tubes—A Survey and a Forecast.....	26
You Can Suppress That Interference.....	24	Notes on the Grimes-Griggs Neutrodyne.....	26
How to Charge Your Storage B's.....	34	How Far Will This Set Receive?.....	36
Answers to Questions on the Super-Heterodyne.....	36	NOVEMBER, 1924	
More About the "Levin Singletrol".....	41	Our Most Successful Hook-Up.....	8
MAY, 1924		Now's the Time to Overhaul.....	12
The Story of Reflex and Radio Frequency.....	8	How the Harkness Reflex Can Be Changed to the New Harkness Counterflex.....	14
The Airco Super-Heterodyne.....	11	Inverse: Duplicating the Plantish System.....	16
A Raw Amateur's Experiences With the Super-Heterodyne.....	16	How Much of a Nuisance Are You?.....	25
A Favorite Circuit Simplified (Goodreau Circuit).....	24	DECEMBER, 1924	
JUNE, 1924		Flewelling's New Circuit.....	11
Simple Hook-Up for Testing Tubes.....	6	The Two-Tube Harkness Counterflex.....	16
Harkness Tells About His Reflex.....	9	3XP-Style Wire-Ups, Harkness Counterflex.....	18
The New Grimes 3XP Inverse-Duplex.....	12	Reflexing the Oscillating Set.....	21
Re-Radiating Receivers.....	16	A Favorite Circuit Simplified (Goodreau).....	24
"Factory" Refinements in Home-Built Sets.....	17	Further Notes on the Inverse Duplex Neutrodyne.....	51
How to Become a DX Sharpshooter.....	19	JANUARY, 1925	
A Novel Loop Tuner.....	25	The Question of Dry Cell Tubes.....	6
JULY, 1924		Flewelling's Circuit.....	13
Harkness Writes About Self-Oscillation.....	13	The Counterflex Simplified.....	19
Trouble Shooting in the Grimes 3XP.....	15	The Beginner's Best Bet.....	26
Static Causes.....	20	Grimes Takes the Hum Out of His 3 XP.....	30
"Factory" Refinements in Home-Built Sets.....	21	Notes on Our Inverse Duplex (Super-Coil).....	36
Levin's New Coil Makes a DX Sharpshooter.....	24		
R. F. and the Goodreau Split Variometer.....	25		

(The December, 1923, and January, 1924, issues are out of print).
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