

Radiocast From Bottom of Atlantic; Latest Gold Cup Award Standing; Six Tube Superdyne Receiver; Advance Programs for All Large Stations

# Radio Digest

EVERY WEEK **Illustrated** PROGRAMS **TEN CENTS**

REG. U. S. PAT. OFF. &amp; DOM. OF CANADA

Vol. X

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SATURDAY, AUGUST 2, 1924

No. 4

## DIVER TALKS UNDER SEA

### WORLD'S FAIR FOR RADIO OPEN SOON

Will be Held in Madison Square Garden the Latter Part of Next Month

NEW YORK.—The First Radio World's Fair, to be held in Madison Square Garden and the 69th Regiment Armory here, September 22 to 28, is attracting the serious attention of the Radio geniuses of the world and scores of them are preparing to introduce their latest inventions.

Half a dozen recognized Radio engineers are now busily engaged trying to perfect systems for transmitting pictures and Messrs. Herrmann and Kerr, manager of the exposition, have high hopes of being able to Radiocast the world's first program of "Radio Motion Pictures" on the opening night.

Most attractive programs will be given every afternoon and evening by Miss Edith Bennett, famous American concert star.

Lee Morse, a member of the cast of Artists and Models, recently pleased thousands of Radiophans when she sang from Westinghouse Station KYW, Chicago. Miss Morse played her own accompaniment on the Hawaiian guitar.



June Farley, dramatic soprano, who recently sang from WJAX, Union Trust, Cleveland.



### STATION WIP TO RADIOCAST OCEAN SIGHTS

Bottom of Atlantic to be Described Over Radio by Deep Sea Explorer

#### Great Engineering Feat

ATLANTIC CITY.—Since Radiocasting took this country by storm, many strange things and many strange sounds have been Radiocast. The roar of the mighty Atlantic's waves, the rattle of a rattlesnake, the voice of an aviator high in the heavens all have been heard.

And now, the marvels of the deep sea will be Radiocast to the entire world. On Thursday, July 31, at 3 p. m. and 8 p. m. the Atlantic City control station of Radiocast Station WIP, of Gimbel Brothers, Philadelphia, will Radiocast from the bottom of the Atlantic ocean! Station WIP again comes to the aid of science!

#### Diver to Talk from Floor of Atlantic

A deep sea diver will drop over the side of a boat, to the floor of the Atlantic ocean, fifty feet or so below. In his diving helmet, he will have a special microphone, connected by lead cable to the boat and from there to the remote control station of WIP, on the Steel Pier, Atlantic City, N. J.

C. O. Johnson, expert diver of the Philadelphia Derrick and Salvage corporation, will have the distinction of being the first man to talk over Radio from the bottom of the sea.

Through the heavy glass windows of his diving suit, Mr. Johnson has seen many strange and wonderful sights of under-sea life. The special microphone, which will be attached inside his helmet, will enable him to describe to the Radio public, exactly what is going on at the bottom of the mighty Atlantic.

The strange fish, and other sea creatures living at the bottom of the sea, will be described. The appearance of the sub-sea foliage and mineral formations will be Radiocast in full detail.

#### Remarkable Engineering Feat

This will be the first time that any Radiocasting station has sent a micro-

(Continued on page 7)

### CHINESE HOOK-UPS OR WIRING, WHICH

PEKIN.—The Chinese paper Shun Pao is now allotting a certain amount of space regularly to Radio news and hook-ups. The only disadvantage to this is that the American amateurs located in China, are unable to tell which is the description and which is the diagram. Anyone having a remedy for this situation will be "crowned." Contributions will be thankfully received.

# No. 11 OFFICIAL BALLOT

## Announcers' Contest

### RADIO DIGEST FIRST ANNUAL GOLD CUP AWARD

Gold Cup Award Editor, Radio Digest, 510 North Dearborn St., Chicago, Ill.

Please credit this ballot as one vote for:

.....of Station.....  
(Announcer's name) (Call letters)

Signed .....

Address .....

City.....State.....

If you desire, tell below in five or less words what you most like about the announcer for whom you have cast this ballot:

.....

## GOLD CUP AWARD IS CREATING INTEREST

### GEORGE HAY, WLS, STILL IN LEAD; BILL, KFKX, SECOND

#### J. M. Witten Climbs to Third Place with "Hired Hand" Holding Down Fifth Position

This has been a week of surprises! George Hay, WLS, still leads the field in the Radio Digest First Annual Gold Cup Award. His namesake, Bill Hay, KFKX, still holds second, but the third place has been awarded to J. M. Witten, WOS, in place of the "Hired Hand."

What's the matter with Fort Worth? The one big surprise is Leo Fitzpatrick, WDAF, who has come up from eleventh place to fourth. Evidently the Kansas City fans are out to see that Leo "brings home the cup."

H. W. Arlin, KDKA, has made a big jump in the past week, doubling his number of votes, and still going strong. Victor Martin, WHAM, S. L. Rothafel, WEAJ (better known as Roxie) and Graham McNamee, also of WEAJ, have certainly made progress.

McNamee Shows Spurt No doubt the increased popularity of Graham McNamee, is due to the way he helped handle the microphone end of the Democratic convention held recently. However, he is forging right ahead and anyone trying to catch him had best "step on the votes."

The one great thing in this race seems to be the number of dark horses. Watch out for them! Jerry Sullivan is one of them, and from what "Slewfoot," our able-bodied investigator can find out, he is going to spring some surprise at the finish. Here's his secret, sh-h-h-h, he is holding on to the votes so that he can get the bonus offered for turning in consecutive numbers. Don't forget this tip. It's good!

#### Standings Up-to-Date

The standing of the other nominees can best be judged by the following tabulation, which includes only those who have fifty or more votes to their credit:

Name	Station	Votes
George Hay	WLS	2888
Bill Hay	KFKX	2707
J. M. Witten	WOS	1922
Leo Fitzpatrick	WDAF	1721
Hired Hand	WBAP	1064
Jack Nelson	WGN	1043
Gene Rouse	WOAW	779
H. W. Arlin	KDKA	722
Richard Haller	KGW	699
Fred Smith	WLW	676
S. W. Barnett	WOC	603
John Daggett	KHJ	579
Kolin Hager	WGY	554
Graham McNamee	WEAF	418
Sen Kaney	WGN	398
Lambkin Kay	WSB	367
Maj. Andrew White	WJZ	298
J. T. Shilling	WHB	255
Paul Johnson	WLAG	221
Maj. J. J. Fanning	WNAC	219
Miss V. A. L. Jones	KSB	218
H. E. Ehrhart	WDAR	216
N. T. Granland	WHN	208
C. R. Emery	WGI	206
Jennings Pierce	KGO	198
S. L. Rothafel (Roxie)	WEAF	188
Elmer Johnson	WJAX	111
John Reilly	WJAR	106
A. R. Herske	WTAM	99
Charles Erbstein	WTAS	98
Harold Selyer	WHAS	96
Joseph Sartory	WCAE	88
E. W. Tyson	WWJ	85
F. W. Johnson	CHYC	79
C. A. Caal	KUO	67
Eleanor Poehler	WLAG	65
Milton Cross	WJZ	59
Wm. Ludgate	KSD	56
Howard Milholland	KGO	55

J. Lewis Reid	WJZ	54
Victor Martin	WHAM	53
Wm. F. Holiday	WWJ	52
Morgan Eastman	KYW	51
F. A. Buhlert	KFJC	50
A. F. Edes	WBZ	50
Henry Field	KFNF	50
E. A. Greene	WSAI	50
Walter Wilson	KYW	50

#### New Nominees in Race

Since publishing the list of nominees in the July 12 issue, quite a number of new nominations have been received. They are as follows:

Name	Location	Station
Carothers, M. M.	Columbus	WBAP
Davies, E. A.	Philadelphia	WIP
Falcon, Paul P.	Havana	PWX
Gaylord, Chet	Worcester	WDBH
Hooper, Bert	Regina	CYCK
Haymond, Carl E.	Seattle	KFOA
Messter, Chas. H.	Providence	WCBR
Morrison, Claire	San Francisco	KPO

## GOLDEN TROPHY FOR ANNOUNCER AWARD



Above photo shows the Radio Digest's First Annual Gold Cup which will be awarded to the world's most popular announcer. This will be decided by the Radio public at large by popular vote.

Newby, R. W.	Columbus	WPAL
Parker, Laigh C., Jr.	Alexander	KFFY
Potts, Florence C.	Pittsburgh	KQV
Sims, Lee	Elgin	WTAS

Next week may show a big change in the standing of the nominees. Now is the time for all the boosters to get together and back up their favorite announcer. Don't forget that you get a bonus for holding the votes, when you have four consecutive numbers. Watch the standing next week!

#### Census Figures in Month

WASHINGTON, D. C.—Officials of the bureau of census who are tabulating Radio and parts manufactured in this country express the belief that a preliminary statement will be available in about a month. The Radio census is being made in conjunction with the regular electrical machinery report.

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## Looking Ahead

**What Is a Variable Grid Resistance?** It is the thing most desired by the man who is making his own set. William J. Edmonds, Jr., gives in detail one of the best methods for making such a leak in the next issue.

**Neutrodyne or Super-heterodyne?** A-B-C of Radio next week consists of the neutrodyne and super-heterodyne together with illustrations on both, showing all the old and new circuits. Mr. Edelman fully explains the most difficult part about these circuits and how to get the best reception from them.

**Building and Operating the Superdyne.** A continuation of the article on the superdyne set will appear next week. The operation of the set will be fully explained and the illustrations will show the location of the parts.

**Present Standing of the Gold Cup Race.** Next week will show who is leading in the famous contest. Many votes are being sent in and from the looks of it, the standing will be greatly altered. Watch for it!

**E. T. Flewelling Has Something Good for You.** Don't forget to watch the columns of Radio Digest for the big surprise that E. T. Flewelling is going to spring soon. We told you last week about his set picking up England on one tube, well, this is going to be something even better than that. He writes for the Radio Digest exclusively!

Take Radio Digest with You on Your Vacation

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## Complete Radio Satisfaction



### Crosley Trirdyn 3R3

This three tube receiver is built to give the efficiency of a five tube set. It represents the triumph of excellence in the radio field. The first tube furnishes non-radiating, non-oscillating radio frequency amplification. The second tube is a regenerative detector and further is so coupled up as to reflex back on the first tube for one stage of audio frequency amplification. The third tube furnishes a second stage of Audio frequency amplification. Thus the three great powers in radio, represented by the three "R's," Radio Frequency, Regenerative, and Reflex, give both the name and the wonderfully efficient performance to the Crosley Trirdyn 3R3.

# \$65

## CROSLEY Better-Cost Less Radio Products

In the complete Crosley line are receiving sets to satisfy every pocketbook and preference covering a purchase range from

**\$14.00 to \$120.00**

All Crosley regenerative sets are licensed under the Armstrong U. S. Patent No. 1,113,149. Every Crosley receiver is a leader in its line. You are assured of satisfaction when you purchase a Crosley.

See the complete Crosley line. For Sale by Good Dealers Everywhere

## The Crosley Radio Corporation

POWEL CROSLEY, JR., President  
8491 Alfred Street Cincinnati, Ohio  
The Crosley Radio Corporation owns and operates broadcasting station WLW

## Clarity and Tone Range with Kellogg Transformer



Say the Radio Bugs THE reproduction of the highest tones as well as those of the lower extreme of the scale, with faithful, pure quality is essentially the spirit of Kellogg transformer design.

The lover of better music searches for a rendition simulating the original orchestra. The ringing tones of brass, the mellowness of wood, the shrill of wind and the fan fare of reed, all in their individual expression.

The Kellogg transformer accomplishes this to a wonderful degree because of its perfect magnetic properties accomplished with the silicon steel laminations without punched holes

This feature, distinctly Kellogg, eliminates losses to a greater degree than could be otherwise obtained. A transformer is as good as its absence of losses.

Plainly marked terminals, brass shielding, moulded Bakelite tops, perfect finish, are further quality and design expressions.

Amplify your pleasure with perfect amplifiers.

USE—Is the Test

No. 501—4 1/2 to 1 } Equally efficient. Price \$4.50  
No. 502—3 to 1 }

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1066 W. Adams St., Chicago, Ill.

# REPORTER TALKS TO AVIATORS IN PLANE

## INTERVIEWS FLYERS 4,000 FEET ABOVE EARTH

### Inquires About Weather Aloft and Learns How It Feels to Fly Through Cloud Bank

By Carl H. Butman

DAYTON, OHIO.—An enterprising semi-official reporter of the Army air service recently demonstrated the possibilities of interviewing aviators while aloft.

When the reporter saw Lieut. A. L. Johnson of McCook field, Dayton, take off in a DH and disappear in the clouds, he wondered how it was up there, and going to the field Radio laboratory he arranged for the tuning up of the SC 136 set, in hopes of calling up the pilot.

Operator "Pop" Leland threw some switches and began turning the dials. Presently the following ensued, in the words of the reporter:

"Hello, Lieut. Johnson," I said, "can you hear us? If so, we'd like to know where you are just now and how the weather is up there."

Clearly, as if in the same room, Lieut. Johnson's voice came back. "We are flying over New Lebanon, Ohio, at an altitude of about 4,000 feet and are climbing steadily to get above the clouds. The clouds are very thick this afternoon, scattered from 3,000 to 6,000 feet. The thermometer registers 45 degrees which, with our suits and helmets, makes a comfortable flying temperature. We are traveling at a speed of 80 miles per hour. Now we have climbed to about 5,000 feet and are in clear sunshine. New Lebanon lies hidden below. Dayton lies to the east of us but we cannot see it. We are now over West Carrollton. Can you hear me?"

#### Describes Set Used

"I can hear you distinctly, Lieut. Johnson. With what kind of Radio set is your plane equipped?"

Lieut. Johnson: "It is known as type SCR-134. The receiving unit is a super-heterodyne with VT5 peanut tubes. The set is shielded in order that the ignition noises of the engine may be cut out and hearing made easier. We carry a trailing wire antenna with a five-pound lead weight. The metal parts of the plane, the wires of the fuselage and the wings, are all bonded together and act as a counter-poise. In principle, it is the ordinary transmitter and receiver used the world over, but we have special adaptations to make it serviceable and practical for air use, worked out by the Signal Corps and tested at McCook field. Does that answer your question?"

A little later, Johnson again came in: "We are now over Wilbur Wright field and the Huffman Dam. Since talking to you we have flown over several towns and are now headed for McCook field. If there are no bill collectors about, we'll come down."

Strolling out of doors, there were several planes in the sky. At the distance from the ground of even the lowest one, it was impossible to distinguish any sign of a human being in them. Even the sound of their engines came softened through the spaces.

## Station Radiocasts Time, Few Fans Acknowledge It

SPRINGFIELD, MASS.—A little commented on feature of Station WBZ's nightly Radiocasts is the giving of the correct time by the announcer when he is signing off at night. The station directors have always been of the opinion that such a service was valuable. However, the average Radiophan overlooks such details when he comments on a given night's program.

He writes about the artists, etc. But it remained for a Pennsylvania fan to thank the station for giving him the correct time when the station was signing off for the night.

## FLAMINGO STRAYS; RADIO FINDS TRUANT

MANCHESTER, ENG.—A flamingo from the zoo located in this city, having got out of its cage and been lost, the Radio station put out a call for any information regarding the bird. Radiophans who heard the appeal started out to find the wanderer, and it wasn't very long before an answer came back, that the truant had been located and returned to its home.

## NO TUBE AMPLIFIER AIM OF FRENCHMAN

PARIS.—The well known French investigator, the Abbe Tauleigne, has been working steadily on his plan for amplification without tubes. He has developed a set which he claims will not only amplify with a minimum use of tubes but will do away entirely with the distortion caused by usual systems of amplification. He is not yet willing to make public the details of his hook-up.

## DO DOLL DANCE FOR DOUGHBOYS



The above photo shows two young Washington society girls that are appearing in a revue to help swell the fund to buy Radio sets for the disabled vets confined to various military hospitals. Left to right, Doris Wagner and Mary Sheldon in their famous doll dance. P. & A. photo.

## Eiffel and P.T.T. Simultaneous

PARIS.—Eiffel Tower and P. T. T. are again working on simultaneous transmission of the same messages or concerts,

each on its own wave length. This method is now very popular in England and is used occasionally in the United States. P. T. T. is now working on 392 1/2 meters exactly.

# CROSLY'S MONDAY OPERAS ATTRACTIVE

## WLW PRESENTS BEST OF WORLD'S GOOD MUSIC

### One of Summer's Big Attractions Is Zoo Opera with Cincinnati Symphony Orchestra

CINCINNATI.—Radiophans who tune in on Crosley WLW every Monday night are fortunate. To them comes over the ether waves the most beautiful of the world's music in the form of the best loved operas—La Traviata, Lakme, Carmen and many others. An orchestra of fifty picked men from the famous Cincinnati Symphony orchestra, a chorus of Cincinnati's best vocal students augmented by a number from the chorus of the Metropolitan Opera, a constellation of first magnitude stars, all under the baton of Ralph Lyford, create an ensemble that is most attractive.

The management of the Cincinnati Zoological association provides for its guests very much more than an animal show; for the beautiful walks among great trees or flowering shrubs afford a rendezvous of incomparable charm.

#### Good Music Is Desired

The big attraction for the summer is the opera. Realizing the possibilities for telling the world of this beautiful resort in the very center of the residential part of the Queen City, the management has gladly given to the Radio world its headliner once each week.

This is real missionary work in the spreading of the gospel of good music; for soon the great American public will become as familiar with the famous operatic airs as Europeans are reputed to be. The value of these melodies is that they do not fade from the memory, or become tiresome, but on the contrary, grow in favor and in beauty. Radio should always be happy and proud to participate in the dissemination of the world's best music. The more musical America becomes, the more appreciative of good music it will be.

## STATION GOES OFF AIR AFTER LONG SERVICE

### Believes Radiocasting Not Part of Department Store Operation

MINNEAPOLIS.—Station WBAH, located in this city and owned by the Dayton company, has discontinued Radiocasting programs. The station has been in operation since May 11, 1922, and has closed with a successful national and international reputation.

This station was the first high power station built in the Northwest, and was in operation long before any other station of its class was installed in this part of the country. Being rebuilt twice to increase its power and clarity.

It was announced by the Dayton company that, inasmuch as Radiocasting has passed its pioneer stage and has become an industry itself, the company does not feel that it is any longer a part of department store operation.

It is possible that the station may be opened some time in the future by other interests, but as far as the Dayton company is concerned; with the possible exception of a few minutes each day to keep the apparatus in operating condition, the station is considered closed.

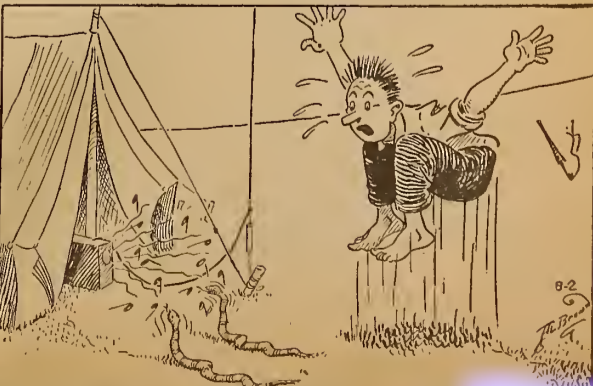
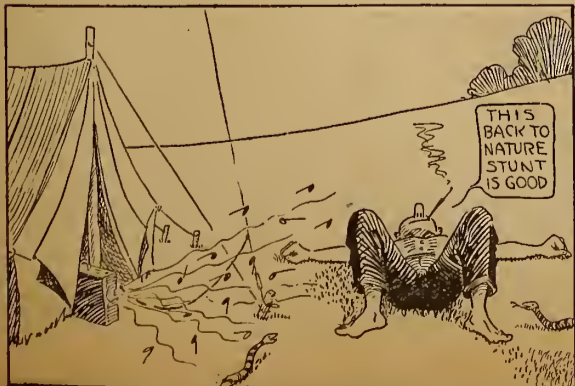
## Use Radio to Aim Guns

MANILA, P. I.—Radio spotting from army airplanes aided in the annual coast artillery practice at Fort Mills in the Philippines, the average error of the deviation from the target being only twelve yards at a range of 11,000 yards. So successful was the Radio spotting that both artillery and aviation officers plan close co-operation in the future.

## THE ANTENNA BROTHERS

Spir L. and Lew P.

## It's the Snakes' Hips



### SHALL WE HAVE CLEAN AIR?

Shall the trial of Richard Loeb and Nathan Leopold, Jr., for the murder of Robert Franks be Radiocast by Station WGN (formerly WDAP)?

YES  NO

Name

Address

Please clip this coupon and mail your vote to "Radio," The Chicago Tribune, Tribune Square, Chicago, Ill.

The above coupon stared readers of a Chicago daily newspaper in the face on a recent morning when they unfolded the paper to read the happenings of the day. The murder referred to is undoubtedly known to every Radiophan. It was one of the most revolting, yet peculiar, crimes ever committed. The trial begins August 4. The newspaper casts the question to its readers whether or not the proceedings shall be Radiocast. It is to be hoped that the readers not in favor have responded as readily as their, sensation-desiring opponents, who will gloat and revel in the idea of besmearing the ether with blood of a 14-year-old boy and the psychology of actions of two youths who might well be classed as morons.

### NINE OF EVERY TEN FANS STAY AT SETS

FIND SUMMER INTEREST IS HIGHER THAN EVER

Less Cries of "Static" Heard Because Listeners Have Busied Themselves with Tuning

CHICAGO.—While practically every Radio engineer in the world has been trying to find some means of eliminating or reducing static, the fans themselves during the past two months have found a means of decreasing this bugaboo materially.

The answer is: Sufficient interest to keep the fan at his set. This was provided during the Radiocasting of the political conventions in Cleveland and New York. During the worst two months of the year, as far as atmospheric interference is concerned, practically nine out of ten fans sat in for longer periods than ever before to get the proceedings at first hand, and most of them got them.

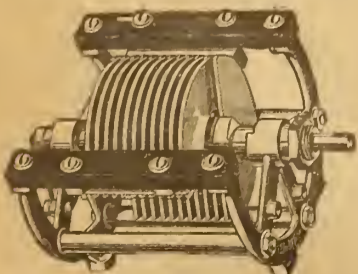
#### Patients Strong Radiophans

Even in the government hospitals in Washington, nurses say they could not get world war veteran patients to do anything but listen in, while the conventions were on the air. In mid-afternoon, when static is at its height; during hot nights with electrically charged clouds hanging low and thunder storms threatening; the Radio public sat in and "got" the conventions, static or no static. They wanted to hear and they did.

A year ago, this would have been considered time wasted. Of course their ability to hear was aided by improvements made in both transmitting stations, and receiving sets, as well as decreased inter-station interference, due to better defined transmitting channels. Experience in tuning also aided, and the fact that most fans today have good practical aeriels strung in the open helped. Many listeners gave up trying for distance and tuned in on their nearest or strongest station for the convention Radiocasts; this eliminated some static and permitted the operation of sets without maximum

# BUELL

E. J. Flewelling  
RADIO APPARATUS



**THE MOST STURDY**  
of the New Type  
**LOW LOSS**  
**CONDENSERS**

**BUELL MANUFACTURING CO.**  
2477 Cottage Grove Ave., CHICAGO

power or amplification, which also somewhat reduced the effect of static.

All Radiocast stations in the United States have call letters beginning with K, N or W. The N is used by the navy exclusively. In the east nearly all stations start with W while most of the Ks are on the west coast.

**Build Fine KDKA Studio**  
PITTSBURGH.—What is believed will be the finest studio in the country is being built by the Pittsburgh Post for Radiocast KDKA. The famous Westinghouse station, located in E. Pittsburgh, is fourteen miles from Pittsburgh proper.

**International Week Nov. 23-30**  
NEW YORK.—International Radio Week will be held November 23 to 30, inclusive, according to announcement by the Radio Week committee of the National Radio Trade association who conducted this event last year.



Remember this mark and look for it. It is your

## GUARANTEE

of reliable radio apparatus

Walmart "Trouble-Proof" Radio Products include: Unbreakable unconditionally guaranteed tube sockets, "B" Battery and Inductance Switches, Variable Condensers (plain and vernier), Vernier Adjusters, Dials, Variable Grid Resistances, Lettered Binding Posts, etc.

Write for Literature.

"Makers of good goods only"  
**WALMART ELECTRIC MFG. CO.**  
Dept. 446 Chicago

### Dealers Jobbers

The Walmart 1924-1925 proposition will be better than ever. Wonderful innovations. Heavier advertising. Write for particulars today!

# Your Own Super—

must function without a fault

## Therefore—

All-American coupling throughout for Reliability!



**Air-Core Radio-Frequency Transformer, Tuned Type (Filter or Input Transformer)**

Very much of the excellence of beat reception depends on the qualities of the filter used. The R-120 instrument is built with the utmost accuracy, to pass an intermediate-frequency wave of 10,000 meters, (30 kilocycles), together with the side-band resulting from modulation—approximately 26 to 34 kilocycles. Other frequencies are effectively dropped out, resulting in a selectivity which will surprise even the seasoned experimenter.  
Type R-120.....\$6.00

Long-Wave Radio-Frequency Transformer, 4,000 to 20,000 meters. (Intermediate-Frequency Transformer, Iron-Core Type.)

Known and relied upon everywhere for perfect intermediate-frequency amplification, because of the unique design, which provides maximum amplification at 30 kilocycles as well as at other frequencies in standard use, from 15 to 75 kc. (20,000 to 4,000 meters).

Type R-110 . . . . . \$6.00



**Short-Wave Radio-Frequency Coupler, Range 150-650 Meters (Oscillator Coupler)**

The most critical tests have shown that the use of an All-American coupler makes possible a uniform output at any frequency within the range of the instrument—namely, from 150 meters to 650 meters (2000 to 462 kilocycles). Like the Type R-120 Transformer, this Coupler is perfectly housed in a bakelite case of practical and pleasing design, being thus effectively protected from all injury by dust, heat, moisture, or mechanical damage.  
Type R-130.....\$5.00

### Audio-Frequency Transformers

In building any type of high-efficiency receiver it must not be forgotten that all efforts at superior tone quality will be in vain unless the final amplifying instruments are capable of equally good performance. This accounts for the familiar sight of the two All-American transformers at the audio-frequency end of almost every strictly high-grade receiver of the beat-frequency type. All-Americans are not expensive, but their uniform reliability and splendid amplification characteristic are recognized everywhere—hence their widespread use.

Type R-12 (Ratio 3 to 1) .....\$4.50    Type R-30 Push-Pull Input .....\$6.00  
Type R-21 (Ratio 5 to 1) ..... 4.75    Type R-31 Push-Pull Output ..... 6.00

The new RADIO KEY BOOK, just out (48 pages), is the best all around reference book on Radio Reception and Hook-Ups ever published. You can get it by sending 10 cents, coin or stamps. Send for it now—the First Edition will not last long.

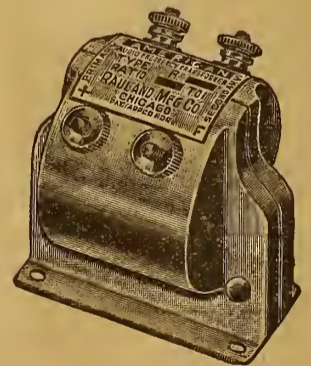
**RAULAND MFG. CO., 2648 Coyne St., Chicago**  
PIONEERS IN THE INDUSTRY



# ALL-AMERICAN

AMPLIFYING TRANSFORMERS

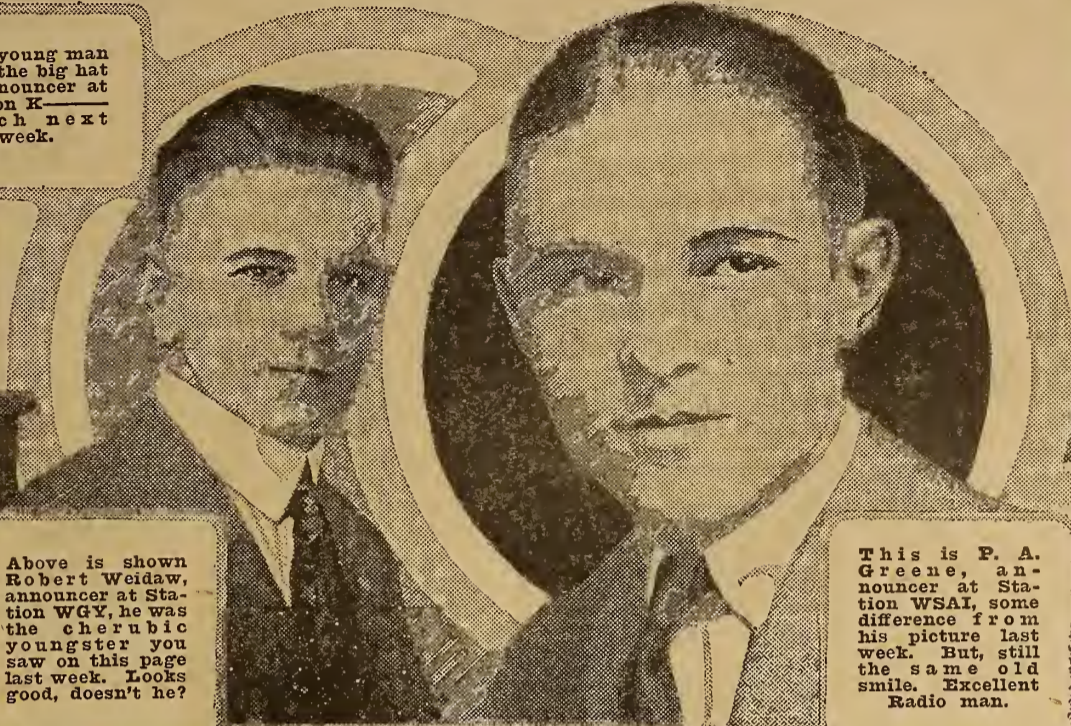
Largest Selling Transformers in the World



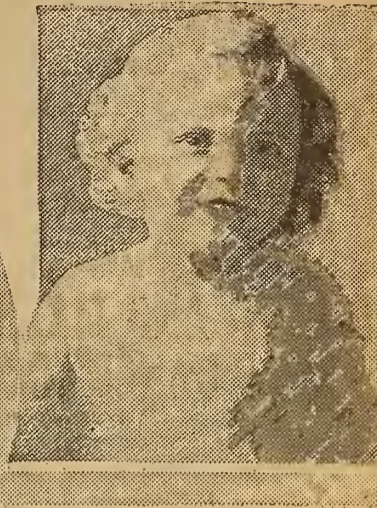
# BEFORE THEY THOUGHT OF "MIKES"



This young man with the big hat is announcer at Station K— watch next week.



Above is shown Robert Weidaw, announcer at Station WGY, he was the cherubic youngster you saw on this page last week. Looks good, doesn't he?



This is P. A. Greene, an announcer at Station WSAI, some difference from his picture last week. But, still the same old smile. Excellent Radio man.

Above is shown the announcer at W— a big town in the west. Eather, the above photo is what he looked like when a child.

### Paul A. Greene, WSAI

Did you notice the youngster all dolled up in a white dress shown here last week? Well, he was a camera retrospaction of the babyhood days of Paul A. "Texas" Greene, the dapper and artistic announcer of WSAI, located in Cincinnati.

Greene was born and raised in the Lone Star state. At the tender age of eighteen, he departed from his native sage-brush and jack rabbit trails, to join up with the Naval Flying Corps. He left this branch of the service at the close of the war, sporting a lieutenant's stripes.

As Radio engineer of the Western Electric company, he installed eight of the country's well-known stations: WOR, WOC, WFAA, WBAP, WMC, KOP, WLW and his own station, WSAI. He was made manager of WSAI immediately after he had finished installation work on that station.

According to his wife he is married, although it was discovered by his biographer that he has only been in this particular condition for the past eight months.

His favorite hobby is work, although he sometimes entertains his friends with his efforts to induce a golf ball into its native habitat.

His soft, baritone voice has made thousands of friends for the station of the United States Playing Card company, and a mother's promise to her infant that it might hear his voice has been known to prove very effective in the successful administration of a dose of castor oil, it is said.

### CENSUS BUREAU ASKS FARMER SET NUMBER

Includes Radio Question on Blanks for Soil Tillers

WASHINGTON, D. C.—Some indication of the number of receivers in the United States will be forthcoming for the first time in the history of the country when the farm census is completed next March by the bureau of the census.

Officials of the bureau have just completed their tentative questionnaire which will be sent to 6,500,000 farmers in December and will be effective as of January 1, 1925. The suggestion was made that it would be of particular interest to know just how many farmers have sets and for that reason the bureau has included a question which reads:

"Is there a Radio outfit on this farm?"

### Robert Weidaw, WGY

ONE of the veterans of the infant business, Radiocasting, is Robert Weidaw, announcer at WGY, Schenectady. He has been an announcer at this station since its opening early in 1922. R. W., as he is known to those who tune to WGY's 380 meter wave.

He is particularly proud of the fact that on Christmas eve, 1922, when he introduced a Pallophotophone address by the then vice-president, Calvin Coolidge, he was heard in every state in the Union, Hawaii, Argentina and Canada.

Mr. Weidaw was born in Sayre, Pa., and was educated in the public schools and high school of Albany, N. Y. After a

period of employment in the induction motor department of the General Electric company in 1913, he became manager of publicity and window display for the Schenectady Illuminating company.

His talent in window display won him many prizes, but, prizes or no prizes, this business couldn't keep him out of Radio. In 1922 when Kolin Hager was looking for an assistant in the WGY studio, he selected R. W., largely because he had been interested in Radio for a year or two. R. W. is not a musician, but he is a born executive and is detailed to keep the wheels of the studio machinery running smoothly.

### WDAR Has Studio on Big Atlantic City Pier

Lit Brothers Adds Programs from East's Playground

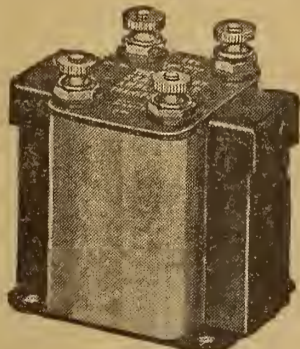
ATLANTIC CITY, N. J.—Station WDAR, located in Philadelphia, has opened up a new studio on Young's Million Dollar pier in this city.

The music is amplified sufficiently to carry it over land lines across the state of New Jersey, under the Delaware river and into the operating room of WDAR in the Lit Brothers department store.

When you find a better Transformer it will bear the name

**THORDARSON**

- 2-1 Ratio \$5.00
- 3½-1 Ratio \$4.00
- 6-1 Ratio \$4.50



The mirror of the Broadcasting Studio

## SUPER TRANSFORMER—2 to 1 Ratio

(audio frequency)

The Thordarson 2 to 1 ratio amplifying transformer is indeed the mirror of the broadcasting studio. It seemingly brings the artists direct to your home. Install a pair—it will take you but a few moments—and you will marvel at the richness of the musical qualities obtained.

**THORDARSON ELECTRIC MFG. CO.**

500 W. HURON STREET

CHICAGO, ILL.

### TELL ARTIST EDITOR OF YOUR FAVORITES

DO YOU have a favorite Radiocast artist whose picture has not appeared in Radio Digest? If so tell the Artist Photo editor about it. Write him a little note mentioning the artist's name and station and he will attempt to give you what you want. The photographs, however, will be restricted to those artists for whom there are a number of requests. Space limitations demand the latter provision. Just write your note to the Artist Photo editor, care of Radio Digest, Chicago.

# NOMINATION CERTIFICATE

## Announcers' Contest

Radio Digest First Annual GOLD CUP AWARD

GOLD CUP AWARD Editor, Radio Digest,  
510 N. Dearborn St., Chicago, Ill.

Dear Sir:

I nominate .....

Station and Call.....

Signed .....

Address .....

Town .....State.....

## ESKIMO AND MAORI BOTH DANCE TO KGO

### OAKLAND STATIONS REACH 4,000 MILES EACH WAY

New Zealander and Alaskan Write Notes of Thanks to Powerful Western Station

OAKLAND, CALIF.—Although situated on opposite sides of the earth from each other, groups of Radio listeners now sway, step and glide in unison to dance music played at KGO. This was shown recently by letters received at the General Electric Pacific coast station.

From Waimate, South Island, New Zealand, almost four thousand miles south of the Equator, comes a letter of appreciation. "Every Sunday evening," writes F. D. Blackwood, "the family dances on the front lawn to KGO music reproduced by our loud speaker." Owing to nineteen hours difference in time, music received by the Blackwood family Sunday evening is played at KGO Saturday night.

From the far north within fifty miles of the Arctic Circle another letter has been received. "We have danced to music from KGO on several occasions," writes G. H. Hillman of Candle, Alaska. "It is certainly great to have dance music carried into the Arctic." Most of the people in this section have not been outside for twenty-five years.

## Passengers on Board Limited Tune in WQJ

Hear Entire Concert as Train Travels Across Canada

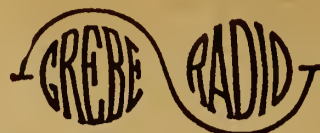
GRAND RAPIDS, ONT.—Rushing across the country on the night of July 11, passengers on board the Transcontinental Limited, train number 1 of the Canadian National Railways enroute from Montreal to Vancouver, heard the program of Station WQJ, clearly and distinctly.

While the train was passing through Grand Rapids, Ontario, John Forbes, Radio train operator picked up the program which was being Radiocast, and connected it to the loud speaker to the enjoyment of all the passengers.

The passengers in turn to show their appreciation, wrote a letter to Jerry Sullivan, announcer at WQJ, thanking him for the program and telling how much they enjoyed it. The train operator said that he was following the advice Radiocast in the form of a song to, "Set your dial, and stay a while, with WQJ."

## Bemis, Tennessee, Stops; Patent License Fee Cause

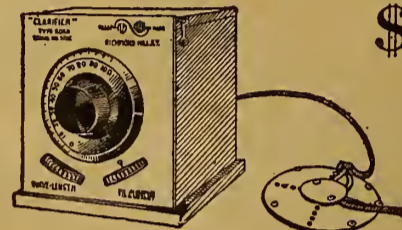
BEMIS, TENN.—Radiocast WCBI of this city, has found it necessary to cease operation because of the exorbitant license fee asked by the American Telephone & Telegraph company. The fee, according to station officials, could not be financed by the organization.



## The GREBE CLARIFIER



THE first practical, workable solution of the problem of radiation from regenerative receivers. Unlike the "wave-trap" it increases signal intensity.



\$30

- Increases Selectivity
  - Increases Signal Intensity
  - Improves Quality
  - Prevents Radiation
- And—
- Is Easily Connected

Ask your dealer or write for literature

A. H. GREBE & CO.

Richmond Hill, N. Y.

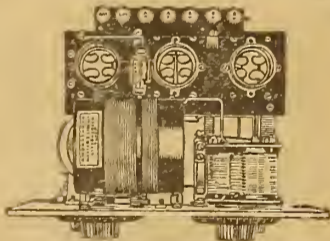
Western Branch—451 East 3rd St., Los Angeles, Cal.

# IDEAL SUMMER RADIO!

## THE NEW DE LUXE AMBASSADOR

\$27.95 C.O.D.

Send for new handsome descriptive circular FREE, showing official and private tests, reports, etc., proving how wonderfully the "De Luxe Ambassador" overcomes summer reception troubles.



- SET CONSISTS OF
- 1 DRILLED 7 x 10 Radion Mahogany Panel, engraved in Gold.
  - 1 Genuine Ambassador Master 3-Circuit Litzendracht Tuning Coil.
  - 1 Genuine Comsco Bakelite-End Condenser.
  - 1 Triploid Mounting Socket.
  - 2 Premier Hegehog Audio Transformers
  - 4 Brunswick Under-slung Foundation Brackets.
  - 2 Brunswick Jacks with Gold-Plated Fronts; 1 for phones; 1 for loud speaker.
  - 1 Freshman Mica Grid Condenser.
  - 1 Standard Glass-Enclosed Grid Leak.
  - 2 30-Ohm Shackton Bakelite Rheostats.
  - 2 Moulded Mahogany Dials grained to match panel.
  - 5 Lengths Professional Round Bus-Bar.
  - 1 Set of 7 Moulded Engraved Binding Posts completely mounted.
  - 1 Special Blue Print for this circuit. Not an ordinary hook-up, but in clear picture form child can understand and make. Assembled ready to wire, and packed in handsome box, complete.

- ACCESSORIES
- Everything needed to operate after building is listed here—
- 3 Type 201-A Tested Tubes .....\$11.70
  - 1 60-Ampere Hour Storage Battery ..... \$11.25
  - 2 45-Volt Extra Large Enco "B" Batteries ..... \$6.50
  - 1 pr. 3000-ohm Head Phones and Cord ..... \$3.75
  - 1 Phone Plug, Double ..... \$ .90
  - 1 Antenna Equipment ..... \$1.50
- Complete outfit, \$35.60 (Parts Also Sold Separately)

Fits Snugly Behind a 7x10 PANEL SHIPPED TO YOU AS A COMPLETE 3-TUBE PORTABLE ASSEMBLY ALL READY TO WIRE All Mounted Like Picture

### SPECIAL SUIT CASE CABINET

Space for set, "A" and "B" Batteries and Antenna. Covered with fine automobile leather Fabrikoid, reinforced corners, handle, special convenient doors. A truly elegant, high-class affair that you will delight to own. Additional—

\$12.00

## The RADIO-SHACK

LARGEST RADIO DEALERS IN AMERICA

Broadcasting Regularly from Our Own Studios Through Station WHN

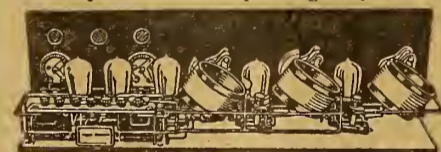
Executive Offices, Dept. RD32

55 VESEY ST., NEW YORK CITY

Every Article Sold on WRITTEN Money Back Guarantee

## The De Luxe NEUTRODYNE

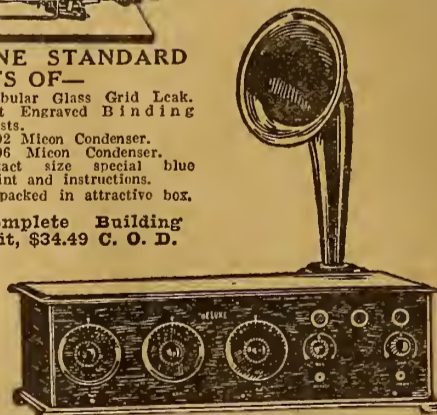
All through the summer this truly GREATEST of Neutrodynes has kept up continuous selling. It gives all that modern standards of perfected summer reception can provide to you. You can pay more but you cannot get more, has been proven repeatedly with the harshest summer test. Genuine, licensed Hazeltine 5-tube Neutrodyne parts SYNCHRONIZED THROUGHOUT to work together in perfected harmony. Full description gladly sent FREE.



\$34.49 C.O.D.

### WHAT THIS GENUINE STANDARD SET CONSISTS OF—

- 1 Drilled Mahogany Panel, polished mahogany effect, engraved in gold.
  - 3 Four-inch Mahogany Dials, gold engraved.
  - 2 Gold Plated Jacks.
  - 3 Genuine Hazeltine Neutrodynes mounted on the famous Comsco-Bakelite End Condensers. Positively the only Neutrodyne Kit including them.
  - 2 Hazeltine Neutrodynes.
  - 5 Heavy Bakelite Sockets.
  - 1 6-Ohm Rheostat with gold plated knob to match panel.
  - 1 30-ohm Rheostat with gold plated knob to match panel.
  - 2 Genuine Kiliark Completely Shielded Audio Transformers.
  - 1 Baseboard.
  - 20 Feet Tinned Bus-bar.
  - 1 .00025 Freshman Grid Condenser.
- OPERATING OUTFIT
- 5 Tested Tubes (Type 201A).....\$19.50
  - 2 45-Volt Extra Large Variable "B" Batteries for Neutrodyne ..... 6.50
  - 1 60-Ampere Hour Storage Battery, guaranteed 2 years..... 11.25
  - 1 pr. 3000-ohm Head Phones and Cord ..... 3.75
  - 1 Phone Plug, double..... 90
  - 1 Antenna Equipment..... 1.50
- Complete Outfit, \$43.40, C.O.D. (Parts Also Sold Separately)
- If you order Building Kit and Operating Outfit both together, we will include Fine Mahogany Finish CABINET FREE.



### Send No Money

We ship C. O. D. When shipment arrives pay your postman. Then enjoy your purchase under our WRITTEN MONEY-BACK GUARANTEE. Remember, you buy SAFELY from The Radio Shack, the Largest Radio Dealers in America—built upon Quality, Service, Value and the universal Respect and Confidence of the radio public.

4 Big Specials: Fada 160

Factory Built Sets with Serial Numbers LIST \$120

\$84

FREED-EISEMANN NEUTRODYNE KIT Now LIST \$24

\$19.50

Fada 120

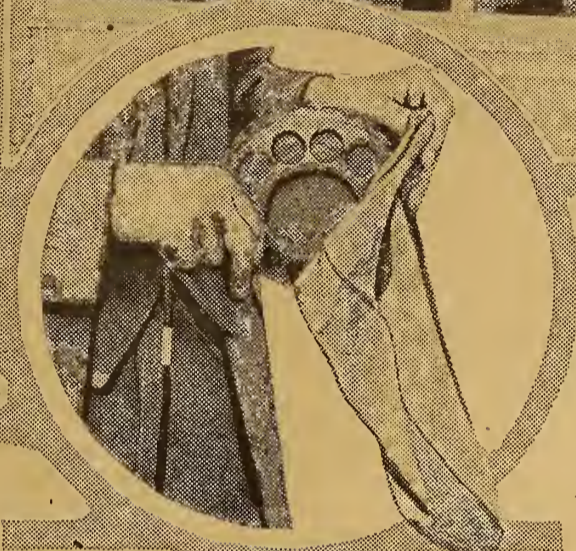
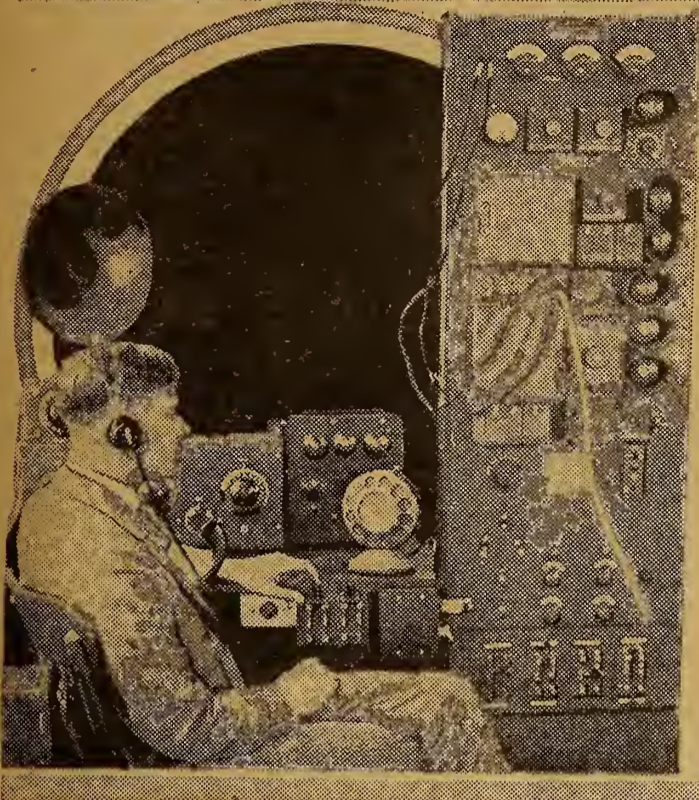
Genuine 5-Tube Kit LIST \$63.25

\$48

GENUINE V.T. 2

\$6.50

# WIP SENDS ATLANTIC CITY'S WAVES




The picture shows clearly the apparatus. Operator Samuel Kale (SK) is seated at the control table, with the breast transmitter and earphone connected directly to the main station located in Gimbel Brothers store in Philadelphia. The microphone in front of him is the announcing "mike." The large panel is the specially constructed speech input amplifier of enormous power that was built after months of experiment in order that the voice and music transmitted by wire to Philadelphia might be of the highest quality that was put out on the air. This amplifier panel is just twice the size of the usual speech input amplifier for this type of work. The switches at the bottom of this panel and at the front of the table are used to connect the control station with the main station in Philadelphia and to connect the microphones placed at various strategic points on the steel pier.

Placing a special duralium type microphone in its waterproof rubber hood before lowering it beneath Young's million dollar steel pier where it hangs close to the breakers and picks up the call of the waves. At last the inland cities can have the sounds of the seashore, if not the breezes! The mike is lowered through a 12x12 inch trap down in the floor of the control room.


Glass enclosed control room and studio that Radiocast WIP, Lit Brothers, Philadelphia, has built on the steel pier at Atlantic City. Oreste Vessella, well-known musician and director of Vessella's concert band, now heard regularly from WIP's pier control station, is the man standing directly facing the window, inside the room. Operator Sam Kale faces the input amplifier panel at the left.

## DIVER TO "MIKE" OCEAN


(Continued from page 1)  
phone to the bottom of the sea. Special cable, waterproof and flexible, is necessary to connect the diver to the boat. The voice will originate from the helmet of the diver, thence to the boat floating on the surface of the water above. The boat, in turn, will be connected by wire to the remote control station on the Steel Pier. Here the voice from under the ocean will be amplified many thousands of times, then transmitted over special telephone lines to the main station, 10-  
(Continued on page 8)



Head  
Telephones



No. 95  
Vario-  
Coupler



# Federal


Standard RADIO Products

THE Federal iron-clad performance guarantee does more than protect you from loss or disappointment when building your pet hook-up. It is a pledge of perfection which a manufacturer would not dare to give unless he had Federal's background of over a quarter-century experience in radio and kindred fields.


*There are over 130 standard radio parts bearing the Federal iron-clad performance guarantee.*

**FEDERAL TELEPHONE & TELEGRAPH CO.**  
BUFFALO, N. Y.

Boston New York Philadelphia Pittsburgh Chicago  
San Francisco Bridgeburg, Canada



No. 65  
Audio  
Transformer



Variable  
Condenser

"Isn't it wonderful that Junior can tune in so nicely."  
"Oh, no. There is nothing complicated in it. Anyone can do it.  
The one control makes it so easy."



**Bristol Single Control Radio Receiver**

Complicated combinations are eliminated when tuning in with Bristol Single Control Radio Receiver—every station is on the one dial. It gives the joys of radio with technicalities left out.

The well-known Grimes Inverse Duplex System (non reradiating) is utilized in this Receiving Set. Because of the reflex, only four tubes are required to give power equivalent to six. The price, without accessories, \$190.00.

**Audiophone Loud Speaker**

You forget the radio equipment when listening thru the Audiophone Loud Speaker. The tone is full, clear and pleasing. It gives a true reproduction of the original. Made in three models—Senior \$30.00, Junior \$22.50, and Baby \$12.50.

*Ask for Bulletins Nos. 3014 and Ay-3015*

Made and Sold by  
**THE BRISTOL COMPANY**  
Waterbury, Connecticut

AN EVENING AT HOME WITH THE LISTENER IN (SEE INSTRUCTIONS FOR USE BELOW)

Table with columns for Station and City, Met., Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday. Lists various radio stations and their broadcast times.

Instructions for Use.—All the hours above are given in Central Standard Time. If your city uses Eastern Time, add one hour to each of the periods stated; if your city uses Mountain Time, subtract one hour; if your city uses Pacific Time, subtract two hours. If in addition, your city uses daylight saving time, add one hour to this result. This table includes only the evening broadcasts, and, on Sunday, the late afternoon program.

STATIONS IN ORDER OF WAVE LENGTHS USED

Table with columns for Meters Call, Meters Call, Meters Call, Meters Call, Meters Call, Meters Call. Lists stations and their corresponding wave lengths.

DIVER TO "MIKE" OCEAN

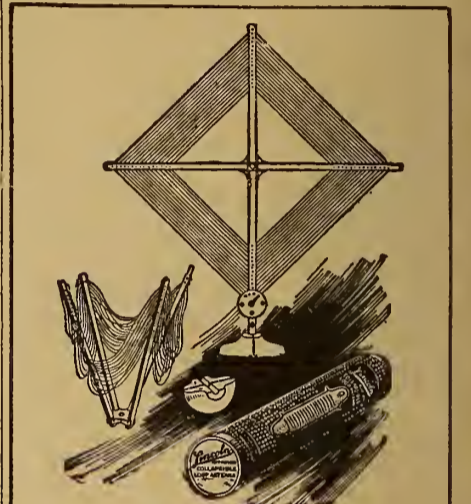
(Continued from page 7) rated in the Gimbel Brothers store in Philadelphia, more than sixty miles away. The marvelous tales of Jules Verne will not be nearly as thrilling as this Radiocast. Think of it, sit in your own home, and listen to the voice of a man walking on the bottom of the Atlantic ocean, telling you just what he sees. Tune in, Radiophans, to Station WIP, 509 meters, Thursday, July 31, at 3 and 8 p. m. eastern daylight saving time.

A. R. A. Expands to Take Up International Problem

NEW YORK.—According to an announcement made today by Alfred M. Caddell, secretary of the American Radio association, national headquarters here, steps are being taken for the establishment of international relations, carried on directly by the public by Radio.

Record for Ship to Shore Communication Believed

SAN FRANCISCO.—A record for long distance communication by Radio between a ship at sea and a shore station was made here recently by the Federal Telegraph company's beach station, the company announced. The local station exchanged messages with the Oceanic liner Ventura, then 6,285 miles southwest of San Francisco.



Built by Radio Engineers

Lincoln Collapsible Loops offer many advantages appreciated by Radio Engineers and Radio enthusiasts. They are built for those who demand the best. Wave length range with 23 plate condenser is 160 to 600 meters. H. F. resistance at 400 meters—only 7 ohms. Wire is stranded, flexible and of great tensile strength and high conductivity. Inductance .2 millihenry.



Great Selectivity—No Static

Lincoln Collapsible Loops fold completely—and are ideal for summer use. Great selectivity—no static—quality reception—and no landlurd interference. If your dealer cannot supply you, order direct, giving your dealer's name. Tapped Loop \$8.00 Without taps \$6.50

FREE BOOKLET Write for the Lincoln Booklet—sent free. Shows best circuit hook-ups—and also illustrates Lincoln quality apparatus.

Lincoln Radio Corporation 224 N. Wells St. Chicago, Ill. Manufacturers of The "Long 45" Tuner—Lincoln Kit—The Oscilloscope Lincoln Low-Loss Variable Condenser

M-B-G RADIO CABINETS ARE CONVENIENT

Radio cabinets—large ones—small ones, just the kind you want—the kind that finish off your set, make it look better and work better—because it's always protected. M-B-G Radio Cabinets are nicely grooved to fit the panel. They're made of Oregon Fir selected for its perfect grain. That's why thousands of fans are ordering them each day.

Send Your Order

Select the model and size you need and just send your order direct to us—or ask your radio dealer. We will forward it to you promptly. FREE with every cabinet comes complete and fascinating instruction on how to stain to harmonize with any color scheme or furniture. You finish M-B-G Cabinets to suit your taste—that makes them especially convenient.

EVERY M-B-G RADIO CABINET IS GUARANTEED TO GIVE SATISFACTION OR MONEY WILL BE CHEERFULLY REFUNDED.

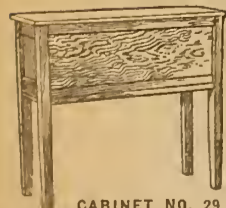
Radio Cabinet Dept. EXPRESS BODY CORPORATION 43 Lake St., Crystal Lake, Ill.



CABINET NO. 37 Exceptional design—compartment 10"x11"x29" for batteries, etc., and shelf for instruments 7"x11"x29"—overall measurement 11 1/2"x32"x37". Complete packed in carton. \$11.50



TABLE No. 31 Substantial table with shelf 15"x31"x29", sold with legs removed, easily screwed in place. Packed in carton. \$3.00



CABINET NO. 29 Open back with shelf compartment for "B" battery, 10"x11"x29". Panel front to conceal batteries, overall measurements 11 1/2"x32"x29". Complete in carton. \$7.50

K. D. CABINETS Made in a variety of sizes, sold knocked down, easily assembled, no other cabinets offer such unusual value—Panel 7x9" 7" deep \$1.50 Panel 7x12" 7" deep 1.80 Panel 7x16" 7" deep 2.00 Panel 7x18" 7" deep 2.10 Panel 7x21" 7" deep 2.20 Panel 7x24" 7" deep 2.30 Panel 7x28" 7" deep 2.40 Panel 7x32" 7" deep 2.50 Other sizes carried in stock. Price on request.

NEW \$1.00 Miller-B-Metal SEMI-FIXED CRYSTAL Best of All for Crystal or Reflex Radio. Loaded with the famous Miller-B-Metal this new Semi-Fixed Crystal is ideal for Crystal and Reflex work.

The A. H. Miller Radio Co. 1220 20th Street, Detroit, Mich. A. H. MILLER, President Originator of B-Metal Formula

Use Forest De Forest Audions DE FOREST RADIO TEL. & TEL. CO., Dept. R.D.12, Jersey City, N. J.



# "NIGHT CAPS" AT WJAX SATURDAY

## Wednesday, July 30

Silent night for: KGO, WBBR, WCAY, WFAA, WFI, WGY, WIP, WMC, WDAW, WRC, WSAI.

CKAC, Montreal, Can. (Eastern, Daylight, 425), 1:45 p. m., Mount Royal Hotel luncheon concert; 4:15, musical tea.

CKCH, Ottawa, Can. (Eastern, Daylight, 435), 8 p. m., The Bethany Male quartet; G. Heidman, tenor; Mabel Aston, pianist; duet, Heidman and Barks; monologue, Patty Sowley; "Canada's Scenic Spectacle—The Triangle Tour," H. H. Melanson; Club Royal Dance orchestra, Allan Saunders, director.

KOKA, E. Pittsburgh, Pa. (Eastern, 326), 11:15 a. m., Daugherty's orchestra; 5:30 p. m., dinner concert, Pittsburgh Athletic association orchestra, Gregorio Scailo, conductor; 6:30, fifteen minutes with Uncle Remus; 8, Mildred Irene Prentiss, soprano; Leona La Martin, whistler; Arnes Tillbrook, accompanist; Josephine Cridland, violinist; Arden H. Thomas, Sevastian Sapientza, saxophonist.

KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., detective stories; vocal concert; 8-9, Evening Herald, Wright's Rejuvenators, orchestra; 9-10, Examiner, Penwomen of America; 10-11, Hollywoodland Community orchestra; 11-12, Ambassador Hotel Coconut Grove orchestra.

KFNF, Shenandoah, Iowa, (Central, 266), 7:30 p. m., Jubilee singing, Piney Woods school.

KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m., dance music, orchestra of the Steamship President Grant; Joyce Renolds, contralto; address, officer of the Admiral Oriental line.

KGO, Oakland, Calif. (Pacific, 312), 3 p. m., speaker, Cora L. Williams Institute; 4-5:30, concert orchestra, Hotel St. Francis.

KGW, Portland, Ore. (Pacific, 492), 3:30 p. m., talks, Jeanette P. Cramer; 8, concert; 9, Wendall Hall; 10, dance music, George Olsen's Metropolitan orchestra.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:15 p. m., concert; Fred C. McNabb, speaker; 6-6:30, Art Hickman's concert orchestra; 6:45-7:30, children's hour, Prof. Walter Sylvester Hertzog; Eric Winslow, screen juvenile; bedtime story, "Uncle John"; 8-10, an evening of old-fashioned songs, courtesy, Hollenbeck Chanters; Dr. M. F. Baumgardt, lecturer; 10-11, Art Hickman's dance orchestra.

KPO, San Francisco, Calif. (Pacific, 423), 1-2 p. m., Rudy Selger's Fairmont Hotel orchestra; 2:30-3:30, Jack Fall's Entella Cafe orchestra; 4:30-5:30, Rudy Selger's Fairmont Hotel orchestra; 5:30-6:30, children's hour, Big brother of KPO; 7-7:30, Rudy Selger's Fairmont Hotel orchestra; 8-11, E. Max Bradford's Versatile band.

KQV, Pittsburgh, Pa. (Eastern, Daylight, 270), 8:45-9 p. m., fifteen minute song revue, Ben and Thelma Fields; 9-10, Volunteers of America, Major and Mrs. Frank H. Wise, directors.

KYW, Chicago, Ill. (Central, Daylight, 536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 6:45 p. m., children's bedtime story; 7-7:30, dinner concert, Congress hotel; 7:30-8, Duncan Sisters Music publishing studio; 8-8:55, Grace Hezseth, soprano; Kathryn Orr, accompanist; John Stamford, tenor; Sallie Menkes, accompanist; Sandy Meeks, baritone; 9:45-12:30, midnight revue.

PWX, Havana, Cuba (Eastern, 400), 8:30 p. m., municipal band, Modesto Fraga, leader.

WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ila Lorbach Owens, pianist.

WBZ, Springfield, Mass. (Eastern, Daylight, 337), 6 p. m., dinner concert, WBZ, trio; 7:30, bedtime story for the kiddies; 7:40, WBZ trio; Mrs. Lula Sackett Morgan, contralto; Mrs. Miriam M. Thomson, accompanist; 9, Lawrence A. Copeland, organist; 9:30, Michael A. Ahearn, baritone; Julia R. Cullinan, saxophonist; Anna Cullinan, accompanist; 11:30, Leo Reisman and his Hotel Brunswick orchestra; 12, songs, Bill Coty and Jack Armstrong.

WCAE, Pittsburgh, Pa. (Eastern, Daylight, 462), 3 p. m., Fred Rosenfeld, pianist; 6:30, dinner concert, William Penn hotel; 9:30, musical program.

WCAP, Washington, D. C. (Eastern, 469), 7:30-9 p. m., U. S. Navy band, Charles Bentler, director; 9-9:15, Scott Blakeley, Scotch comedian and tenor; 9:15-9:30, "Science News of the Week"; 9:30-10, music.

WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert, 7, musical program.

WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's Radio trio; 6-7, School of the Air,

## Headliners of the Week

**I**F YOUR vacation is not a thing of the past get CKCH Wednesday and learn about Canada's scenic spectacle, "The Triangle Tour." Evenings of old-fashioned music are becoming more and more popular among the Radiophans. The Hollenbeck Chanters will sing old-time songs from KHJ. This is your last chance to hear KQV for a month.

The famous Navy Band of the Virgin Islands, composed entirely of native Virgin Islanders will be heard over WJZ, Thursday. This band, which has received much favorable comment on its rendition of classical music, is touring the United States. In the good old days swimming was learned in the swimming pool. Today, by tuning in for WJY you may become an expert swimmer by Radio.

Music lovers will enjoy listening to Prof. Karapetoff's lecture on Debussy

Friday at WGY. He will illustrate his talk with four Debussy compositions.

It promises to be a turbulent night on Lake Erie Saturday. WJAX announces that "The Nite Caps" are on. When the clock strikes twelve the fun begins. A frivolous program full of pep is promised.

Monday night WCX will compete with the opera Radiocast by WLW. "Rigoletto" will be presented by Prof. Blackman's pupils. Undaunted by the recent devastating tornado which practically destroyed their town, Lorain musicians will entertain from WTAM this same evening.

The MacDowell Sisters, who are able to make the most practical listener in romantic with their Hawaiian music, will again bring you dreams of the South Seas Tuesday from WFAA.

gram; Mrs. Alex Trostrud, soprano; "The Orchard Spray Ring," E. E. Brown; 10, program, Prof. Nakutin, director.

WLW, Cincinnati, Ohio (Central, Daylight, 423), 8 p. m., Virginia entertainers; 9, original compositions, H. H. Walker; solos, Mary Steel, soprano; pianologues; 8-year-old Sadie Elizabeth Beck.

WMAQ, Chicago, Ill. (Central, Daylight, 447.5), 6 p. m., Chicago Theater organ recital; 6:30, stories for children, Katherine Waller; 8, weekly Northwestern university lecture; 9, talk, one of the Chicago charities; 9:15, program, Neil Gwynn, soprano.

WMH, Cincinnati, Ohio (Central, Daylight, 309), 8 p. m., tabloid musical program; 10, Avon dance orchestra, R. C. Fisher, director.

WOC, Davenport, Iowa (Eastern, 484), 12 m., chimes; 8 p. m., Erwin Swindell, organist; Mrs. John Malloy, soprano.

WOO, Philadelphia, Pa. (Eastern, Daylight, 509), 11 a. m., Mary E. Vogt, organist; 12:02, Wanamaker crystal tea room orchestra; 4:45, Mary E. Vogt, organist; 7:30, Vincent Rizzo, and his Havana Casino orchestra; 8:15, Mary E. Vogt, organist; 9, WOO orchestra, Robert E. Golden, director; 9:10, Fox theater grand orchestra, Erno Rapee, director; 10, Hotel Sylvania dance orchestra.

WOR, Newark, N. J. (Eastern, Daylight, 405), 2:30-2:45 p. m., Eunice Pilkington, contralto; 2:45-3, Stanley J. Martuszewski, baritone; 3:30-3:45, Eunice Pilkington; 3:45-4, Stanley J. Martuszewski; 6:15-6:55, "Music While You Dine," Buadistel's Olympic Park orchestra; 6:55-7, resume of the day's sports, Jolly Bill Steinke; 8-8:30, Gene Ingraham's orchestra; 8:30-9, Joint Recital, Helen O'Shea, soprano, Marguerite Sinton, soprano; Florence Wessell, pianist; 9-9:15, Millie Kreuder, contralto; 9:45-10, Helen O'Shea, Marguerite Sinton, Florence Wessell; 10:15-10:30, Antonio Pesel, tenor; 10:30-10:45, Millie Kreuder; 10:45-11, Antonio Pesel.

WOS, Jefferson City, (Central, 360), 8 p. m., "Some New Facts in Calf Feeding," C. W. Turner; 8:20,



Bernie Cummins is the leader of a famous orchestra which has its home in a palm garden in Cincinnati. Tune in Tuesday, August 5, for WLW.



Ruth Van Leuven is one of the soloists to be heard every Sunday morning from WBB during the services of the Linwood Boulevard Christian church. Eddie Barnes (left) helps to make life worth while for those who listen into the Red Apple club sessions at WCX, Detroit, on Tuesdays.

plano tuning in number on the Duo-Art; address, speaker from the Meat Council of Greater Kansas City; weekly health talk, Aupalea Health Conservation association; children's story and information period; music, Carl Norberg's Plantation players, Hotel Michelsbach; 8-9:15 p. m., program by the vocal pupils of Mrs. Anne Brennan Burns; 11:45 p. m.-1 a. m., Nighthawk frolic, Plantation players, Hotel Muehlebach.

WOAR, Philadelphia, Pa. (Eastern, Daylight, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; 12:30, Arcadia cafe concert orchestra; services, auspices Philadelphia Federation of Churches; 2, Arcadia cafe concert orchestra; 4:30, Edna Finestone, pianist; 7:30, Dream Daddy's bedtime stories; 8, talk, Arnold Abbott; 8:10, Arcadia cafe concert orchestra; 8:45, Green Hill Farms hotel dance orchestra; 9:05, Mrs. Louis Love; 10, Arcadia cafe dance orchestra.

WEAF, New York, N. Y. (Eastern, Daylight, 492), 11:15 a. m., young mothers' program; 4-4:15 p. m., Moonlight instrumental trio; 4:15-4:30, Chos. A. Schenck, Jr., baritone; 4:30-4:45, Elsie Ahrens, soprano; 4:45-5:15, children's stories; 6-7, dinner music, Waldorf-Astoria orchestra; 7-7:15, Hilda Ramon, soprano; 7:15-7:30, Chas. Brydon, tenor; 7:30-7:45, talk, American Agriculturist; 7:45-8, Cordes Marks or-

chestra; 8-8:15, Gold Dust Twins; 8:30-8:45, Scott Blakeley, tenor for National Carbon company; 9-9:15, Louis Goldberg, violinist.

WEAO, Columbus, Ohio (Eastern, 360), 1:30 p. m., educational lecture, member Ohio State University faculty; 4 p. m., health talk, member state board of health; music, university talent.

WEBB, Chicago, Ill. (Central, Daylight, 370), 7:30-8:30 p. m., George Maynard, tenor; Tod Fiorio, popular singer; Edgewater Beach Oriole orchestra; 9:30-10:30, Helen Brady, cellist; Edgewater Beach Oriole orchestra; 11:30-12:30, Langdon brothers, steel guitarists; Marie Kelly, reader; Edgewater Beach Oriole orchestra.

WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m., Red Head girl.

WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 1:30, Philadelphia Rotary; 3, baby welfare talk, Mrs. George Long; Loretta Kerk, pianist; 6:30, Meyer Davis Bellevue Stratford concert orchestra.

WGN, Chicago, Ill. (Central, Daylight, 370), 6:30-7:30 p. m., Drake concert ensemble and Blackstone string quintette; 8:30-9:30, George D. Horne, tenor; Mary Hartly, reader; Jone McAllister, soprano; 10:30-11:00, Bert Davis, Jack Chapman's orchestra.

WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 p. m., George Albert Bouchard, organist; 6:30-7:30, dinner music; 9-9:10, "Al" Jackson, tenor soloist; 9:10-9:25, "Billy" Russel, the two-instruments-at-once king, mouth organ with Ukulele, guitar and banjo soloist; 9:25-9:45, John N. Dodsword, reader; 9:45-10, L. C. Rosenbloom, reader; 10-11, concert, Bishop Hoerber Music co.; 11:30, supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, directing.

WHA, Madison, Wis. (Central, 360), 7:30 p. m., "Outstanding Labor Problems," Selig Perlman.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., orchestra selections; 7:30-9, Bluegrass entertainers, Edward Augustine, director.

WHB, Kansas City, Mo. (Central, 411), 7-8 p. m., educational talks; music.

WHN, New York, N. Y. (Eastern, Daylight, 366), 2:15-2:30 p. m., Edward B. Marks Music company; 2:45-3:15, Original Louisiana Five, Al King, leader; 3:45-4:15, recital, Mary Hunter, pianist; Madeline Groff, soprano; 4:30-4:45, Vincent Lane, tenor; 6-7, Alamo Pestive board; 7-7:15, Roemer sport period, Thornton Fisher; 7:30-8, Roseland dance orchestra; 9:15-10, Chas. Strickland's Palisades Park orchestra.

WHO, Oes Moines, Iowa (Central, 526), 7:30-9 p. m., The Bankers Life Radio orchestra, W. L. Marsh and Stewart Dulaney, directors; Andrew Riggs, pianist.

WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 am. m., seashore gossip; 3 p. m., "What the wild waves are saying"; 3:05, chats with celebrities; 3:30, Comfort's philharmonic orchestra; 6:05, Eddie Elkin's dance orchestra; 7, Uncle Wip's bedtime stories.

WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 p. m., Hotel Astor trio; 4-4:10, Eleanor Gunn's fashion talk; 4:10-4:15, daily menu; 4:15-4:30, "Meat Council of New York," John C. Cutting; 4:40-4:50, "Education," school talk by Mrs. Johnson; 4:50-5, Anthony Reale, violinist; 5:20-5:30, Anthony Reale; 7-7:20, Cafe Boulevard ensemble; 7:30-8, Cafe Boulevard ensemble; 8-8:30, "Music Appreciation," Prof. R. A. L. Smith, New York university; 8:30-9:30, band contest and chorus; 10:30-11:30, Billy Wynne's Greenwich Village Inn orchestra.

WKQA, San Juan, P. R. (Central, 360), 6-8 p. m., municipal band.

WLS, Chicago, Ill. (Central, Daylight, 345), 1-2 p. m., James J. Whelan, vocalist; talk, H. B. Kaltenberg; 6:30 p. m., "Husk" O'Hara's orchestra; 7, Mildred Marcelle Metcalf, soprano; 7:45, lullaby time, Ford Rush, Glenn Rowell; 8-9, boys' and girls' hour; 8-8:15, WLS Radio Tribe of Lions scouts; 8:45, answers to Radio questions, Matt Friedman; 9-10, faru pro-

barn dance tunes, Old Tyme String trio.

WQJ, Chicago, Ill. (Central, Daylight, 448), 3-4 p. m., "Necessity for Fruit in the Diet," Helen E. Downing; "Frankfurts and Fun," Martha Logan; "Proper Use and Care of the Electric Washing Machine and Mangle in the Home," Mrs. Lucinia Judd; 7-8, Lilah O. Bell, reader; Josephine Anderson, soprano; Lancaster Smith, bass; Mrs. Lancaster Smith, accompanist; 10-2, Ralph Williams and his Rainbow Garden orchestra; Viola C. Graff, soprano; George A. Little and Larry Shay.

WRC, Washington, D. C. (Eastern, 469), 3 p. m., fashion developments of the moment, Women's Wear; 3:45, Eleanor Glynn, pianist; 3:50, current topics, Editor of The Outlook; 4, songs; 6, stories for children, Peggy Albion.

WTAM, Cleveland, Ohio (Eastern, 390), 8 p. m., program arranged by Cleveland Plain Dealer Hotel Statler orchestra, Maurice Spatney, director; concert of comic opera numbers; Dorothy Maskell, soprano; Dede Fitzpatrick, vocal specialties; male quartette.

WTAS, Elgin, Ill. (Central, 286), 7:30-7:45 p. m., bedtime stories; Oil; 7:35-8, Del Lampe's Trianon ballroom orchestra; Allen Hooker, WTAS pianist; 8-8:30, popular song hits, 8:30-12:30, Lampe's Trianon orchestra; Allen Hooker, pianist.

WTAY, Oak Park, Ill. (Central, 283), 6:45-7:45 p. m., Lela Hammer, pianist; Bernice Andersen, soprano; Jimmy Eggert, tenor; 9-9:45, Guyon's Paradise orchestra; 10:15-11:15, Guyon's Paradise orchestra.

WWJ, Detroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 12 m., Detroit News orchestra; 3 p. m., Schmemman's band; 8:30, Schmemman's band; 9:30, Detroit News orchestra.

## Thursday, July 31

Silent night for: KFOA, WBBR, WOAR, WGR, WHO, WOO, WOR, WOS, WRC.

CKAC, Montreal, Can. (Eastern, Daylight, 425), 9 p. m., special entertainment.

KOKA, E. Pittsburgh, Pa. (Eastern, 326), 11:15 a. m., Scailo's orchestra; 5:30 p. m., KDKA Little Symphony orchestra, Victor Saudek, conductor; 6:30, Little Miss Merry Heart comes with some songs; 7, "The Importance of Pruning and How to Prune," Paul (Continued on page 10)

# LORAIN, OHIO, MUSCIANS ENTERTAINMENT

## Where to Hear Concerts

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

**Wednesday:** CHYC, CKCH, KDKA, KFI, KFNF, KFOA, KGW, KHJ, KPO, KQV, KSD, KYW, PWX, WBEZ, WCAE, WCAP, WCX, WDAF, WDAW, WFAF, WEBH, WGI, WGN, WGR, WHAA, WHAS, WHB, WHN, WHO, WJZ, WKQA, WLAG, WLS, WLW, WMAQ, WMH, WOC, WOO, WOR, WOS, WQJ, WTAM, WTAS, WTAY, WWJ.

**Thursday:** CKAC, KDKA, KFI, KFKX, KFNF, KGO, KGW, KHJ, KPO, KYW, WBAH, WBAP, WBAV, WBEZ, WCAE, WCAP, WCAY, WCBD, WCX, WDAF, WFAA, WGI, WGN, WGR, WHAS, WHB, WHN, WIP, WJAX, WJY, WJZ, WLAG, WLS, WLW, WMAQ, WMC, WMH, WOAW, WOC, WPAI, WQJ, WSAI, WTAS, WTAY, WWJ.

**Friday:** KDKA, KFI, KFNF, KFOA, KFSG, KHJ, KGW, KSD, KYW, WBAH, WBAP, WBAV, WBEZ, WCAE, WCAY, WCX, WDAF, WDAW, WFAF, WEBH, WFAA, WGI, WGN, WGR, WGY, WHAS, WHB, WHK, WHN, WHO, WJY, WJZ, WLAG, WLS, WMAQ, WMC, WOAW, WOC, WOO, WOS, WQJ, WRC, WTAS, WTAY, WWJ.

**Saturday:** KDKA, KFI, KFNF, KGO, KGW, KHJ, KPO, KSD, KYW, WBEZ, WCAE, WDAF, WFAF, WEBH, WFAA, WGI, WGN, WGY, WHAS, WHK, WHN, WIP, WJAX, WJAZ, WJZ, WLAG, WLS, WMAQ, WMC, WMH, WOAW, WOC, WOR, WQJ, WRC, WSAI, WTAM, WTAS, WWJ.

**Sunday:** KFI, KFNF, KFSG, KHJ, KPO, WBBR, WCX, WFAF, WEBH, WFAA, WGI, WGN, WGY, WHAA, WHAS, WHK, WHN, WHO, WIP, WJZ, WLS, WLW, WOAW, WOC, WOO, WOS, WQJ, WTAS, KGW, KQV, WAAW, WBAH, WBEZ, WTAS.

**Monday:** KFI, KFKX, KFOA, KGO, KPO, KQV, WAAW, WBAH, WBBR, WBEZ, WCBD, WCX, WDAF, WDAW, WFAF, WFAA, WGR, WGY, WHAZ, WHB, WHN, WHO, WLW, WOAW, WOC, WOO, WOR, WOS, WSAI, WTAM, WTAS, WWJ.

**Tuesday:** KFI, KFNF, KFSG, KGO, KGW, KHJ, KPO, KSD, KYW, WBAH, WBAV, WBEZ, WCX, WDAF, WFAF, WFAA, WGI, WGN, WGR, WGY, WHB, WHN, WHAA, WHAS, WIP, WJY, WJZ, WLAG, WLW, WMAQ, WMC, WOAW, WQJ, WRC, WSAI, WTAS, WTAY, WWJ.

Josephine Lucchese is the leading soprano with the Zoo Opera company, Cincinnati. Tune in WLW Monday and hear her beautiful voice.



## Thursday, July 31

(Continued from page 9)

Grovers' nurseries; 8, KDKA Little Symphony orchestra; 10, concert.  
KFI, Los Angeles, Calif. (Pacific, 469) 6:45-8 p. m., Y. M. C. A., lecture; Bon Ton orchestra; 8-9, Ambassador Hotel, Coconut Grove orchestra; 9-10, Examiner, Kentucky Derby, orchestra; 10-11, instrumental and vocal concert, Marguerite Bitter and Patsy Forsythe.  
KFKX, Hastings, Nebr. (Central, 341), 9:30 p. m., musical program.  
KFNF, Shenandoah, Iowa (Central, 266), 7:30 p. m., program, Summer school, Prof. H. L. Ellis, director.  
KGO, Oakland, Calif. (Pacific, 312), 4:30-5:30 p. m., concert orchestra, Hotel St. Francis; 8, three-act drama, "The Great Divide," KGO players; Towler trio.  
KGW, Portland, Ore. (Pacific, 492), 3:30 p. m., children's program; 9, Wendall Hall; 10, dance music, George Olsen's Metropolitan orchestra.

Robert Pool, tenor; Neil Lowrey, soprano; 11-12, Mustang Serenaders orchestra.  
WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Loretta Kerk, pianist; 6:30, Sunny Jim, the kiddies' pal; 8, Boy Scouts Radio corps; 8:30, Harold A. Simond, baritone; Loretta Kerk, pianist.  
WGN, Chicago, Ill. (Central, Daylight, 370), 6:30-7:30 p. m., Drake concert ensemble and Blackstone string quintette; 8:30-9:30, Robert H. Duphiney, tenor; Herman Essak, violinist; Pershing quartette; 10:30-11:30, Bert Davis, Jack Chapman's orchestra.  
WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 p. m., George Albert Bouchard, organist; 6:30-7:30, dinner music.  
WGY, Schenectady, N. Y. (Eastern, 380), 1 p. m., "Shopping for Dishes"; 5:30, organ recital, Stephen E. Boisclair; 7:45, "A Few Moments with New Books," L. H. Hopkins; 8, Salvation Army band; "What is the New York Stock Exchange," Jason Westering; euphonium duet, John Galloway, Albert Tompkins; brass quartet.  
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Harry S. Currie's orchestra; 7:30-9, concert, Mary Hunt, director; boys' forum talk.  
WHB, Kansas City, Mo. (Central, 411), 8-9:30, popular musical program, vocal and instrumental; dance program, Sweeney Radio orchestra, Indian village.  
WHN, New York, N. Y. (Eastern, Daylight, 366), 1:15-3:30 p. m., Bob Schatner and Dave Ringle, assisted by the Midnight Rounders of New York; 4:15-4:45, People's popular concert, conducted by Marcia Schupac; 6-7, Alamac Festive board; 7-7:15, Roemer sport period, Thornton Fisher; 9:30-10, Chas. Strickland's Pallasades park orchestra; 10:30-11, Roseland dance, orchestra; 11:30-12, Original James boys.

KPD, San Francisco, Calif. (Pacific, 423), 1-2 p. m., Rudy Selger's Fairmont Hotel orchestra; 2:30-3:30, musical program; 4:30-5:30, Rudy Selger's Fairmont Hotel orchestra; 5:30-6:30, children's hour stories, Big brother of KPO; 7-7:30, Rudy Selger's Fairmont Hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10, program, Jack R. Hough, soprano; director; 10-11, E. Max Bradford's Versatile band.  
KYW, Chicago, Ill. (Central, Daylight, 536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 7:30-8 p. m., dinner concert, Congress hotel; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Perrin; 8:20-9:15, Arthur O. C. Holder, tenor; Theodore Dixon, baritone; Louis Jones, accompanist; 10-11:30, "At Home" program.  
WAAW, Omaha, Nebr. (Central, 360), 8-9 p. m., educational program.  
WBAV, Columbus, Ohio (Eastern, 423), 12 m., religious service, Columbus Council of Churches.  
WBZ, Springfield, Mass. (Eastern, Daylight, 337), 6 p. m., dinner concert, William Penn hotel; 6:30, songs, Bill Coby, Jack Armstrong; 8:40, Leo Helms and his Hotel Brunswick orchestra; 7:05, "At the Theaters," A. L. S. Wood; 7:30, bedtime story for the kiddies; 9, Robert Ridge, pianist; 9:30, Colonel John A. Pattee, fiddler.

WJAX, Cleveland, Ohio (Eastern, 390), 8 p. m., Hotel Cleveland orchestra, Ivan Francis, director; Mildred Claire, alto; piano, Adolfo Geron, pianist; Peter Guckman, tenor; Bessie Portune, contralto.  
WJY, New York, N. Y. (Eastern, Daylight, 405), 2:15-2:30 p. m., "Deutsche Literatur," Prof. Zimcocker of N. Y. university; 9-9:30, "How to Learn to Swim," Frank E. Dalton; 10-10:30, Al Reiser's Club Ferrarini orchestra.  
WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 p. m., Nathaniel Abas' orchestra; 4-4:10, Eleanor Gunn's fashion talk; 4:10-4:15, baby menu; 4:15-4:30, "The Progress of the World," a Review of Review talk; 4:30-5, Alfreda Bertin, violinist; 5-5:15, Sara V. Turits, soprano; 7-7:20, Gotham Hotel concert orchestra; 7:30-8, Gotham Hotel concert orchestra; 8-8:30, weekly French lesson; 8:30-9:30, Wanamaker concert; 9:30-9:45, "America's Role in Europe," Dr. Jeremiah W. Sledge, university of the air; 9:45-10:30, Navy band of the Virgin Islands; 10:30-11:30, Waldorf-Astoria dance orchestra.  
WLS, Chicago, Ill. (Central, Daylight, 345), 1-2 p. m., Edward Fritz, pianist, cornetist; "Tly Prevention," E. B. Heaton; 6:30, "Husk" O'Hara's orchestra; 6:45, Brogram, Carl Craven studios; 7:45, lullaby time, Ford Rush, Glenn Rowell; 10:15, music publishers' night.

WLV, Cincinnati, Ohio (Central, Daylight, 423), 10 p. m., talk, representative United States Civil Service bureau; 10:30, concert, Minor electric instrument trio; 10:50, Port Hamilton Masonic quartet; 11, program.  
WMAQ, Chicago, Ill. (Central, Daylight, 447.5), 6 p. m., Chicago Theater organ recital; 6:30, Hotel LaSalle orchestra; 8, auto talk, Rockwell R. Stephens; 8:15, weekly talk for Boy Scouts; 9, garden talk, James H. Burdett; 9:15, music.  
WMC, Memphis, Tenn. (Central, 500), 8:30 p. m., program.  
WNH, Cincinnati, Ohio (Central, Daylight, 309), 8 p. m., piano solo, Clarence R. Reeves; contralto, solo, Margy Rebisno; reading, Mrs. Beryl Mae Gross; 9, Jimmy Dearing's Rainbow orchestra.  
WOAW, Omaha, Nebr. (Central, 526), 6 p. m., popular half-hour; 6:30, dinner program, Yost's old time dance orchestra; 9, program arranged, Mrs. A. S. Harrington.  
WOC, Davenport, Ia. (Eastern, 484), 12 m., chimes; 9 p. m., the Palmer School Radio orchestra; Ralph W. Fuller, baritone.  
WOO, Philadelphia, Pa. (Eastern, Daylight, 509), 11 a. m., Mary E. Vogt, organist; 12:02 p. m., Wanamaker crystal tea room orchestra; 4:45, Mary E. Vogt, organist.

WOR, Newark, N. J. (Eastern, Daylight, 405), 2:30-2:45 p. m., Jerry Drew's Columbia Park orchestra; 3:30-4, Jerry Drew's Columbia Park orchestra; 6:15-6:30, "Radio for the Layman," Albert E. Sonn; 6:30-7:20, "Music While You Dine," Tom Cooper's Country club orchestra; 7:20-7:30, resume of the day's sports, Jolly Bill Steinke.  
WQJ, Chicago, Ill. (Central, Daylight, 448), 3-4 p. m., "Fashion and Economy Hand in Hand," Butterick Pub. company; "Planning the Campfire Meals," Ethel M. Lord; "The Frame for a New Day," Anne Prang Knichans; 7-8, "Church Lessons," N. B. Hickox; Kathryn Snyder, reader; Mrs. Lydia Lechner, contralto; Marion Henry, accompanist; Sheppard Levine, tenor; 10-2, Ralph Williams, singing; Inbo Gardens orchestra; Axel W. Christensen, organist; Jimmy

WAD, Columbus, Ohio (Eastern, 360), 1:30 p. m., university chimes; address, Prof. Frank Beach, of the Horticultural Extension department; 8 p. m., musical program, Edward Stainhorn, director and pianist; Louise Griffiths, soprano; Ramona Berlew, contralto; Lucy Howland, soprano; Dwight Guerin, tenor; Dean Spaulding, tenor; Foster Miller, baritone.  
WEBH, Chicago, Ill. (Central, Daylight, 370), 7:30-8:30 p. m., Stanley Franklin, pianist; Edgewater Beach Orleole orchestra; 9:30-10:30, Elsa Wagner, violinist; Edgewater Beach Orleole orchestra; 11:30-12:30, playlet, Martha Russell and company; songs with guitar, Nick Lucas; Edgewater Beach Orleole orchestra.  
WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m., "Dear Your Best," Charles E. Osborne; 8:30-9:30,

WJAX, Cleveland, Ohio (Eastern, 390), 8 p. m., Hotel Cleveland orchestra, Ivan Francis, director; Mildred Claire, alto; piano, Adolfo Geron, pianist; Peter Guckman, tenor; Bessie Portune, contralto.  
WJY, New York, N. Y. (Eastern, Daylight, 405), 2:15-2:30 p. m., "Deutsche Literatur," Prof. Zimcocker of N. Y. university; 9-9:30, "How to Learn to Swim," Frank E. Dalton; 10-10:30, Al Reiser's Club Ferrarini orchestra.  
WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 p. m., Nathaniel Abas' orchestra; 4-4:10, Eleanor Gunn's fashion talk; 4:10-4:15, baby menu; 4:15-4:30, "The Progress of the World," a Review of Review talk; 4:30-5, Alfreda Bertin, violinist; 5-5:15, Sara V. Turits, soprano; 7-7:20, Gotham Hotel concert orchestra; 7:30-8, Gotham Hotel concert orchestra; 8-8:30, weekly French lesson; 8:30-9:30, Wanamaker concert; 9:30-9:45, "America's Role in Europe," Dr. Jeremiah W. Sledge, university of the air; 9:45-10:30, Navy band of the Virgin Islands; 10:30-11:30, Waldorf-Astoria dance orchestra.  
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WBAV, Columbus, Ohio (Eastern, 423), 12 m., Iia Lorbach Owens, pianist; 8 p. m., instrumental program for Columbus Dispatch.  
WBZ, Springfield, Mass. (Eastern, Daylight, 337), 6 p. m., dinner concert, WJZ; 7:05, "The Care of Carburator," E. B. Atmus; 7:30, bedtime story for the kiddies; 11, WBZ, trio; D. Gordon Graham, baritone; Mrs. Marion Graham, accompanist.  
WCAE, Pittsburgh, Pa. (Eastern, Daylight, 492), 0:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 9:30, dance music, Charles Gates and his orchestra.  
WCAP, Washington, D. C. (Eastern, 469), 8-9 p. m., program; 9-10:30, U. S. Army band.  
WCAY, Milwaukee, Wis. (Central, 266), 8 p. m., Oswald Jaeger Baking company night; Sidney Glass, violinist; Florence Eastman, contralto; Victor Hamm, pianist; Lloyd Rogers, accompanist; Louise Aldrich, accompanist.  
WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 7, Mrs. Thomas Watkins, soprano; Arthur Kueckner, violinist.  
WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's Radio trio; 6-7, School of the Air piano tuning in number on the Duo-Art; seventh of a series of piano lessons by Maudellen Littlefield; address, speaker from the Kansas City Children's bureau; children's story and information period; music, Carl Norberg's Plantation players, Hotel Muehlebach;

WJAX, Cleveland, Ohio (Eastern, 390), 8 p. m., Hotel Cleveland orchestra, Ivan Francis, director; Mildred Claire, alto; piano, Adolfo Geron, pianist; Peter Guckman, tenor; Bessie Portune, contralto.  
WJY, New York, N. Y. (Eastern, Daylight, 405), 2:15-2:30 p. m., "Deutsche Literatur," Prof. Zimcocker of N. Y. university; 9-9:30, "How to Learn to Swim," Frank E. Dalton; 10-10:30, Al Reiser's Club Ferrarini orchestra.  
WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 p. m., Nathaniel Abas' orchestra; 4-4:10, Eleanor Gunn's fashion talk; 4:10-4:15, baby menu; 4:15-4:30, "The Progress of the World," a Review of Review talk; 4:30-5, Alfreda Bertin, violinist; 5-5:15, Sara V. Turits, soprano; 7-7:20, Gotham Hotel concert orchestra; 7:30-8, Gotham Hotel concert orchestra; 8-8:30, weekly French lesson; 8:30-9:30, Wanamaker concert; 9:30-9:45, "America's Role in Europe," Dr. Jeremiah W. Sledge, university of the air; 9:45-10:30, Navy band of the Virgin Islands; 10:30-11:30, Waldorf-Astoria dance orchestra.  
WLS, Chicago, Ill. (Central, Daylight, 345), 1-2 p. m., Edward Fritz, pianist, cornetist; "Tly Prevention," E. B. Heaton; 6:30, "Husk" O'Hara's orchestra; 6:45, Brogram, Carl Craven studios; 7:45, lullaby time, Ford Rush, Glenn Rowell; 10:15, music publishers' night.

## Friday, August 1

Silent night for: KGO, KPO, WBBR, WFI, WIP, WLW, WMH, WOR, WSAI.  
CFCC, Montreal, Que. (Eastern, Daylight, 440), 9 p. m., program, Cunard Steamship company; Mildred Page, reader; A. S. Arben, cellist; Ship's orchestra; Frank W. Crutch, violinist.  
KDKA, E. Pittsburgh, Pa. (Eastern, 326), 11:15 a. m., Daugherty's orchestra; 5:30, Paul Fleeger, organist; 6:30, children's period, Uncle Widgeley; 8, South Avenue church mixed quartet; Bessie Z. Smith, reader; Corrine G. Bell, pianist.  
KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., Aeolian organ recital, 8-9, Evening Herald, Carl Edward Hatch arranging concert; 9-10, Examiner, Grace Eaton Dow arranging concert; 10-11, pupils, Myra Belle Vickers in vocal recital; 11-12, Ambassador Hotel Coconut Grove orchestra.  
KFNF, Shenandoah, Iowa (Central, 266), 7:30 p. m., Smith-Belding orchestra.  
KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m., Nelle Duffy, contralto; Alfred Green, baritone.  
KGO, Oakland, Calif. (Pacific, 312), 3 p. m., musical program; 4-5:30, concert orchestra, Hotel St. Francis.  
KGW, Portland, Ore. (Pacific, 492), 3:30 p. m., woman's program; 8:15, George Olsen's Metropolitan orchestra; 10:30, Hot Owis.

8-9:15, WDAF minstrels with the Star's Radio orchestra; 11:45 p. m.-1 a. m., Nighthawk frolic, Charles Dornberger's orchestra, K. C. A. C. roof garden; Plantation players, Hotel Muehlebach.  
WDAR, Philadelphia, Pa. (Eastern, Daylight, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; 12:30, Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 7:30, Dream Daddy's bedtime stories; 8, Playlet WDAR Greenough players; 10, Benson's orchestra of Chicago, Fry's Million Dollar orchestra; direct from Atlantic City.  
WEAF, New York, N. Y. (Eastern, Daylight, 492), 11:30 a. m., musical program; 4:15 p. m., Dorothy Jung, soprano; 4:15-4:30, Harry Olson, banjoist; 4:30-5, children's stories; 6-7, dinner music, Waldorf-Astoria orchestra; 7:45-8, Moses Levine, violinist; 9-10, B. Fischer & Co. "Astor Coffee" orchestra.  
WEBH, Chicago, Ill. (Central, Daylight, 370), 7:30-8:30 p. m., Louise Cloud, soprano; popular song hits, Ted Florito; Edgewater Beach Orleole orchestra; 9:30-10:30, James H. St. John, tenor; Edgewater Beach Orleole orchestra; 11:30-12:30, piano monologues, Edward Stoddard; popular song hits, Dan Russo; Edgewater Beach Orleole orchestra.  
WEDA, Columbus, Ohio (Eastern, 360), 1:30 p. m., educational lecture, member Ohio State university faculty; 4 p. m., farm talk, faculty member; music, university talent.  
WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m., address, Dr. Robert Stewart Iyer; 8:30-9:30, Grand Music Box recital of classics, George A. Nicoud.  
WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 6, Sunny Jim, the kiddies' pal; 6:30, Meyer Davis Bellevue Stratford concert orchestra.  
WGN, Chicago, Ill. (Central, Daylight, 370), 6:30-7:30 p. m., Drake concert ensemble and Blackstone string quintette; 8:30-9:30, artists announced later; 10:30-11:30, Bert Davis, Jack Chapman's orchestra.  
WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 p. m., George Albert Bouchard, organist; 6:30-7:30, dinner music; 9-11, variety musical program, direction of J. P. Quinn; 11:30, supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, directing.  
WGY, Schenectady, N. Y. (Eastern, 380), 5:30 p. m., children's story in French, Frederic Ducret; 7:50, "Scrap of Paper," WGY student players; WGY orchestra; 10:30, "Claude Debussy and his Music," Vladimir Karapetoff; 11:05, Stephen E. Boisclair, organist.  
WHA, Madison, Wis. (Central, 360), 7:30 p. m., Radio play, William Joseph Tannewitz, director.  
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Harry S. Currie's orchestra; 7:30-9, concert, Mary Gibson Craig, director.  
WHB, Kansas City, Mo. (Central, 411), 7-8 address; music.  
WHK, Cleveland, Ohio (Eastern, 283), 9 p. m., program arranged by William Taylor Son and company; Louis Rich and his orchestra.  
WHN, New York, N. Y. (Eastern, Daylight, 366), 3-3:15 p. m., Wright & Bessinger; 3:45-4, Uncle Robert's chat with children; 6-7, Alamac Festive board; 7-7:15, Roemer sport period, Thornton Fisher; 8:30-10, Chas. Strickland's Pallasades Park orchestra; 10:30-11, Roseland dance orchestra; 11:30-12, Club Alabama orchestra.  
WHW, Des Moines, Iowa (Central, 526), 7:30-9 p. m., Mrs. Bert Mills, soprano; Helen Ladd Warren, soprano; Mrs. Lewis Bolton, pianist; Mrs. Lorin Miller, violinist; S. W. Dorsey, clarinetist.  
WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 a. m., seashore gossip; 8 p. m., "What the wild waves are saying," 3:05, Chats with celebrities; 3:30, Comfort's philharmonic orchestra; 6:05, Eddie Eklins' dance orchestra; 7, Uncle Wip's bedtime stories.  
WJAX, Cleveland, Ohio (Eastern, 390), 8:30 p. m., program.  
WJY, New York, N. Y. (Eastern, Daylight, 405), 7:30-8:15 p. m., Leonard Nelson's Knickerbocker Grill orchestra; 8:15-8:30, "The Supreme Court and Constitutional Government," Prof. Swenson of N. Y. university.  
WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 Hotel Ambassador trio; 4-4:10, Eleanor Gunn's fashion talk; 4:10-4:15, baby menu; 4:15-4:30, "The Progress of the World," a Review of Review talk; 4:30-5, Alfreda Bertin, violinist; 5-5:15, Sara V. Turits, soprano; 7-7:20, Gotham Hotel concert orchestra; 7:30-8, Gotham Hotel concert orchestra; 8-8:30, weekly French lesson; 8:30-9:30, Wanamaker concert; 9:30-9:45, "America's Role in Europe," Dr. Jeremiah W. Sledge, university of the air; 9:45-10:30, Navy band of the Virgin Islands; 10:30-11:30, Waldorf-Astoria dance orchestra.

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# AUDIENCE OF WTAM MONDAY



These gay gentlemen are Victor Sauder's KDKA Serenaders. Tune in Thursday, July 31 for East Pittsburgh.

Anne O'Neill (left) is often called the "Girl with the Radio Voice." She will sing from WJZ, New York, this week. Mildred Clyburne, contralto (right) will appear again at the Twin City Radio Central, WLAG, Wednesday, July 30.

Westinghouse band; 6:30 children's period, "The Little Steam Engine," 8 Westinghouse band.

**KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m.**, Honesty's Paramount players; 8-9, Los Feliz trio; 9-10, Examiner, Ida May Walls program; 10-11, popular song program; 11-12, Ambassador Hotel Coconut Grove orchestra.

**KFNF, Shenandoah, Iowa (Central, 266), 7:30 p. m.**, concert, Henry Field Seed company.

**KGB, Daklad, Calif. (Pacific, 312), 4-5:30 p. m.**, concert orchestra, Hotel St. Francis; 8, Arlon trio; Robert E. Saxe, tenor; Bay City Male quartet; Margaret Avery, cellist; Clarence H. Oliver, baritone; male trio, Robert E. Saxe, tenor, Clarence H. Oliver, baritone, George Madison, bass; Ruth Collins, soprano; Joyce Hallaway Barthelsson, pianist; Carl Anderson, tenor; Josephine Molub, violinist; Gwynn Jones, tenor.

**KGW, Portland, Ore. (Pacific, 492), 8 p. m.**, children's musical program; 10, George Olsen's Metropolitan orchestra.

**KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:15 p. m.**, concert; 6-6:30, Art Hickman's concert orchestra; 6:45-7:30, children's hour, Prof. Walter Sylvester Hertzog; bedtime story, Uncle John; 8-10, concert, courtesy, Martin Music company arranged by Howard Johnson; 10-11, Art Hickman's dance orchestra.

**KPD, San Francisco, Calif. (Pacific, 423), 8-12 midnight**, Art Weidner's Popular dance orchestra; KPO trio.

**KYW, Chicago, Ill. (Central, Daylight, 536), 11:35 a. m.**, table talk, Mrs. Anna J. Peterson; 7-7:30 p. m., dinner concert, Congress hotel; 8-8:58, Mrs. Susanneh Pepper, soprano; Adelle Pepper, alto; Homer Pepper, flutist; Lucy Dougherty, contralto; 9:05, Youth's company; 9:20, music.

**WBAV, Columbus, Ohio (Eastern, 423), 12 m.**, Ila Lorbach Owens, pianist.

**WBZ, Springfield, Mass. (Eastern, Daylight, 337), 6 p. m.**, Leo Reisman's Hotel Lenox ensemble; 6:30, Leo Reisman and his Hotel Brunswick orchestra; 7:30, bedtime story for the kiddies; 7:40, Hotel Kimball trio.

**WCAE, Pittsburgh, Pa. (Eastern, Daylight, 462), 3 p. m.**, Prof. Otto Kaitetz, pianist; 6:30, dinner concert, William Penn hotel; 7:45, Lew Kennedy, baritone; Irene Setzler, pianist; 9:30, musical program.

**WCAY, Milwaukee, Wis. (Central, 266), 11 p. m.**, Midnight frolic with regular study entertainers filling requests.

**WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m.**, musical program; 6, dinner concert.

**WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m.**, the Star's Radio orchestra; 6-7, School of the Air, piano tuning in number on the Duo-Art; address, speaker from the editorial staff of the Star; the Tell-Me-a-Story lady; music, Carl Norberg's Plantation players, Hotel Muehlebach.

**WEAF, New York, N. Y. (Eastern, Daylight, 492), 4-5 p. m.**, Bob Friddick's orchestra; 6-7, dinner music, Waldorf-Astoria orchestra; 7-8, instrumental quintette from S. S. President Wilson, with Vittorio Rosa, baritone; 8:30-8:45, Nancy McCord, soprano; 10-11, Vincent Lopez and his Hotel Pennsylvania orchestra.

**WEAO, Columbus, Ohio (Eastern, 360), 1:30 p. m.**, educational lecture, member Ohio State university faculty.

**WEBB, Chicago, Ill. (Central, Daylight, 370), 7:30-8:30 p. m.**, benedictine duets, Virginia and Joe Ward; Edgewater Beach Oriole orchestra; 9:30-10:30, Grace Wilson, contralto; story teller, William H. Hunt; Edgewater Beach Oriole orchestra; 11:30-12:30, steel guitar duets, Langdon brothers; Paul Locker, tenor; Edgewater Beach Oriole orchestra.

**WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m.**, Organization and the Ethics of Labor, William M. Reilly; 3:30-4, Reynolds Presbyterian orphanage; 8:30-9:30, Netto Male quartet; 11-12, Adolphus Hotel orchestra.

**WGN, Chicago, Ill. (Central, Daylight, 370), 6:30-7:30 p. m.**, Drake concert ensemble and Blackstone string quintette; 8:30-9:30, artists announced later; 10:30-11:30, Bert Davis, Jack Chapman's orchestra.

**WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 p. m.**, George Albert Bouchard, organist.

**WGY, Schenectady, N. Y. (Eastern, 380), 9:30 p. m.**, dance music, Joseph A. Chickene and his Clover Club orchestra; popular song, Frank Davis.

**WHAS, Louisville, Ky. (Central, 400), 4-5 p. m.**, Harry S. Currie's orchestra; 7:30-9, concert, auspices, Farrie A. Wilson.

**WHN, New York, N. Y. (Eastern, Daylight, 366), 12-1 p. m.**, Jack Shack's orchestra; 2:15-2:30, Henry Cogert and Sol Hirst; 2:45-3:30, Tom Banks orchestra; 3:45-4:15, Ellen Montague Cross concert company; 5-5:30, John A. Schemma and his orchestra; 6-7, Almanac Festive board; 8-8:15, Jimmy Flynn, tenor; 8:45-9:15, Ellen Montague Cross concert company; 9:15-10, Jack Fox and his orchestra; 10-10:15, Fitzpatrick Bros.; 11:30-12, Jimmy Clarke and his entertainers.

**WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 a. m.**, seashore gossip; 11 p. m., Karl Bonawitz, organist; 3, "What the wild waves are saying"; 3:05, talks with celebrities; 3:30, Comfort's philharmonic orchestra, Edna Cook Smith, contralto; 8:45, "What the wild waves are saying"; 8:50, Vessella's concert band; 10, Bob Lennan's dance orchestra; 11:05, Karl Bonawitz, organist.

**WJAX, Cleveland, Ohio (Eastern, 390), midnight**, "The Night Caps on Lake Erie"; Joe Smith-Martha Lee Club orchestra; Ethel Rhody, Bobbie Fitzpatrick, vocal solos, duets; Howard Justice, vocal solos; Kenyon four, male quartet; Albert Downing, tenor; Musical Magpies, orchestra; Eddie Connors, Frank Weissenberger, banjoists and instrumental solo; Rex Haller, vocal solos; Homer Walters, violinist; Arthur Staus-

## Where to Hear Talks

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

**Wednesday:** CKCH, KFOA, KGO, KHJ, KYW, KQV, WAAW, WBAH, WBZ, WCX, WDAF, WDAW, WFAF, WGY, WHA, WHN, WJZ, WLAG, WLS, WMAQ, WOS.

**Thursday:** CKAC, KDKA, KYW, WBZ, WCAE, WDAF, WPAF, WGI, WGY, WHAS, WHB, WHN, WIP, WJAX, WJY, WJZ, WLAG, WLS, WLW, WMAQ, WOR, WQJ, WRC.

**Friday:** CKY, KYW, WBAV, WBZ, WDAF, WDAW, WFAA, WGR, WGY, WHB, WHN, WJY, WJZ, WLAG, WLS, WMAQ, WOS.

**Saturday:** KDKA, PWX, WBAH, WBAP, WBBR, WDAF, WFI, WGI, WJZ, WOAW, WRC.

**Monday:** KGO, WBBR, WBZ, WDAF, WDAW, WFAA, WGR, WGY, WHN, WLAG, WQJ.

**Tuesday:** KPFG, KGO, KYW, WAAW, WCAE, WDAF, WFAA, WGI, WGY, WHA, WHAS, WJY, WJZ, WLAG, WMAQ, WQJ, WRC.

derg, vocal solos; Dick Fiddler and his orchestra; Austin J. Wylie and his orchestra.

**WJZ, New York, N. Y. (Eastern, Daylight, 455), 1-2 p. m.**, Hotel Vanderbilt orchestra; 4:30-5:30, Roger Wolfe's Biltmore orchestra; 7-8, Waldorf-Astoria Roof orchestra; 8-8:30, Vincent De Sola, pianist; 8:30-8:45, "Making Radio Beautiful," Dr. A. N. Goldsmith; 8:45-9, Alexis Kudisch ensemble; 10:45-11:30, Hotel Astor Dance Roof orchestra.

**WLS, Chicago, Ill. (Central, Daylight, 345), 7:45 p. m.**, lullaby time; 8, Dean Rowell; 8-1, national barn dance; "Husk" O'Hara's orchestra.

**WMAQ, Chicago, Ill. (Central, Daylight, 447.5), 6:30 p. m.**, Hotel LaSalle orchestra; 8, band concert, Chicago Daily News band; 9, weekly Balaban & Katz Chicago theater revue.

**WMC, Memphis, Tenn. (Central, 500), 8:30 p. m.**, program.

**WMH, Cincinnati, Ohio (Central, Daylight, 309), 10 p. m.**, Tabloid musical program; 11, Eddie Sidey's Middies.

**WOAW, Omaha, Nebr. (Central, 526), 6 p. m.**, dinner program; program from piano studios of Stanley Jan Letovsky.

**WDC, Davenport, Iowa (Eastern, 484), 12 m.**, chimes; 9 p. m., the Palmer School Radio orchestra; Ralph W. Fuller, baritone.

**WRC, Washington, D. C. (Eastern, 469), 6 p. m.**, children's hour, Peggy Albion; 7:35, Bible talk; 8, concert, Germania Männerchor, C. E. Christiani, director; 8:30, Preston Haynes, tenor; 9, Army Music school band.

**WJ, Chicago, Ill. (Central, Daylight, 448), 3-4 p. m.**, "Koffee Klatsch"; 7-8, John Miller, tenor; Polly Willis, soprano; 10-2, Ralph Williams and his Rainbo Garden orchestra; Jerry Sullivan, singers; The Melodians, harmony singers; Ray Hibbeler, tenor; Harry Geise, pianist.

**WDR, Newark, N. J. (Eastern, Daylight, 405), 2:30-2:45 p. m.**, Christine E. Trumbull, soprano; 2:45-3, Janet Hall, contralto; 3:30-3:45, Christine E. Trumbull, soprano; 3:45-4, Janet Hall, contralto; 4:15-4:30, Music While You Dine; 4:30-4:45, Guyon's Paradise orchestra; 7:30-7:30, resume of the day's sports; 8-8:15, President Roosevelt orchestra; 9-9:15, Margulies trio; 9:30-9:45, Frederick Tedesco, piano accordionist; 10:30-10:45, Margulies trio; 10:45-11, Frederick Tedesco.

**WSAI, Cincinnati, Ohio (Central, Daylight, 309), 8 p. m.**, chimes concert; 9, Guyon's Paradise orchestra; 10:15-11:15, Guyon's Paradise orchestra; 12 m., Royal Garden orchestra.

**WTAM, Cleveland, Ohio (Eastern, 390), 9 p. m.**, WTAM dance orchestra, Ev Jones, director; Rex Haller, soprano.

**WTAS, Elgin, Ill. (Central, 286), 7:30-7:45 p. m.**, bedtime stories, Olivia; 7:35-8, Dell Lampe's Trianon ballroom orchestra; Allen Hooker, WTAS, pianist; 8-8:30, popular song hits; 8:30-12:30, Lampe's Trianon ballroom orchestra; Allen Hooker, pianist.

**WTAY, Oak Park, Ill. (Central, 283), 6:45-7:45 p. m.**, Rosemary Hughes, soprano; 9-9:45, Guyon's Paradise orchestra; 10:15-11:15, Guyon's Paradise orchestra.

**WJL, Detroit, Mich. (Eastern, 517), 12 m.**, Detroit News orchestra; 3 p. m., Schmemman's band; 7:30, Schmemman's band.

## Monday, August 4

## Sunday, August 3

Silent night for: KGF, KHJ, KYW, WEBB, WFI, WGN, WHAS, WIP, WLS, WMAQ, WMH, WQJ, WRC, WTAY.

**KFI, Los Angeles, Calif. (Pacific, 469), 8-9 p. m.**, Evening Herald Radioland's dance orchestra; 9-10, Examiner, Roy Loring orchestra; 10-11, Ambassador Hotel Coconut Grove orchestra.

**KFKX, Hastings, Nebr. (Central, 341), 9:30 p. m.**, Hastingians Dance orchestra.

**KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m.**, dance music, Babb's B. Ladies orchestra, courtesy Carnation Milk Products company.

**KGB, Daklad, Calif. (Pacific, 312), 3 p. m.**, studio musical program; 4-5:30, Henry Halstead's Hotel St. Francis Dance orchestra; 8, educational program, Mrs. Frances M. Ford, director; 8:45, program; 9:30, Bookfollows' night.

**KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:15 p. m.**, concert.

**KPD, San Francisco, Calif. (Pacific, 423), 1-2 p. m.**, Rudy Seiger's Fairmont Hotel orchestra; 2:30-3:30, Jessie Woods, pianist; May C. Lassen, contralto; Corine Day, pianist; 4:30-5:30, Rudy Seiger's Fairmont Hotel orchestra; 5:30-6:30, children's hour stories, Big Brother of KPO; 7-7:30, Rudy Seiger's Fairmont Hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10, Etta Wilson, soprano; Walter Wenzel, pianist; Norman Simon, baritone; Feste G. Aspere, violinist; 10-11, E. Max Bradfield's Versatile band.

**WBAV, Columbus, Ohio (Eastern, 423), 12 m.**, Ila Lorbach Owens, pianist.

**WBBR, New York, N. Y. (Eastern, Daylight, 273), 8 p. m.**, Fred Franz, tenor; 8:15, world news digest, editor of Golden Age magazine; 8:45, Fred Franz, tenor; 9-9:15, Golden Age orchestra; 9:15-9:30, Edna Finestone, pianist; 9:30-9:45, Edna Finestone, pianist; 9:45-10, Edna Finestone, pianist; 10-10:15, Edna Finestone, pianist; 10:15-10:30, Edna Finestone, pianist; 10:30-10:45, Edna Finestone, pianist; 10:45-11, Edna Finestone, pianist; 11-11:15, Edna Finestone, pianist; 11:15-11:30, Edna Finestone, pianist; 11:30-11:45, Edna Finestone, pianist; 11:45-12, Edna Finestone, pianist.

**WCAE, Pittsburgh, Pa. (Eastern, Daylight, 462), 3:30 p. m.**, dinner concert, William Penn hotel; 8:30-9, ukulele lesson, Martin McGee; 9:30, musical program, Billy Cramer's orchestra; 11, St. Clair entertainers, The Greenleaf Serenaders.

**WCAY, Milwaukee, Wis. (Central, 266), 8 p. m.**, program sponsored by the Holyropef Hosliery company; Antoinette Anderson, mezzo-soprano; Bryan Clark, baritone; Sun Dodgers, in a request program.

**WCBD, Zion, Ill. (Central, Daylight, 345), 8 p. m.**, male quartet; Mrs. H. E. Mayfield, soprano; Mrs. P. M. LaRose, contralto; R. F. Reid, tenor; Lois Wiedman, reader.

**WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m.**, musical program; 6, dinner concert; 8:30, musical program, Artist pupils of Prof. Blackman will present the opera "Rigoletto."

**WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m.**, the Star's Radio trio; 5-5:30, weekly Boy Scout program, Kansas City council; 6-7, School of the Air, piano tuning in number on the Duo-Art; address; Clay Harvey, fifth of a series of talks on education; address, speaker from the University of Kansas; the Tell-Me-a-Story lady; music, Carl Norberg's Plantation players, Hotel Muehlebach; 8-9:15, the Star's Radio orchestra with the WDAF minstrels.

**WDAR, Philadelphia, Pa. (Eastern, Daylight, 395), 11:45 a. m.**, daily almanac; 12:02 p. m., Stanley theater organ recital; 12:30, Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Edna Finestone, pianist; 7:30, Dream Daddy's bedtime stories; 7:50, Movie Review, James A. Nassau; 8, Arcadia cafe concert orchestra; 9:30, Stanley theater symphony orchestra; 10, Arcadia cafe dance orchestra, direction Feri Sarkozy.

**WEAF, New York, N. Y. (Eastern, Daylight, 492), 4-4:20 p. m.**, Dorothy B. Woerschling, soprano; 4:30-5:30, women's program, United Synagogue; 6-7, dinner music, Waldorf-Astoria orchestra; 7-7:30, Josephine Emerson, violinist; 8-8:15, Mears & company; 8:30-10, Marine band, Washington, D. C.

**WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m.**, "Fixed Stars and Variables," Dr. J. D. Boon; 8:30-9:30, musicals, Old Fiddlers, L. J. Cook, director.

**WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 1 p. m.**, Moyer Davis Bellevue Stratford orchestra; 3, Caroline Hoffman, pianist; 6, Suzy (Continued on page 12)

## Saturday, August 2

Silent night for: KFDA, WBBR, WCAP, WCX, WDAW, WFI, WGR, WHD, WLW, WOD, WOS.

**CKCH, Ottawa, Can. (Eastern, Daylight, 435), 8 p. m.**, Chateau Laurier hotel; J. Barron, tenor; A. Lewis, saxophonist; Jack McDonald, Scotch comedian; Mrs. Sydney Howe, soprano; L. S. Vire, pianist.

**KDKA, E. Pittsburgh, Pa. (Eastern, 326), 5:30 p. m.**



... Bernard Knight Temple band; Fred K. Hunter, director; Sandy Meek, tenor; Rita Giles McFaun, soprano; bedtime story, Glenn Bruce.

**WWJ, Detroit, Mich. (Eastern, 517), 8 a. m.,** setting up exercises, R. J. Horton; 12 m., Detroit News orchestra; 3 p. m., Schmeman's band; 8:30, Schmeman's band; 9:30, Detroit News orchestra.

**Saturday, August 2**

Silent night for: KFOA, WBBR, WCAP, WCX, WDAR, WFI, WGR, WHO, WLW, WOO, WOS.

**CKCH, Ottawa, Can. (Eastern, Daylight, 435), 8 p. m.,** Chateau Laurier hotel; J. Barron, tenor; A. Lewis, saxophonist; Jack McDonald, Scotch comedian; Mrs. Sydney Howe, soprano; L. S. Verr, pianist.

**KDKA, E. Pittsburgh, Pa. (Eastern, 328), 5:30 p. m.,**

4:15, Ellen Montague Cross Concert company; 5-5:30, John A. Schemm and his orchestra; 6-7, Almanac Festive board; 8-8:15, Jimmy Flynn, tenor; 8:45-9:15, Ellen Montague Cross Concert company; 9:15-10, Jack Fox and his orchestra; 10-10:15, Fitzpatrick Bros.; 11:30-12, Jimmy Clarke and his entertainers.

**WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 a. m.,** seashore gossip; 1 p. m., Karl Bonawitz, organist; 3, "What the wild waves are saying"; 3:05, talks with celebrities; 3:30, Comfort's philharmonic orchestra, Edna Cook Smith, contralto; 8:45, "What the wild waves are saying"; 8:50, Vesselia's concert band; 10, Bob Leman's dance orchestra; 11:05, Karl Bonawitz, organist.

**WJAX, Cleveland, Ohio (Eastern, 390), midnight, "The Night Caps on Lake Erie";** Joe Smith-Martha Lee Club orchestra; Ethel Rhody, Bobbie Fitzpatrick, vocal solos, duets; Howard Justice, vocal solos; Kenyon four, male quartet; Albert Downing, tenor; Musical Magpies, orchestra; Eddio Connors, Frank Weissenberg, banjoists and instrumental solos; Rex Haller, vocal solos; Honor Walters, violinist; Arthur Stiaus-

**WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 7:30 p. m.,** services, Arch street Presbyterian church.

**WGN, Chicago, Ill. (Central, Daylight, 370), 5:00-6:00 p. m.,** Barton organ, Ralph Emerson; 9:15, W. W. Weber, tenor, Drake concert ensemble.

**WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 3-4 p. m.,** vespers service.

**WGY, Schenectady, N. Y. (Eastern, 380), 9:30 a. m.,** services, Albany Street Methodist Episcopal church; Kitty Hayden Meinhold, organist; Rev. M. J. Overholser; 7:30, New York Philharmonic orchestra.

**WHAA, Iowa City, Iowa (Central, 484), 9-9:30 p. m.,** familiar hymns, Mary E. Kumlir, soprano.

**WHAS, Louisville, Ky. (Central, 400), 9:57 a. m.,** organ music; 10, Fourth Avenue Presbyterian church, Rev. Dr. Charles W. Welch; 4-5 p. m., sacred concert, St. Peter's Evangelical church choir, George C. Cannon, director.

**WHB, Kansas City, Mo. (Central, 411), 11 a. m.-12:30 p. m.,** services, Linwood Boulevard Christian church, Dr. Burris Jenkins, pastor; 8-9:30, services, representative churches of Kansas City.

tra; 2, Arcadia cafe concert orchestra; 4:30, Edna Finestone, pianist; 7:30, Dream Daddy's bedtime stories; 7:50, Movie Review, James A. Nassau; 8, Arcadia cafe concert orchestra; 9:30, Stanley theater symphony orchestra; 10, Arcadia cafe dance orchestra, direction Feri Sarkozi.

**WEAF, New York, N. Y. (Eastern, Daylight, 492), 4-4:20 p. m.,** Dorothy B. Woerschling, soprano; 5-5:30, women's program, United Synagogue; 6-7, dinner music, Waldorf-Astoria orchestra; 7-7:30, Josephine Emerson, violinist; 8-8:15, Mears & company; 8:30-10, Marino band, Washington, D. C.

**WEAO, Columbus Ohio (Eastern, 360) 1:30 p. m.,** educational lecture, member Ohio state university faculty.

**WFAA, Dallas, Tex. (Central, 476), 12:30-1 p. m.,** "Fixed Stars and Variables," Dr. J. D. Boon; 8:30-9:30, musicale, Old Fiddlers, L. J. Cook, director.

**WFI, Philadelphia, Pa. (Eastern, Daylight, 395), 1 p. m.,** Meyer Davis Bellevue Stratford concert orchestra; 3, Carolino Hoffman, pianist; 6, Sunday

(Continued on page 12)

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9), 7:30 p. m.,  
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rine Marcelles,  
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ng hits; 8:30-  
Allen Hooker,  
a. m., services  
Detroit News

t 4  
WEBB, WFI,  
WMH, WQJ.  
), 8-9 p. m.,  
chestra; 9-10,  
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9:30 p. m.,  
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courtesy Car-  
p. m., studio  
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5), 12:30-1:15  
3), 1-2 p. m.,  
ra; 2:30-3:30,  
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rwin, organist;  
enzel, pianist;  
pere, violinist;  
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d news digest,  
5, Fred Franz,  
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8 p. m., pro-  
sery company;  
Bryan Clark,  
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45), 8 p. m.,  
soprano; Mrs.  
l, tenor; Lois  
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11), 3:30-4:30  
weekly Boy  
6-7, School of  
the Duo-Art;  
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University of  
sic, Carl Nor-  
lebach; 8-9:15,  
WDAE minstrels,  
ern, Daylight, 395),  
12:02 p. m., Stanley the-  
Arcadia cafe concert orches-

Monday, August 4

(Continued from page 11)

Kiddies' pol: 6:30, Meyer Davis Bellevue Stratford concert orchestra.

WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 George Albert Bouchar, organist; 6:30-7:30, dinner music; 9-10, concert, Niagara Radio store; 10-11, concert, Fred F. Dye Fireproof Warehouse company of Buffalo; 11:30, supper dance music, Vincent Lopez Hotel Statler dance orchestra; Harold Gieser, directing.

WGY, Schenectady, N. Y. (Eastern, 380), 1 p. m., "Some Facts about Mahogany"; 7:45, Helen Mont, pianist; "Betty at the Baseball Game," Sylvia Mont; Mrs. Perry Badgley, Jr., soprano; "The Vamp," Sylvia Mont.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Alamo Theater orchestra; Dick Quinlan's Golden Derby orchestra.

WHAZ, Troy, N. Y. (Eastern, 380), 9 p. m., Imperial orchestra, William Y. Diamond, director.

WHB, Kansas City, Mo. (Central, 411), 7-8 p. m., address; vocal and instrumental music.

WHO, Des Moines, Iowa (Central, 525), 7:30-9 p. m., Adele Alder dance orchestra; Thelma Kynsbarger, soprano; Lorene Compton, trumpeter; John Alberson, baritone; Maude Eldridge, soprano.

WHN, New York, N. Y. (Eastern, Daylight, 366), 3:45-4 p. m., Uncle Robert's chat with children; 6-7, Alamae festive board; 7-7:15, Roemer sport period; Thornton Fisher; 7:30-8, Roseland dance orchestra; 8:30-8:45, Vincent Lane, tenor; 9:15-9:30, Palisades Park dance orchestra; 10-11, Jack Shuck's orchestra; 12-2 a. m., midnight Bohemia show.

WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 a. m., seashore gossip; 3 p. m., "What the wild waves are saying," 3:05, Chats with celebrities; 3:30, Comfort's Philharmonic orchestra; 6:05, Frisco Serenade dance orchestra; 7, Uncle Wip's bedtime stories.

WLW, Cincinnati, Ohio (Central, Daylight, 423), 8 p. m., grand opera, Ralph Lyford, director.

WMAQ, Chicago, Ill. (Central, Daylight, 447.5), 6 p. m., organ recital; 6:30, Hotel LaSalle orchestra.

WOAW, Omaha, Neb. (Central, 526), 6 p. m., popular half-hour; 6:30, dinner program, Randall's Royal orchestra of Bandels Store restaurants; 9, dance program, Bob Lee's Imperial Jazz band.

WOO, Philadelphia, Pa. (Eastern, Daylight, 509), 11 a. m., Mary E. Vogt, organist; 12:02 p. m., Wana-maker Crystal Tea Room orchestra; 4:45, Mary E. Vogt, organist; 7:30, Hotel Adelphia concert orchestra; 8, Philadelphia Bureau of Health talk; 9:10, Fox Theater grand orchestra; 10, Mary E. Vogt, organist; 10:30, Vincent Kizzo and his Hotel Sylvania dance orchestra.

WOR, Newark, N. J. (Eastern, Daylight, 405), 8:30-8:45 p. m., "I See by the Papers," says McCoster; 9-9:15, "Common Sense of Music," Dr. Sigmund Spaeth; 10-11, program by the WOR Monday nighters.

WOS, Jefferson City, Mo. (Central, 440.9), 8 p. m., Missouri State Prison band; Harry M. Snodgrass.

WQJ, Chicago, Ill. (Central, Daylight, 448), 3-4 p. m., "Picnic Days," Helen H. Downing; "Turo-Meub's a Day with a Pressure Cooker," Mabel E. Waggoner; "Care of Bird Life in the Home," J. N. Slotkin.

WRC, Washington, D. C. (Eastern, 469), 3 p. m., fashion developments of the moment, Women's Wear; 3:25, current topics, Editor The International Interpreter; 3:35, piano recital; 3:50, "What Women Are Doing Today," Mrs. William Atherton Du Puy; 4:10, book review, auspices League of American Penwomen; 6, stories for children, Peggy Albion.

WSAI, Cincinnati, Ohio (Central, Daylight, 309), 10 p. m., popular music concert, Hotel Alms orchestra.

WTAM, Cleveland, Ohio (Eastern, 390), 8 p. m., "Lorain, Ohio night"; concert program by talent from the tornado-stricken Ohio city.

WTAS, Elgin, Ill. (Central, 286), 7:15 p. m., organ recital, Allen Hooker; 7:20-7:45, WTAS orchestra; 7:45-8, Mary Jayne, popular singer; Albert Malotto, cou-

poser; songs, Lucky Wilbur; 8-8:30, Dell Lampe's orchestra; 8:30-8:45, songs, Hill, Hirsh, Gorney; request numbers, Vernon Buck, Jimmy Eggert; 8:45-9, WTAS orchestra; 9-9:30, Hawaiian numbers, William Anderson, Omaha Tingsstrand; songs, Walter Donovan Caroli Romane; 9:30-10, Dell Lampe's orchestra; 10-11, request numbers, Allen Hooker; songs, Hill, Hirsh, Gorney, Mary Jayne, Betty Holmes.

WWJ, Detroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 12 m., Detroit News orchestra; 7 p. m., Schmeiman's band; 9:30, Detroit News orchestra.

Tuesday, August 5

Silent night for: KFOA, WBBR, WFI, WGR, WHO, WMM, WOC, WOO, WOR, WOS.

KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., Acollan organ recital; 8-9, Ambassador Hotel Cocanut Grove orchestra; 9-10, Examiner concert; 10-11, de luxe concert, Clearfield, Iowa, Dr. D. W. Reed, director.

KFN, Shenandoah, Iowa (Central, 266), 7:30 p. m., concert, Clearfield, Iowa, Dr. D. W. Reed, director.

KGO, Oakland, Calif. (Pacific, 312), 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, Boy's band, American Legion Post No. 83, Arlon trio; Ethel Dorling, soprano; Charles N. W. Newell, pianist; San Francisco trio; Blanche H. Fox, contralto; David Zilne, pianist; George von Hugel, cellist; 10-11, Henry Halstead's Hotel St. Francis dance orchestra.

KGW, Portland, Ore. (Pacific, 492), 3:30 p. m., children's program; 8, concert, Selberling-Lucas Music company.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:15 p. m., concert; 2:30-3:30, Hollywood Bowl program, sponsor, Mrs. J. Carter, Boss Danfels, pianist; 6-6:30, Art Hickman's concert orchestra; 6:45-7:30, children's hour, Prof. Walter Sylvester Hertzog; weekly visit of the Sandman and Queen Titania; bedtime story, "Uncle John"; 8-10, de luxe concert; 10-11, Art Hickman's dance orchestra.

KPO, San Francisco, Calif. (Pacific, 423), 1-2 p. m., Rudy Seiger's Fairmont Hotel orchestra; 2:30-3:30, Theodore J. Irwin, organist; 4:30-5:30, Rudy Seiger's Fairmont Hotel orchestra; 5:30-6:30, children's hour stories, Big Brother of KPO; 6:30-7:30, Rudy Seiger's Fairmont Hotel orchestra; 8-10, "Guardians of the Golden Gate," U. S. Army Third Coast Artillery band; 10-11, E. Max Bradfield's versatile band.

KYW, Chicago, Ill. (Central, Daylight, 536), 11:35 a. m., table talk, Mrs. Anna M. Peterson; 6:45 p. m., children's bedtime story; 7-7:30, dinner concert, Congress hotel; 8-8:20, Chicago Musical college; 8:20-8:45, "Ridding the Nation of Bovine Tuberculosis," H. H. Smith; "We-Mindedness," E. P. Taylor; 8:45-9:30, Chicago Musical college.

WBVA, Columbus, Ohio (Eastern, 423), 12 m., Ila Lorbach Owens, pianist; 8 p. m., WBVA orchestra, Frances Handlman, director.

WCAE, Pittsburgh, Pa. (Eastern, Daylight, 462), 6:30 p. m., dinner concert, William Penn hotel; 9:30, the Central Four.

WCAY, Milwaukee, Wis. (Central, 266), 10:30 p. m., Leon Grieb, tenor; Isabelle Renee, soprano; the Illini Serenaders; 11:30, regular midnight frolic "Bob" Northrop and other regular studio entertainers.

WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 10, Red Apple club.

WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's Radio trio; 5-5:30, weekly child talent program, pupils of Harry Kaufmann, violinist; Gertrude Concannon, pianist, and Ilerman Springer, vocalist; 6-7, School of the Air, piano tuning in number on the Duo-Art; address, Maudellen Littlefield, eighth of a series of piano lessons; address,

Clerin Zumwalt, M. A.; the Tell-Me-a-Story lady; music, Carl Norberg's Plantation players, Hotel Muehlebach; 11:35 p. m.-1 a. m., Nighthawk frolic, the Ritey-Bhrhori, Winwood Beach orchestra.

WDAF, Philadelphia, Pa. (Eastern, Daylight, 507), 11:45 a. m., daily almaac; 12:02 p. m., Stanley theater organ recital; 12:30, Areadia cafe concert orchestra; 2, Areadia cafe concert orchestra; 4:30, Edna Pinestone, pianist; 7:30, Dream Daddy's bedtime stories.

WEAF, New York, N. Y. (Eastern, Daylight, 492), 11-11:15 a. m., Board of Education; 11:15-11:45, motion picture forecast, Adele Woodard; 4-4:30 p. m., Al Friedmau's orchestra; 5-5:30, women's program; 6-7, dinner music, Waldorf-Astoria orchestra; 7-8, Meyer Davis Vandy orchestra; 8:30-9:45, Reid Ice Cream company; 8:45-9:15, Gordon Male quartet; 9:15-9:45, Rita Rotemel, pianist.

WEAO, Columbus, Ohio (Eastern, 360), 1:30 p. m., educational lecture, member Ohio state university faculty.

WFAX, Dallas, Tex. (Central, 476), 12:30-1 p. m., address, DeWitt McMurray; 8:30-9:30, orchestra and singers, Avenue Baptist church; 11-12, MacDowell sisters.

WFI, Philadelphia, Pa. (Eastern, Daylight, 492), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Loretta Kerk, pianist; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim, the kiddies' pal; 8, Loretta Kerk, pianist.

WGN, Chicago, Ill. (Central, Daylight, 370), 6:30-7:30 p. m., Drake concert ensemble and Blackstone string quintette; 8:30-9:30, Rosemary Hughes, soprano; Ralph Emerson, organist; 10:30-11:30, Jack Chapman's orchestra.

WGR, Buffalo, N. Y. (Eastern, Daylight, 319), 12:30-1 p. m., George Albert Bouchar, organist; 6:30-7:30, dinner music.

WGY, Schenectady, N. Y. (Eastern, 380), 1 p. m., "Pinafore," WGY Studio Light Opera group; 6, dinner music, Joseph A. Chickene and his Clover Club orchestra; 7:45, Mrs. Van Veatchon Rogers, pianist; J. Alfred Hand, baritone; Herbert R. Pink, violinist; Mrs. John E. Faulkner, contralto; "Continuous Threads of Activity as an Indispensable Element in Life Satisfaction and Service," Vladimir Karapetoff; 10:15, Stephen E. Boisclair, organist.

WHAA, Iowa City, Iowa (Central, 484), 8 p. m., "The Rules of the Air," Prof. Floyd A. Nagler.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Dick Quinlan's Golden Derby orchestra; Alamo Theater orchestra; 7:30-9, Zur Schmelde Harmony Disgrers.

WHB, Kansas City, Mo. (Central, 411), 8-9:30 p. m., musical program, Tabernacle Baptist church; address, J. Fuller Jaudon; 10:30-11:30, dance program, Sweney Radio orchestra.

WHN, New York, N. Y. (Eastern, Daylight, 366), 2-3:15 p. m., vaudeville and overture, Loew's State theater; 3:45-4, Irving Miller, baritone; 5-5:30, original St. Louis Rydham Kings; 6-7, Alamae festive board; 9:30-10, Chas. Strickland's Palisades Park orchestra; 10:45-11, Bertram J. Goodman orchestra; 11:15-11:30, Edw. B. Marks Music company; 11:30-12, Club Alabama orchestra.

WIP, Philadelphia, Pa. (Eastern, Daylight, 509), 10 a. m., seashore gossip; 1 p. m., Karl Bonawitz, organist; 3, "What the wild waves are saying," 3:05, chats with celebrities; 3:30, Comfort's philharmonic orchestra; 6:05, Ehrenzeller's concert orchestra; 7, Uncle Wip's bedtime stories; 8, Comfort's philharmonic orchestra; 8:45, "What the wild waves are saying"; 8:50, Vessella's concert band; 10, Bob Leman's dance orchestra; 11:05, Harver Marburger's dance orchestra.

WTAX, Cleveland, Ohio (Eastern, 390), program arranged by Cleveland News-Leader; 7:30 p. m., E. G. Johnson, bedtime story; Don Palmer, Radio talk cartoon; Joe Smith-Martha Lee Club orchestra.

WLW, Cincinnati (Central, Daylight, 423), 10 p. m., special dance music; 12, midnight concert, Chubb-Steinberg orchestra.

WMAQ, Chicago, Ill. (Central, Daylight, 447.5), 6 p. m., Chicago Theater organ; 6:30, Hotel LaSalle or-

chestra; 8, Harry Hansen, literary editor; 8:20, travel talk, Clara E. Laughlin; 8:40, French lesson; 9, civil service commission talk; 9:15, music.

WOAW, Omaha, Neb. (Central, 526), 6 p. m., dinner program; 9, classical program.

WOO, Philadelphia, Pa. (Eastern, Daylight, 509), 11 a. m., Mary E. Vogt, organist; 12:02 p. m., Wana-maker crystal tea room orchestra, Robert E. Golden, director; 4:45, Mary E. Vogt, organist.

WOR, Newark, N. J. (Eastern, Daylight, 405), 2:30-3 p. m., McAlpin Hotel orchestra; 3:30-4, McAlpin Hotel orchestra.

WQJ, Chicago, Ill. (Central, Daylight, 448), 3-4 p. m., "Care of the Infant in Hot Weather," Dr. Edward W. Westland; "Sidelights on the Ice Cream Industry," J. E. Davie; "The Importance of Cheese in the Diet," S. K. Robinson; 7-8, Tony Corcoran, tenor; Margaret Garryly, pianist; "Phenomenal Growth of the Torrens System of Land Title Registration," Herman Teninga; 10-2, Ralph Williams and his Rainbow Garden orchestra; Phil Fleming and Vernon Riek, the "How Do You Do Boys"; Paul Loughner, tenor; "How to Get Better Reception," Harry J. Marx.

WRC, Washington, D. C. (Eastern, 469), 6 p. m., children's hour, Peggy Albion, Marguerite Meakin; 8, violin recital; 9, political talk; 9:15, concert, Irving Boernstein's Wardman Park Hotel trio.

WSAI, Cincinnati, Ohio (Central, Daylight, 309), 7 p. m., concert, Hotel Gibson orchestra; 7:30, special chimes concert; 8, orchestral recital, Hotel Gibson orchestra; 9, special program, readings and music.

WTAY, Oak Park, Ill. (Central, 283), 6:45-7:45 p. m., Sandy Meek, tenor; bedtime story, Glenn Bruce.

WTAS, Elgin, Ill. (Central, 286), 7:30-7:45 p. m., bedtime story, Oliva; 7:45-8, Dell Lampe's Trianon ballroom orchestra; 8-8:30 popular song numbers; 8:30-12:30, Lampe's Trianon orchestra.

WWJ, Detroit, Mich. (Eastern, 517), 9:45 p. m., Fred Shaw, pianist and singer; 12 m., Detroit News orchestra; 3 p. m., Schmeiman's band; 7, Schmeiman's band; 9:30, Detroit News orchestra.



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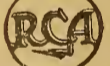
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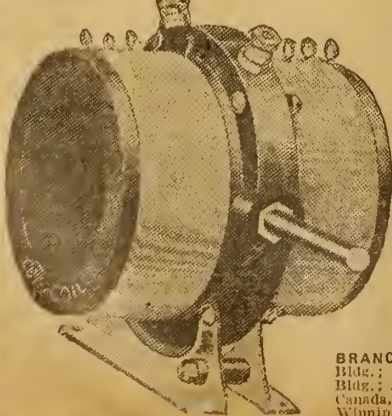
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# 30 Minute A-B-C Lessons for Radio Beginners

## Chapter XIX, Part 1—What Is Doing in Complicated Circuits

By P. E. Edelman

**I**N THIS series of articles the story of Radio is told in so simple a manner that the uninitiated can follow theory and practice whether or not he knows anything about electricity or its application to Radiocasting and reception. The series consists of twenty-five chapters, of which the five next will be:

- Chapter XX—How Far Can I Hear?
- Chapter XXI—Choosing a Radio outfit.
- Chapter XXII—Making Your Own Radio.
- Chapter XXIII—Fixing Up the Radio Set.
- Chapter XXIV—The Radiocast Listener's Brief History.

**T**HE aim of the designers for listening apparatus is to please the Radiocast listener. The general aims are to simplify operation, economize initial

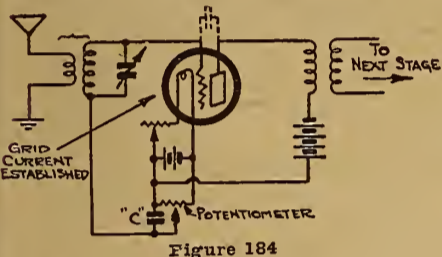


Figure 184

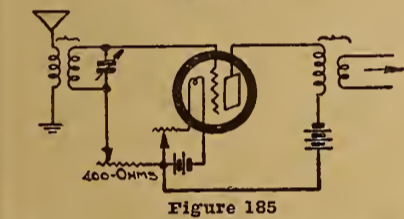


Figure 185

cost and upkeep, extend the range of reception, increase selectivity, mitigate interference, reduce distortion, and improve appearance.

**Stabilizing Radio Frequency Circuits**  
Radio frequency amplifying circuits require some means of stabilizing. Several ways in which this is done in modern circuits will now be shown. Some forms require an adjustment. Thus in Figure



Figure 188



Figure 189

184, grid current is initially passed between the grid and filament for stabilizing purposes. This is accomplished by means of a potentiometer. Sometimes a small condenser C is used to bypass the resistance of the potentiometer to Radio

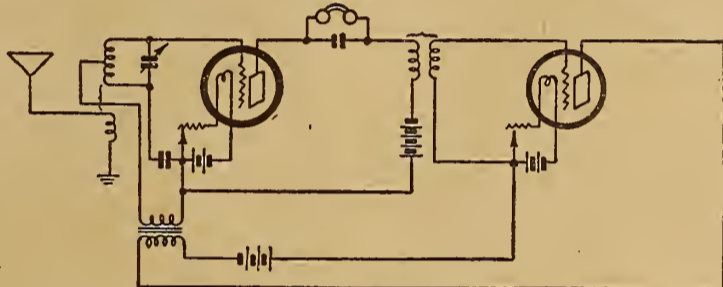
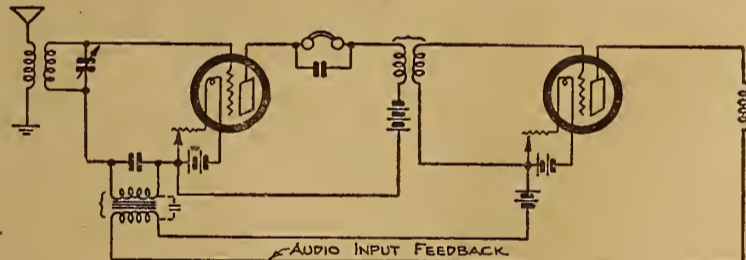


Figure 186

current. Figure 185 shows series resistance in one of the circuits to limit

Figure 186 shows how stabilization is obtained without the potentiometer in



REFLEX (LATOUR RE-DESIGN)

Figure 187

Many circuits pointed out as single tube arrangements can have Radio amplification added ahead or audio amplification

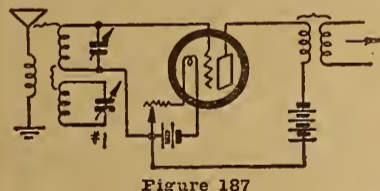
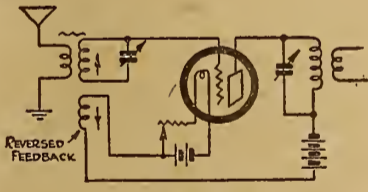


Figure 188

afterwards to make the usual forms of multi-tube machines.



SUPERDYNE

Figure 191

the current and prevent oscillations building up.

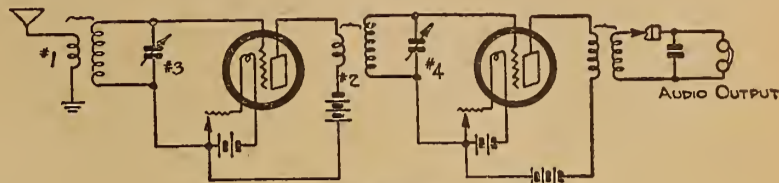


Figure 192

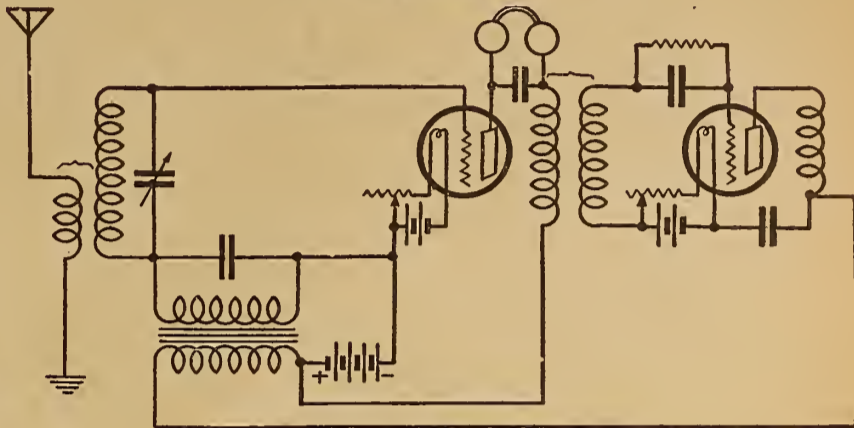
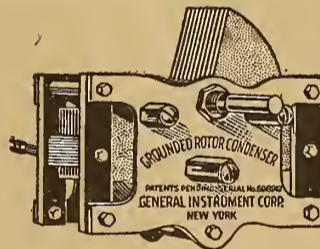


Figure 193

some reflex circuits. An audio input circuit feeds back into the first tube from the plate circuit of the second tube. The transformer used for this audio input into the first plate has capacity in each winding and capacity between its windings—condenser effect. In such a circuit, the potential distribution and coupling of proper value can stabilize the Radio amplifier against self oscillation.

Some circuits use a draw-off circuit or wavetrap number 1, Figure 187 to take energy from the circuit and stabilize operation. Figures 188 and 189 are examples of coupling stabilization. Sometimes two or more stabilizing means are combined. Figure 190 shows a very stable form of circuit, automatic in operation.

(Continued on page 16)



## THE LOW LOSS GENERAL INSTRUMENT CORPORATION GROUNDED ROTOR CONDENSER

### STARTLING SUMMER TESTS

Actual tests have proved that dielectric losses have been practically eliminated. This means new power for your receiving set—a special consideration in the summer. Small wonder that laboratories use this ingenious low loss condenser.

### RECOMMENDED BY A PROFESSOR

A Professor of Radio Engineering in instructing his pupils said that to attain results such as no other variable condenser will produce you must use the Low Loss General Instrument Grounded Rotor condenser.

### HEAR THE DIFFERENCE

The proof is very simple. If you are really after greater selectivity, more distance and a remarkable increase in volume replace your old condenser with the New Low Loss General Instrument Grounded Rotor Condenser. You will hear the difference.

	Minimum	Maximum	
Type 46X 11 Plate	5 MMFD. .0025 MFD.		\$4.50
Type 46A 13 Plate	6 MMFD. .0003 MFD.		4.50
Type 46D 21 Plate	9 MMFD. .0005 MFD.		5.00
Type 46F 43 Plate	15 MMFD. .001 MFD.		5.50

### AT YOUR DEALER

Otherwise send purchase price direct to us and you will be supplied.

## GENERAL INSTRUMENT CORP.

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## A \$200,000.00 COMPANY STANDS SQUARELY BACK OF EVERY PHONE

**TOWER'S Scientific**  
WEIGHS ONLY 8 OZ  
Perfect Tone Makes  
**\$2.95**

Plus a few cents postage

### SEND NO MONEY

Order by mail if your dealer cannot supply you and we will ship immediately. Written 5-day money back Guarantee with each set. Our next year's production schedule of two million phones UNDOUBTEDLY places us as the

WORLD'S LARGEST HEADSET MAKERS  
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98 BROOKLINE AVE. BOSTON MASS.

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# Radio Digest

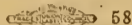
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Illustrated

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## Crime Goes On the Air?

Let Mother and Kiddies Listen In

ON ANOTHER page is found reproduction and story of a coupon recently published on the front page of a large morning daily newspaper which owns a powerful Radiocast station. The coupon would put to vote the question of Radiocasting the trial of a nationally famous kidnap-murder. The argument is presented in defense of the proposal that "it might not be a bad thing if every man and woman in this country at least once in their lives could sit at such a trial."

"Virtue can know itself and vice, but vice cannot know itself and virtue." Emerson.

Must moron minds—now well supplied with apt, voluptuous reading by newspapers—be satiated to the extreme by Radiocasting every lurid detail? Must the so far untrammelled ether be prostituted by ambitious individuals or organizations seeking to promote the right, wrong, or themselves?

The question will be settled by ballot of the newspaper's readers. If that is what is wanted on the air, we will be satisfied. If cleaner, purer programs are desired we will be much better satisfied.

The question will have been settled by the time this issue is in your hands. If the affirmative wins—We can at least tune out!

## Passing of Spellbinding Speeches

Better Delivery Becomes Necessary in Speech Making

THE public will benefit richly from the employment of the Radio for the Radiocasting of political speeches. This has been demonstrated in the recent political conventions. When the microphone supplants the stump, the old-style political spellbinding will pass into oblivion. With the impersonal Radio, personal magnetism and impressive presence are of no advantage to the campaign orator. Grammatical perfection, a reverberating voice and the ability to say something concisely and interestingly will bring fame and votes to the Radio orator.

The spellbinder who depended upon the whipping of Old Glory out of his pocket and the swinging of a heavy fist and long arms for effect will have to study up on his verbs, adjectives and grammar in general before facing the microphone. The stump speakers will have to be taught new tricks.

Extermination of the old flag waving political haranguer is a distinct achievement for the Radio and a boon to the haranguer's own "great country and intelligent countrymen and voters."

## Outdoor Sport

Number of Summer Radiophans Increases

AS AN outdoor sport Radio is at least being realized. The rapid growth of the science brought with it some mistakes. The biggest mistake was to let the idea get into the public mind that Radio could not be used in the summer on account of the static.

This, of course, is not true. If it were so the Radiocasting stations would shut down. But you do not see any of them doing so! The fact is that the conquest of static by the use of loop aerial, the improvement of Radiocasting, and the advent of portable sets which are really portable have now made it possible to enjoy Radio in the good old summer time as much as at other times of the year. "What is vacation without a Radio?" has every prospect of becoming a slogan of nation-wide truth and application.

Radiocasting stations in summer are increasing their sending power. When the summer days are the longest, making it harder to Radiocast over great distances, several of the most important stations have interconnected systems.

The attractions with Radio are better than ever this summer. The variety of programs are greater, and new things like the conventions have proven of intense interest.

The summer is the time to revamp the old set and have it ready for the busy days of fall when there is not so much time to experiment.

## RADIO INDI-GEST

### Rocked to Sleep by Ether Waves

Dear Indi: I am going to make my next door neighbor a full-fledged Radio bug. I have to. If I don't, I think that I'll have my precious apparatus ruined. Last night it was so hot that friend neighbor asked for permission to sleep on my roof. Result—he took my six wire aerial for a hammock and, bang! down he came by Radio. SAFFRON.

### Yeah! It's the Texas Moonshine

The Radiophan sat very still,  
A cautious smile he smole.  
He listened fully to his fill,  
Of the Wild Antenapole.

The great explorer, Bill DuPreest  
Was discoursing wise and wose,  
On the habits of this awful beast,  
From its tail tip to its nose.

"It's a cur'us beast," he said,  
"An awful funny coot.  
It'll never stand up just quite straight  
And wobbles much to boot."

"And always very late at night,  
It never does in day,  
It'll whine and crackle till the light,  
Just why, I cannot say."

"It's not a very dangerous pet,  
For you to own, you know;  
But there isn't a single neighbor yet,  
That didn't find it so."

5XV.

### Mrs. Partington Speaks Out



Dear Indi: Mizz. Partington says the last few weeks of the Democrats Convention got to be right interesting as a lot of the state banners would parade and the band would play whenever one of the high men would win or lose more than 2½ votes in the balloting contest.

The two armies was well dug in, and it looked like Mr. Bryan, hisself, couldn't get the boys out of the trenches before Christmas.

Then one of the ex-leaders began to get suspicious, along about the 100th ballot, that possibly some of the delegations might be hesitating slightly about Radiocasting their ballots for him, so he sent the Station Manager, Sen. Walsh, a applause card telling him he didn't enjoy some of the numbers in his concerts much. He thanked a few of the performers he did like, but told them he wouldn't trouble them any more with request numbers; just to go ahead with their own selections, seein' the local statics was so bad anyhow.

Along about 4 a. m. the convention signed off, coming on again a few hours later to elect a man from one of her neighbor towns as the most popular entertainer. Last night the band played "East Side—West Side" and got everybody to cutting up, and the convention soon picked their sub-announcer from near where K. F. K. X. lives at.

SIGNING OFF.

### Thought for the Day

Backward, turn backward, oh Time in your flight,  
Give me a crystal set, just for tonight;  
Smooth my reception from whistles and growls,  
Chase out the dickey birds, static and howls.  
Over my tube set a watch I must keep—  
It gives me the creeps, mother; gives me the creeps.  
I am so weary it causes me pain,  
Toil without recompense, tuning in vain;  
I am so weary of wave traps and loops,  
Round or rectangular, wound upon hoops;  
Spirals for indoors, stranded for out,  
Every kind touted with many a tout.  
Still, o'er my tube set a watch I must keep—  
It gives me the creeps, mother; gives me the creeps.  
PAPRIKA.

### Just a Boy

By A. J.

"Since sister's got a fella  
A-comin' to our house,"  
Said Jimmy, "Gee, I hafta be  
As quiet as a mouse."

Cuz Ted must tune the Radio  
To make it do its best;  
But that I just hate love songs  
They haven't ever guessed.

So on the nights he stays away,  
Then I tune her in to do  
Just what will make me happy,  
An' so, I bet, would you.

But gosh, right when I'm havin'  
Heaps an' heaps o' fun,  
'Long comes my dad an' sternly says,  
'It's bedtime James, now run.'

In a house with Radio  
I'm missin' lots o' joy,  
Gee, it's somethin' awful  
Bein' just a boy."

### "Line Forms in the Rear, Son"

Dear Indi: When that English fellow gets that "Dear Ray" working, tell him I want to borrow it to see if I can follow that has a set that can't do anything but sound like a record.  
IN. S. ULATION.

## Teaching Jack and Jill



## Condensed

By DIELECTRIC

Station KDKA is perhaps as well known to international audiences as any in existence and it is not unaware of the fact. Messages have so frequently come to the station from points in distant lands that the programs have come to take on a world consciousness. It Radiocast on numerous occasions for the benefit of some southern neighbor, using the Spanish tongue therefor, however, at present an international series is in progress which is to be directed toward many nationalities. If, in this connection, Esperanto could be employed to see how many of the nations fully understood it, perhaps some useful end would be served.

New York city has now in operation another high power Radiocasting station, WNYC, which is owned and directed by the city authorities. There have been, as was to be expected, complaints from listeners in close to these two stations of interference between them, although there is a difference of thirty-four meters in wave length. Certain it is that the new station has both power and quality to recommend it, and as for the programs, time will determine whether their character is approved by Radio audiences or not. It is an experiment worth making and watching.

Commercial code messages are not often looked to for record breaking performance in distance covering nor is it usual to find such in this line of code work. Amateurs are striving to extend the limit of reception at all times, in fact this might well be regarded as the chief aim of the brass pounders. What is said to establish a record for distance between commercial stations was the exchange of messages with the ocean liner Ventura by the Federal Telephone company's beach station at San Francisco, the liner at the time being 6,285 miles southwest of it.

I have remarked before in these columns that of all the jobs associated with the work of Radiocasting that of announcer must prove irksome on many occasions when you and I turn dials to another station he can't! During the sessions of the Democratic convention the announcers were "tuned in" all the time, there being no choice in the matter; interested ones could stick if they choose to the stations giving Alabama's intoned vote, or switch to another station, when such were at home with their sets. Announcers deserve more praise than they receive because of un-faillingly retaining a pleasant delivery despite tedious monotony. The man who wins our gold trophy will have worked hard for it.

From the Amrad station, WGI, comes an announcement somewhat out of the ordinary. It is to the effect that twice a week, immediately following the usual code practice, there will be an amateur Radio period during which announcements of special interest to transmitting amateurs will be made. Assisting C. R. Emery, director of Radiocasting at the station, are local members of the A. R. R. L. and the Commonwealth Radio association.

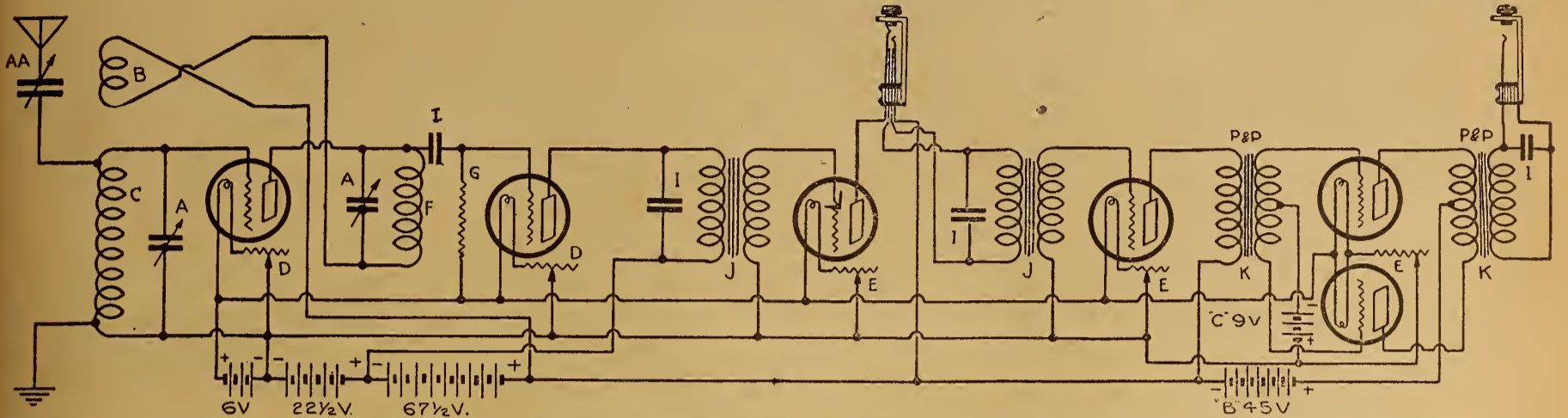
So long as Radiophony is confined to educational or purely entertaining features its future is sure to register development, but one use to which it has been put—indirect advertising—found little sympathy among the millions who make up the Radio public. Coffee brands, certain cigarettes, batteries of a specific make, each of these was advertised by indirection before the mike of WEA. Now direct advertising comes to light in the studio of WHN, the Loew theater station, New York. This station seeks over a hundred chorus girls and uses Radio receivers to get their attention.



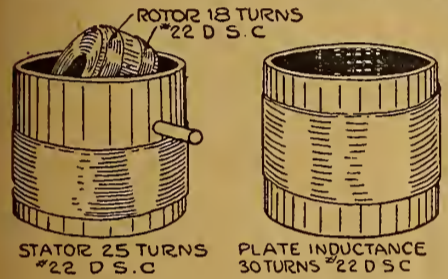
# A Homemade Six Tube Superdyne Receiver

## Part I—Hook-Up and Instructions for Winding Coils

By M. C. Williams



**H**OMEMADE coils are used with this set and they are of the ordinary kind. The secondary or stator should be 4 inches in diameter and wound with 25 turns of number 22 dsc. wire. The coil is run on at one end, beginning



1/2 inch from the rotor shaft and 1/2 inch from the lower end of the tube. The rotor is of the round ball type wound with 25 turns of number 22 dsc. wire, commencing at the outer edges and winding toward the center, leaving a space at the center for the shaft.

**AA**—Aerial wave length condenser for balancing. After it is once adjusted for the particular type of aerial it need not be touched again. Many use the small fixed condensers after the one best suited has been tried out. **A**—Variable condenser, .0005 for wave length of station to be tuned in. **B**—Special coupler, stator has 25 turns of number 22 dsc. wire wound on 1/2 inch from bottom edge and rotor shaft. Tube is 4 inches in diameter. **C**—Rotor (feed back stabilizer) 18 turns on each side of number 22 dsc. wire connected on the inside in series leaving space on outside between windings. **F**—Plate inductance. Four-inch tube with 30 turns of number 22 dsc. wire, starting at 1/2 inch from the top edge and rotor holes if an old variocoupler tube is used. **D** and **E**—Rheostats. **G**—Variable grid leak. **I**—Fixed condensers, .002. **J**—Transformers, same ratio, 9 to 1. **K**—Push and pull transformers.

Similar in design and size to the stator mentioned wind a coil of 30 turns of number 22 dsc. wire, commencing about 1/2 inch from the top. The illustration shows these coils.

Very good results should be obtained by connecting the loop to the aerial and ground binding posts through a small fixed condenser. Better results, however, may be obtained by grounding the negative side of the filament and connecting a small aerial string across the room to the stationary plates of the first variable condenser.

Tubes may be arranged in any manner to suit the fancy of the builder, but re-

member that the leads which carry Radio frequency current must be very short and direct.

The wiring of the filament and other parts at more or less ground potential should run near the front of the panel and the rotary plates of the variable condensers should be as near to ground potential as possible to reduce stray capacity from the hands of the operator. All wires from the grid and plate circuits should be far back from the panel and separated from themselves and everything else as far as possible.

A great deal depends on the construc-

### PARTS REQUIRED

- 1 Special Coupler,
  - 1 Plate Inductance,
  - 5 Rheostats,
  - 4 Fixed Condensers,
  - 1 Variable Grid Leak,
  - 6 Sockets,
  - 1 Cabinet, 7 x 26,
  - 1 Panel, 7 x 26,
  - 2 Variable Condensers, .0005,
  - 2 Transformers, 1st and 2nd Stage,
  - 3 3-inch White Dials,
  - 7 Engraved Binding Posts,
  - 1 Input Push and Pull Transformer,
  - 1 Output Push and Pull Transformer,
  - 2 Jacks,
  - Necessary bus-bar and spaghetti.
- Total cost about \$60.00.

tion of this stage, whether it really beats a regenerative detector and two-stage audio or not. The main thing to remem-

(Continued on page 16)

## The "Goode" Two-o-One

# A

Le Ton d'argent



BY MAIL ONLY  
**\$2.39**

Postpaid

QUARTER AMPERE  
AMPLIFIER—DETECTOR  
**RADIO TUBE**

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All "GOODE" Tubes Sold Direct to the Consumer—No Dealer Profits

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(All postage prepaid)

The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampere, six volts, standard base silvered tube.

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### HANSEN BIRD CAGE LINE



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NIGHTINGALE—4-Tube Radio Receiver without accessories..... 32.50

MOCKING-BIRD—6-Tube Indoor-Loop Radio Receiver without accessories.....90.00

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Dealers—A wonderfully attractive proposition

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Goulding Mfg. Co.....Milwaukee, Wis.



**\$4**

## The Dubilier Duratran

The radio-frequency transformer that amplifies uniformly over all broadcasting wave lengths. Made to satisfy the man who knows radio.

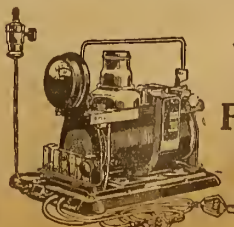
DUBILIER CONDENSER AND RADIO CORP.  
43 West Fourth Street, New York

## The F-F BATTERY CHARGER

Charges 120 Volts of "B" Battery IN SERIES

Up to 120 Volts "B" battery in series, 6 Volt Radio "A" and automobile batteries can be economically charged with the F. F. Battery Charger. Simple and durable. No costly bulbs used. There are many other interesting features you should know.

PRICES: Type AB, \$20.00; Type 6 for "A" or Auto Batteries, \$16.00; each slightly higher west of the Rockies.



Write for literature

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BEREA RD.  
Cleveland, O.

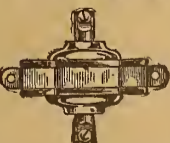
## Success Comes in Cans, Failure in Can'ts

Roosevelt or Bryan or somebody pointed out "that the fellow who said it couldn't be done was continually being awakened by somebody going and doing it."

Millions of people night after night, at home, in camp, on vacation trips and other places are enjoying their Radio sets—they know that it can be done. There is a definite place in everybody's life for Radio summer and winter. It's no longer a question of do you need Radio—it's how can you get along without it?



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### THIRTY-MINUTE A-B-C

(Continued from page 13)

Figure 191 shows a reversed feedback which may be adjusted to overcome oscillation in the Radio amplifier and permit use of a tuned plate circuit output.

Figure 192 shows another form of stabilization in which non-tuned input coils number 1, and number 2 are coupled to tuned circuits number 3 and number 4. By using very few turns of wire on the input coils the tendency for self oscillation is avoided.

#### Reflex Circuits

Reflex circuits are of various forms; a simple type is shown in Figure 193. The audio output from the rectifier or detector is fed back as input to the amplifying tube which also has a Radio frequency input and output circuit. Combinations are possible in which two stages of amplification at both audio and Radio frequency are practicable with economy of tubes. Such circuits will cause difficulties if not properly matched up to secure cor-

rect phase or time value of the input and output energies.

Figure 194 illustrates the general plan of both input and output with the Radio

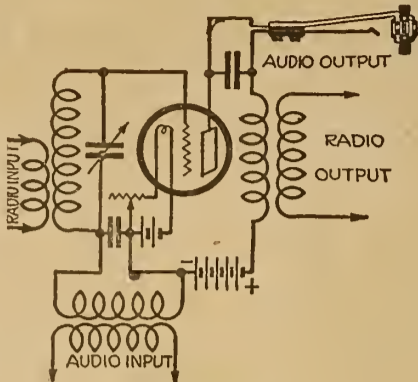


Figure 194

frequencies separated. Units of this kind can be connected to similar units or other circuits.

Suppose two tubes are used to afford two Radio and two audio stages. Ordinarily this will not quite equal the operation as if four tubes were used, and with poor design, there will be much energy loss through the capacity in the audio circuits.

(Discussion of the neutrodyne and the super-heterodyne will be the topic of the next article by Mr. Edelman. Diagrams will be given descriptive of these circuits.—Editor's note.)

### SIX-TUBE SUPERDYNE

(Continued from page 15)

ber is to hold the Radio frequency tube from oscillating when both tuned circuits are brought to absolute resonance. With the tickler winding on the rotor described above both halves are connected in series so that the windings are in the same direction on the halves. It does not really matter which direction the rotor

or stator is wound as they can be shifted by turning rotor over. Reversing the coil in the plate circuit will sometimes change audibility of signals.

(In the next part of the article by Mr. Williams he will tell how to operate the superdyne receiver.—Editor's note.)

### Care of the Battery

Watch the water level of the battery. Do not allow the water to reach as low as the tops of the plates. Add distilled water until the electrolyte is well above the plates. Never use tap water in a storage battery. The chemicals in the water will destroy the battery. If the battery leaks, do not try to fix it at home, but take the battery to a reliable battery service station.

Keep the top of the battery clean. Any water allowed to remain on top of the battery will cause a small amount of leakage, which is a slow discharge of the battery. Use old cloths when cleaning any part of the battery because the acid in time will destroy the fiber of the material.

## Guaranteed Head-Sets

RED-HEADS are guaranteed radio phones. You run no risk when you buy them. Money back if, after 7 days' trial, you're not satisfied that they're the best receivers on the market at the price. Why not act right now and get a pair? It'll mean getting the maximum from broadcasting from the day you put them into use.



## RED-HEAD RADIO RECEIVERS NOW READY

The new 1924 Model F | The new "Red-Head" Jr.  
\$6.50 Per Pair Complete | \$5.00 Per Pair Complete

"Red-Heads" sent prepaid on receipt of price if you are unable to get them at your dealers.

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Prices Effective to August 16th

Mention second choice to be shipped if article ordered is out of stock.

Orders amounting to over \$2.50 Insured Free

SETS	
Radio Type 1 Tube.....	\$ 7.48
Crosley 51 .....	14.00
Crosley Trirdyne .....	48.75
PHONES	
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Baldwin, C .....	8.43
CONDENSERS	
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Vernier, with dial.....	1.98
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Magnavox—R3 and M1.....	\$24.80
Magnavox—M4 .....	18.75
Western Electric 10D.....	39.50
TRANSFORMERS	
Acme Transformers A2, R2, R3, R4.....	\$ 3.55
All American Transformer 5 to 1, 10 to 1	3.45
Ametram .....	5.10

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**MAGNATRON**  
MAGNATRON DC-199 knows no superior among dry cell tubes. Whether as detector or as amplifier, it will give better results in your set. It and the MAGNATRON DC-201A are unqualifiedly indorsed by experts.

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**FADA Radio**

**Pfanstiehl**  
VARIOMETER and VARIOCOUPLER

For Sale at First Class Dealers

Pat. Pending

A compact No-Loss inductance for that summer portable

Pfanstiehl Variometer, P-301.....\$4.75  
Pfanstiehl Variocoupler, P-300..... 5.00

Stagger-wound coils for every circuit

PFANSTIEHL RADIO COMPANY  
Highland Park, Ill.  
Chicago: 1001 W. Washington St. Haymarket 8010

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TRI-JACK is a dustproof, solderless, super-compact jack with practically zero capacity—the greatest improvement in jacks so far. Solid bakelite! It costs only \$1.25.

TRI-COIL Radio Frequency Transformer has done wonders in the one tube reflex circuit. Sells for \$2. Write for the FREE construction booklet.

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**Workman Radio Service**  
"THE ACCENT IS ON SERVICE"

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\$3.50 Workrite 180° Silk Wound.....	\$2.95
3.50 Fisher, Large, 90° .....	2.75
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4.25 Special Bank Wound Coupler for Haynes Circuit (with diagram).....	3.25
7.00 Ambassador Coil (with diagram).....	5.50

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**CONDENSERS**

\$2.00 R. C. 11 plate .....	\$1.05
2.25 R. C. 23 plate .....	1.35
2.75 R. C. 43 plate .....	1.65

**VERNIER CONDENSERS**

\$4.00 R. C. 23 plate .....	\$2.25
5.00 R. C. 43 plate .....	2.95

**PHONES**

\$18.00 DR. SEIBT IMPORTED "SUPER HEADSET".....\$6.90  
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The above items are just a few of our numerous attractive priced articles, which are contained in our BULLETIN OF RADIO PARTS. Gladly sent to you upon request.

We are headquarters for "Radion" and "Bakelite Diecto" Panels. The best panel material available. Mail orders promptly attended to. Will ship C. D. D. unless remittance accompanies order.

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Some of Our Many Bargains

**LOOP AERIAL**

D76. Can be assembled by anyone in five minutes; all wood parts, wire and binding posts included, complete, 69c

**RADIO SOLDERING IRON**

Indispensable for the man who builds his own sets  
D109.....\$1.95  
D133—Soldering Paste, tube......25

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D80—22½ Volt Small.....	\$1.15
D81—22½ Volt Medium.....	1.45
D82—22½ Volt Large.....	1.95

The highest grade of battery made at prices lower than they ever were sold before.

D83—45 Volt Medium .....	1.95
D84—45 Volt Large .....	2.50
D85—45 Volt Extra Large .....	3.50
D86—360 Hour 1½ Volt Twin Double Duty "A" Battery.....	.75

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Highest grade Mahogany finish Cabinets. Hinged top. These cabinets are being sold at less than one-half regular value.

D57—Wood Cabinet; panel size 7"x10", each.....	\$2.50
D58—Wood Cabinet; panel size 7"x12", .....	2.75
D59—Wood Cabinet; panel size 7"x14", .....	3.00
D60—Wood Cabinet; panel size 7"x18", .....	3.50
D61—Wood Cabinet; panel size 7"x21", .....	3.75
D62—Wood Cabinet; panel size 7"x24", .....	4.00

Baseboards (Mahogany Stained) for use with above cabinets

7x10.....25c	7x14.....35c	7x21.....45c
7x12.....30c	7x18.....40c	7x24.....50c

**Modell's**  
ESTABLISHED 1889

America's Greatest Radio Retailers  
\*191 FULTON \*71 CORTLANDT BROOKLYN  
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\*14 CHURCH ST. 15 Whitehall St. Post Radio Elec.  
Cor. Cortl. Cor. Stone St. Corp.  
\*\*Open Sat. Ev'gs\*\*241 W. 42d St. (\*\*Open Ev'g)  
Bet. 7th & 8th Aves.

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58 Church St. NEW YORK CITY

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303 Atkins Ave., Brooklyn, N. Y.

**PHOENIX ULTRADYNE \$24.50**

LIST PRICE \$26.00, SPECIAL.....

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8.50 N. & K., 4000 ohms.....	\$ 5.85
12.00 Western Electric .....	8.75
6.00 Brandes Superior .....	4.70
12.00 Baldwin Type C.....	7.85
7.00 Federal .....	4.85
5.50 Stromberg Carlson .....	4.50
12.00 Dr. Seibt 6000 ohms.....	5.75

**LOUD SPEAKERS**

30.00 Music Master.....	\$24.00
35.00 Magnavox, New Type.....	28.50
25.00 Baldwin Original .....	21.50
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Baldwin Unit .....	4.65

**TRANSFORMERS**

7.00 Federal No. 65.....	\$ 5.25
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5.00 All-American .....	3.80
7.00 Amertran .....	5.50
12.50 Como Duplex P. P.....	9.75
12.50 Modern Push-Pull.....	9.75
5.00 Erla .....	4.15
5.00 Erla Selectoformer.....	4.25
12.00 All-American P. P.....	9.75

**MISCELLANEOUS**

Pathe Phusiformer \$7.95 .....	3.35
55.60 Amsco 26-P1 .....	4.10
1.00 Amsco 6 ohm .....	.85
1.25 Amsco 20 ohm .....	1.00
1.30 Amsco 30 ohm .....	1.10
Amsco Potentiometer .....	1.25
400 ohm .....	1.25
Ambassador Coils.....	4.95
Cockaday Coils, Precision .....	4.50
Cockaday Coils, Eastern .....	3.35
\$2.00 Reinartz Coil .....	1.40
Erla Crystals .....	.90
Braeh Lightning Arrestors .....	1.75
Genuine Lavite Resistance .....	1.10
Amplex Grid Denser .....	.80
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Orders over \$5.00 will be shipped prepaid. Money orders or C. O. D. Not insured unless insurance charges included. Write for Price List

**HUDSON-ROSS**  
Sells only Guaranteed Radio Apparatus.  
Send for catalogue  
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**5000 RADIO DEALERS buy from HUDSON-ROSS**  
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**HUDSON-ROSS**  
Largest exclusive Radio Jobbers in Middle West.  
Send for catalogue  
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**Duo-Reflex**

Tube for Tube—the Most Powerful Circuits Ever Built. Write for free Bulletin No. 16

Electrical Research Laboratories  
CHICAGO.  
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Cor. Cortl. Cor. Stone St. Corp.  
\*\*Open Sat. Ev'gs\*\*241 W. 42d St. (\*\*Open Ev'g)  
Bet. 7th & 8th Aves.

MAIL ORDER DEPT.  
58 Church St. NEW YORK CITY

# Selective Split Variometer Circuit

Halifax, N. S., Canada,  
to Hastings, Nebraska

Accompanying this article is a diagram of a two split variometer hook-up. This circuit can be used with any detector tube. The two variometers should be

## WORKSHOP KINKS EARN A DOLLAR—

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

RADIO KINKS DEPARTMENT,  
Radio Digest,  
510 North Dearborn St., Chicago

placed side by side and about 2 inches apart. The rotor of the first variometer is the primary coil. The rotor of the second variometer is the feedback coil. The stator of both variometers are the secondary coils. The two inner ends are bridged with a 23-plate condenser.—M. J. Rondean, Halifax, N. S.

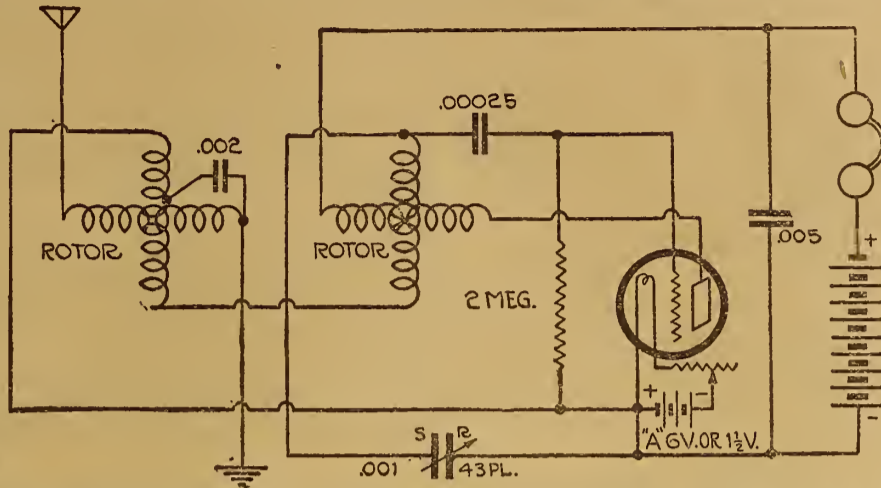
### Spare Parts to Keep Set Ready

A fully equipped Radio set includes not only the parts actually in use, but tools and spare parts for emergency use.

Besides the every-day tools such as pliers, screw drivers and other necessary implements, the Radiophan should be supplied with apparatus that keeps his batteries in good shape at all times, and others that may be substituted when those in use break down.

A storage battery charger will more than repay the fan for its cost in saving trips to charging stations, besides cost

## HOOK-UP FOR LOW VOLTAGE TUBE



of charging. A hydrometer is necessary to keep tab of the battery solution, and a bottle of distilled water is another necessity.

The battery should be kept on a rubber or a trap to keep the carpet or floor from soiling.

A spare tube should always be on hand, in case one in use burns out.

And for the fan who likes to test various hook-ups, test clips can save him from useless soldering jobs. When the fan finally decides on a "permanent" circuit, his electric soldering iron, with its accompanying rosin powder and solder, comes in handy.

### Condenser Insulation

A small insulating bushing set in the metal end plates of a variable condenser

causes a concentration of the electrostatic field, resulting in large losses. As a consequence such condensers work very poorly compared with those having a larger area of insulation.

## INSIDE AERIAL

**DISTANT SELECTIVE—NOT A LOOP**  
NOT AFFECTED BY WIND, RAIN, SNOW OR LIGHTNING  
CERTIFICATE OF APPROVAL by one of Largest Radio LABORATORIES sent  
PRICE BY POSTPAID or \$5.00 and 4 ADDRESS SET OWNERS  
Ask about our NOISE KILLER  
INTER-STATE SIGNAL CO., Dept. 4 COLUMBUS, OHIO

## CORBETT'S CABINETS FOR QUALITY



Style K—Illustrating special Cockaday (rear slot not included in other cabinets).

Prices—Cash with order or C. O. D.

Size	Genuine Mahogany	Oak or Walnut	Size	Genuine Mahogany	Oak or Walnut
7x10x3	\$3.06	\$4.59	7x36x8	\$6.84	\$10.26
7x12x3	3.24	4.86	7x40x8	7.74	11.61
7x14x3	3.42	5.13	7x27x8	5.49	8.23
7x18x3	3.87	5.80	8x36x8	7.56	11.34
7x21x3	4.23	6.34	8x40x8	8.00	13.50
7x24x3	4.59	6.88	8x26x8	5.49	8.23
7x26x3	4.86	7.29	Cockaday as illus.	5.85	8.77
7x30x3	5.85	8.77			

Hinged top and grooved front, also hinged to base cabinets in stock at above prices. Mounting boards 2 1/2" above 30" panel 50c.

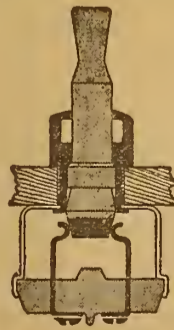
All cabinets nicely moulded top and base. Varnished finish carefully hand rubbed (Adam Brown Mahogany). Accurately made of best kiln dried lumber and well packed for shipment.

WRITE FOR FREE BOOKLET illustrating six styles. Special cabinets to order.

TERMS—CASH WITH ORDER OR C. O. D.

Corbett Cabinet Mfg. Company  
1415 East St. 5323 N. Carlisle St.  
PITTSBURGH, PA. PHILADELPHIA, PA.

## Bradleyswitch PERFECT BATTERY SWITCH



Retail Price 60c

At all Radio Dealers and Jobbers

## Easily Installed In Any Radio Set

The Bradleyswitch is so easily installed that thousands of radio set users are protecting their A-batteries and tubes accidentally burning by putting a Bradleyswitch on the panel. Avoid discharged batteries due to accidental overnight burning of tubes. Be safe and install a Bradleyswitch, now!

ALLEN-BRADLEY CO.  
290 Greenfield Ave., Milwaukee, Wis.

## Cutting Aerial Length for Summer Reception

Now that the static season is getting under way, many no doubt are under the impression that they will be unable to enjoy Radio without a set sensitive enough to utilize a loop aerial. There is no doubt but what this type of set is preferred, however, if you have a good regenerative set with one or two steps of audio frequency amplification, with the correct antenna system very good results can be obtained. There is much to be learned about aeriels and antenna systems. Experimentation will bring results for your particular set and how to procure the best signal strength.

First your outside aerial should be reduced to a single wire not over 100 feet long. Remove the ground connection and connect a single turn of wire around the picture molding of the room as a counterpoise.

Very good results can be obtained by connecting a loop in series with a short outside aerial, which should be a single wire 20 to 40 feet long.—Roy Blain, Omaha, Nebr.

## Bankrupt Stock

Cunningham Regenerative one tube long range sets  
\$9.00 Each

Formerly sold at \$32.50

No Circulars. Order from This Ad. This set with tube, phones, all batteries and aerial complete, \$21.00 ready to use, for.....

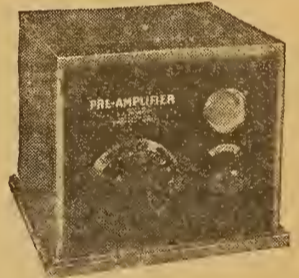
Prepaid while they last.

S. A. TWITCHELL

1925 Western Av., Minneapolis, Minn.

## PRE-AMPLIFIER

Registered



### Makes Summer Radio Practical

THE TWITCHELL PRE-AMPLIFIER is a powerful Radio Frequency Amplifier attachable to any receiving set.

It brings in many distant stations which you cannot hear without it.

Brings in with tremendous volume those you now hear only faintly.

Makes your set selective. Prevents re-radiation.

Price complete with tube \$25.00

Shipped Prepaid

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1925 Western Ave. MINNEAPOLIS, MINN.

**Super Crystal**  
New Non-Metallic Housing Eliminates Scratches & Squealing  
Wonderful new crystal—has millions of sensitive spots—long life—cannot short circuit.  
FITS ANY STANDARD DETECTOR  
At your dealer—otherwise send purchase price and you will be supplied postpaid. Ask for reflex circuit 120.

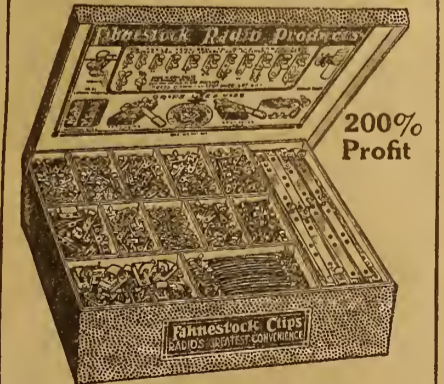
50 Chas. Freshman Co. Inc.  
Radio Condenser Products  
106 Seventh Avenue, New York City

Send 10 cents for Shamrock "Radio Builder's Guide Book"  
Contains 10 sets you can build from \$15 to \$50.

SHAMROCK MANUFACTURING CO.  
Dept. 23-A, Market St. Newark, N. J.

## SHAMROCK FOR SELECTIVE TUNING

### Dealers Need This



The new FAHNESTOCK Display Case will stimulate your sales of Fahnestock Radio Products. 14 of the most popular styles and sizes are included. Shows the purchaser instantly the correct piece for his set. A constant invitation to buy Fahnestock Products. Dealers are offered 200% profit on each case, an unusual offer on standard merchandise.

Price to Dealer.....\$17.50  
West of Mississippi.....18.50  
Transportation prepaid when money order or check accompanies order. Subsequent orders at regular price of \$20.00.  
Contents Retail for \$51.50

Refills will be supplied at the regular 100 lot prices, shown in catalogue, which comes with case, less discount shown on enclosed sheet. Send check or money order, today.

FAHNESTOCK ELEC. CO.  
LONG ISLAND CITY NEW YORK

**ANTENELLA**  
Overcomes Static and Re-radiation!  
No Outside Wires or Lightning Arresters Needed

Why pay \$10.00 or more to have an aerial spoil the appearance of your home? Antenella eliminates all unsightly wiring, lightning arresters, etc., and precludes the possibility of dangerous grounding on a power line. It also stops "canary bird" re-radiation from nearby oscillating sets interfering.

## ANTENELLA

is not only a real distance getter, but also overcomes troublesome static.

At your Dealer, otherwise send purchase price and you will be supplied postpaid.

Ask for Circular A-40

Chas. Freshman Co. Inc.  
Radio Condenser Products  
106 Seventh Ave., New York

**Thinking Radio?**

Then Get Our FREE Bulletin No. 94  
It shows recent developments and improvements in parts and the kind you must use if you want the best in Radio. Send for this book today.

SENT FREE

**PREMIER PARTS**

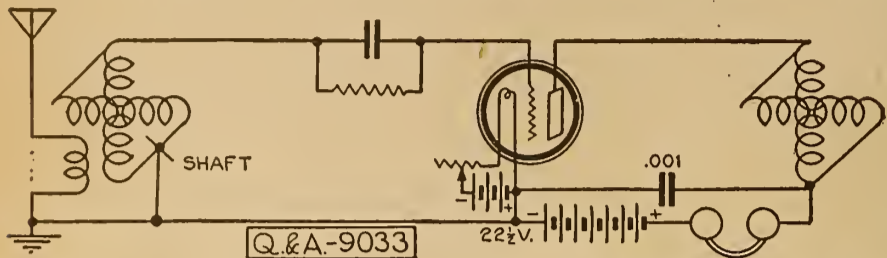
Quality Unsurpassed—For every known "Hook-Up"  
ALL GOOD DEALERS SELL THEM

Premier Electric Company  
3810 Ravenswood Ave. CHICAGO

# Questions and Answers

**One Hundred Meter Regenerative Circuit** (9033) IWB, Wynona, Okla.

Can you supply me with the necessary information to hook up a receiver for the amateur waves, say 100 to 200 meters?



I would like to have a hook-up that you could recommend for this work.

I have not been able to find such a diagram in your magazine, although I have not missed an issue for about a year, or ever since I began taking it.

A.—Complying with your request, we show on this page a diagram of a simple two-circuit regenerative hook-up designed for reception of low wave length, 100 meter work.

The variometer in the secondary is a parallel connection. Usually commercial types are connected in series so some connections must be broken and recon-

nected differently, as indicated, the original binding posts are used for connection points.

The primary can be most any kind of wire. Number 24 dcc. or scc. will serve,

and if the type of variometer will permit can be wound upon the extended portion and consists of two turns of wire. This can be secured by adhesive tape, or can be wound on a separate form of the same diameter as the hole on side of variometer and connected to it by adhesive.

## PATENT ATTORNEYS

PATENTS. Booklet free. Highest references. Best results. WATSON E. COLEMAN, Patent Lawyer, 644 G Street, Washington, D. C.

**"CRYSTAL Sets Tested 600 Miles."** You can now get a genuine Lambert Long Distance Crystal Radio Set for only \$4.98. Particulars free. Leon Lambert, 501 Volutsia, Wichita, Kansas.

**PATENTS Procured.** Send sketch or model today for examination, prompt report and advice. No charge for preliminary advice. Write for free Booklets "How to Obtain a Patent" and "Invention and Industry" and blank form on which to disclose your idea. Highest references. Promptness assured. Clarence A. O'Brien, Registered Patent Lawyer, 2003 Security Bank Building, Directly across the street from Patent Office, Washington, D. C.

## Don't You Get Tired

of only hearing LOCAL stations on your Crystal Set? There's music on your aerial every night from stations far away. If you want to hear it without buying a tube set, WRITE ME TODAY.

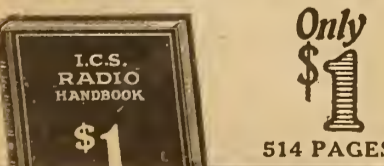
LEON LAMBERT  
501 South Volutsia Wichita, Kansas

**FREE—Log Book with each purchase FACTORY GUARANTEED MDSE. BY MAIL**  
Genuine New Radiotron or Cunningham Tubes UV-199-200-201A-WD-11-12 .....\$3.98  
C299-300-301A-C11-12 .....  
Fresh Burgess or Eveready "B" Batteries  
22 1/2 Volt large size \$1.68-45 Volt \$5.00 size \$3.33  
Write for Complete Price List  
STONE ELECTRIC CO., 714 Pine St., St. Louis, Mo. Dept. D  
All Mdse. F.O.B. St. Louis, Mo.

## Panel Shielding After Your Set Is Finished

A liquid metal; cuts out body capacity, brings in music clear and sweet. Done in 5 minutes. One can will shield 5 or more sets; 50c per can. Also a liquid spaghetti can be put on after set is finished, fine for insulating the base board, 50c per can. Post paid.  
WALKER MANUFACTURING CO.  
247 Scott St. San Francisco, Cal.

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Just off the press! The greatest book on Radio ever written. Price only \$1. Filled with sound, practical, tested information for every radio fan, from beginner to hard-boiled owl. Written, compiled, and edited by men of national reputation. Every page tells you something useful—and there are 514 pages. Mail \$1 to-day and get this I. C. S. Radio Handbook before you spend another cent on parts. **Money back if not satisfied**

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I enclose One Dollar. Please send me—postpaid—the 514-page I. C. S. Radio Handbook. It is understood that if I am not entirely satisfied I may return this book within five days and you will refund my money.  
Name.....  
Address.....

## DON'T TEAR DOWN YOUR SET

Locate the cause of your trouble with a Radio "Trouble-Finding" Chart  
DESIGNED BY MELVIN B. BENSON  
Radio and Electrical Engineer  
Chairman Electrical Board, U.S.A.

PRICE, 25c EACH  
A Big Seller for Dealers



## ULTRADYNE TRANSFORMERS

1 Input Transformer and 3 Intermediate Transformers \$20.00  
Tuning, Oscillating Coils, \$ 4.00 per pair.....

Full instructions and Blue Prints furnished with each Kit. Absolutely guaranteed. These transformers are suitable for any Super-Heterodyne circuit. Put up in handsome Kit display box. Special discount to dealers. Prompt delivery. Write for special circular.

SYEPHER MANUFACTURING COMPANY  
1524 Fernwood Ave., Toledo, Ohio

## The Traffic Cop of the Air

He arranges in orderly fashion the mass and jumble of Broadcasting Stations that are seeking entrance to your set and brings 'em in, one at a time, so you can enjoy them! Never reduces, but nearly always increases volume. Add a Ferbend Wave Trap to your set and "Police" your reception. Regulate the Traffic!  
Guaranteed to tune out any interfering station. The price is \$8.50. Shipment made parcel post C. O. D. plus a few cents postage. If you prefer, send cash in full with order and we will ship postage prepaid. Send us your order today.



## WE REPAIR THE FOLLOWING RADIO TUBES



Dealers and Agents write for Special Discount  
Mail Orders Solicited and Promptly Attended to

WD-11, WD-12, Our Specialties

WD-11	\$2.50	DV-6A	\$2.50
WD-12	2.50	UV-199	2.50
UV-200	2.50	C-299	2.50
UV-201	2.50	UV-201A	2.50
C-300	2.50	C-301A	2.50
C-301	2.50	Marconi	2.50
DV-6	2.50	Moorhead	2.50
DV-1	2.50	6 V. Plain Det	2.50
DV-2	2.50	6 V. Plain Amp	2.50

H. & H. RADIO COMPANY  
P. O. Box 22-A  
Clinton Hill Station NEWARK, N. J.

## Phone Trouble

(06148) WS, Hartville, N. C.

One night recently I heard a station and the man announcing was saying Station QXI, calling UD or UP, I'm not sure which, but can you tell me the location of this station? Is it in the U. S. A.?

I have a pair of head-phones that I can't use now, for the magnet seems to

**SELL Coal in Carload Lots.** Side or main line. Experience Unnecessary. Earn week's pay in an hour. Liberal drawing account arrangement. WASHINGTON COAL COMPANY, 945 Coal Exchange Building, Chicago.

## FREE YOUR OWN Name and Address Printed on Thank You Cards

Hear what YOU like. Stations are glad to put on numbers at your request. We print Special Cards that get ATTENTION. All the RAGE. Cards (printing FREE) 100—only \$1.95; 200—\$1.65; 300—\$2.35. POST PAID. Order TODAY.  
MONEY REFUNDED if Not Satisfied  
High grade printing—Good quality cards—You will be DELIGHTED.  
Send order with check or money order today—NOW.  
RADIO PRINTERS, 64 Main Street, Mendota, Illinois



Broadcasting from Atlantic Coast, Mexico, Hawaii, Canada and Cuba heard in California by users of CROSS COUNTRY CIRCUIT. Range due to simplicity of set and only one tuning control. Easily and cheaply built by any novice. Dry cell tubes may be used. All instructions, blue print panel layout, assembly photo, etc. Postpaid 25c. Stamps accepted.  
VESCO RADIO CO.  
BX D-117 OAKLAND, CAL.

## What About It?

Isn't it about time to stop experimenting with multiple control circuits and build one that, combining ease of assembly and operation, loudness, clarity and selectivity of signals, as well as beautiful appearance, is excelled by none?

## THE ELGIN SUPER-REINARTZ RADIO RECEIVING SETS

Embodies all the advantages of the well known Elgin Reinartz (the set which was largely responsible for the popularity of this wonderful circuit) and many others. It is much louder, more selective, requires no storage battery, and can be used with excellent results on a short or loop aerial.  
It has brought in 2LO England, and California stations two thousand miles from Elgin, clearly and without interference on a loud speaker with only one tube, and that while our powerful local station was broadcasting three miles away.  
Could you ask for more.  
Send 2-cent stamp for circular giving one, two and three bulb hook-ups of this remarkable circuit.

ELGIN RADIO SUPPLY CO.  
207 East Chicago Street ELGIN, ILLINOIS



**\$4.00 COD SPECIAL INTRODUCTORY PRICE**  
For a limited time only, and to introduce this new and superior Storage "B" Radio Battery to the Public, we are selling it for \$4.00. Regular Retail Price is \$6.00. You save \$2.00 by ordering NOW. A finer battery cannot be built than the

**World Storage "B" Battery**  
(12 CELLS—24 VOLTS)  
To ten million homes with Radio Sets—and to countless millions of prospective buyers—this WORLD Storage "B" Battery brings new conception of battery economy and performance. Here is a battery that pays for itself in a few weeks—will last for years and can be recharged at a negligible cost. And now save \$2.00 by ordering now.

**A Superior Battery Equipped With Solid Rubber Case**  
Has heavy duty 21-8 in. x 1 in. x 1-4 in. plates and plenty of acid circulation. Extra heavy plates allow ready observation of charge and prevent leakage and escape of current. It holds its charge, while idle, at constant voltage. You will find this battery a boon to long distance reception. It does away with a great many noises so often blamed on "static." Mail your order today.

**SEND NO MONEY**  
Just state number of batteries wanted and we will ship day order received. EXTRA OFFER: 4 batteries in series (98 volts), \$16.00. Pay Expressman after examining batteries, 5 per cent discount for cash in full with order. Send your order NOW and save \$2.00.  
WORLD BATTERY COMPANY  
Makers of the famous World Radio "A" Storage Battery—  
1219 S. Wabash Ave., Dept. 76, Chicago, Ill.  
**SAVE \$2.00 BY ORDERING NOW!**

have lost its strength. How or where can I have these fixed?

A.—The call 2XI is used by station WGY, Schenectady, N. Y., when testing. It will be best for you to return your phones to the manufacturer for remagnetizing.

## The New STAR Type E. Detector

For Crystal or Reflex Sets  
Price \$1.00

We offer the STAR TYPE E Detector which is covered by our guarantee of complete satisfaction and is sold at the LOWEST PRICE of any RELIABLE DETECTOR on the market. This detector is well made and is set with one of our very best rectifying materials. It is made so that in case of necessity it may be adjusted and while it is not especially designed for reflex sets many excellent reports of performance on these sets have been received.  
THE TYPE E DETECTOR IS THE BEST BUY IN THE CRYSTAL MARKET TODAY and will be sent subject to exchanges for any other item we make.  
DEALERS send to-day for our FALL CATALOGUE NOW READY, and get all set for the big season ahead.



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DEALERS Write on your letterhead for this big catalog. Ask for A1002

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225 E. ILLINOIS ST. - CHICAGO

## FREE



## To Each Purchaser of a World Battery

A 24-Volt "B" Storage Battery positively given FREE with each purchase of a WORLD "A" Storage Battery. The WORLD Battery is famous for its guaranteed quality and service. Backed by years of Successful Manufacture and Thousands of Satisfied Users. You save 50%.

**Prices That Save and Satisfy**  
Auto Batteries Radio Batteries  
6-Volt, 11 Plate \$12.25 6-Volt, 50 Amps. \$10.00  
6-Volt, 13 Plate 14.25 6-Volt, 100 Amps. 12.50  
12-Volt, 7 Plate 17.00 6-Volt, 120 Amps. 14.50  
6-Volt, 140 Amps. 16.00  
Shipment Express C. O. D. subject to examination. 5 per cent discount for cash in full with order.

**2-Yr. Guarantee Bond in Writing With Each World Storage Battery**

proves satisfactory World performance. Mail this ad with your name and address—we will ship battery day order is received and give you your choice of "B" Storage Battery or a handsome nickel finish Auto Spotlite, FREE. Write TODAY.  
WORLD BATTERY COMPANY  
60 E. Roosevelt Road Dept. L, CHICAGO, ILL.

The FREE "B" Storage Battery takes the place of dry cell "B" batteries. Can be recharged and will last indefinitely. To be sold retail for \$8.00. It is the only battery of its kind equipped with solid rubber case—and insurance against acid and leakage. Take advantage of this remarkable introductory offer NOW. (To those who prefer it, we will send FREE a handsome nickel finish Auto Spotlite, instead of the "B" Battery. Be sure to specify which is wanted.)  
GIVEN FREE  
To introduce this new and superior World "B" Storage Battery to the Public

# Radiophone Broadcasting Stations

## Corrected Every Week—Part V

State, City, Call	State, City, Call	State, City, Call	State, City, Call	State, City, Call
Alabama: Auburn, WMAV; Birmingham, WSY; Mobile, WEAP; Montgomery, WKAN; Arizona: Phoenix, KFAD, KFCE; Tucson, KFDD; Arkansas: Conway, KFKO; Fayetteville, KFMO; Fort Smith, KFLO, KFMB, WCAV; Little Rock, KFLO, KFMB, WCAV; Pine Bluff, KFXX; California: Bakersfield, KDZB; Berkeley, KRE; Burlingame, KFNE; Culver, KFOI; El Monte, KUY; Fresno, KMI; Hollywood, KFQH; Hollywood, KFAR; Holy City, KFQU; Long Beach, KFON; Los Angeles, KFCL, KFI, KFPG, KFPR, KFQZ, KFSG, KHX, KJL, KXX; Oakland, KGO, KLS, KLB, KZM; Paso Robles, KFNL; Richmond, KFOU; Sacramento, KFBI; San Diego, KDPT, KDYM, KFBC; San Francisco, KFVV, KPO, KUO; San Jose, KQW; San Luis Obispo, KFBE; Santa Ana, KFAV; Santa Barbara, KFBJ; Santa Rosa, KFNV; Stanford Univ., KFGH; Stockton, KJQ, KWG; Taft, KFQC; Whittier, KFCC; Colorado: Boulder, KFAJ; Colorado Springs, KFEL, KFKZ, KFQE; Denver, AAS, KFAF, KFKH, KFLE, KFPO, KKLZ; Greeley, KFKA; Gunnison, KFHA; Manitou, KFQS; Trinidad, KFBS; Connecticut: Hartford, WDAK; New Haven, WPAJ; Storrs, WABL; Delaware: Wilmington, WEAU, WOAT; District of Columbia: Washington, WABE, WCAP, WDM, WJAZ, WJL, WJW, WRC; Florida: Jacksonville, WABG; Miami, WQAM; Pensacola, WGAN, WLAJ; St. Petersburg, WCBK, WDBI; Tampa, WDAE; West Palm Beach, WBBJ; Winter Park, WDBO; Georgia: Atlanta, WDBE, WSB; Columbus, WDBA; Macon, WCBW; Idaho: Boise, KFDD, KFBE; Kellogg, KFEY; Wallace, KFOD; Illinois: Belvidere, WOAG; Cambridge, WTAP; Carthage, WCAZ; Chicago, KYW, WAAF, WDAP, WDBY, WBEH, WGN, WJAZ; State, City, Call: Chicago Heights, WCBZ; Decatur, WBAO; Elgin, WTAS; Galesburg, WRAM; Joliet, WVAE; Lincoln, WBBM; Mattoon, WQAL; Monmouth, WBBU; Oak Park, WTAJ; Peoria, WJAN, WQAX; Rockford, KFV, WLAB; Streator, WTAJ; Tuscola, WJZ; Urbana, WRM; Zion, WCBZ; Indiana: Anderson, WEBD; Fort Wayne, WDBV; Greencastle, WLAX; Greentown, WAK; Harrison, WCBN; Indianapolis, WBBZ, WSAL; Laporte, WRAF; Marion, WIAQ; Mishawaka, WQAO; South Bend, WGAZ; Valparaiso, WRBC; West Lafayette, WBAA; Iowa: Ames, WOI; Atlantic, KELZ; Boone, KFQZ; Burlington, WIAS; Cedar Falls, KFJX; Cedar Rapids, WJAM, WAAA; Davenport, WOC; Des Moines, WHO; Fort Dodge, KFEE, KFJY; Iowa City, KFQP, WAAA; Lamoni, KFV; Marengo, KFOL; Marshalltown, KFJB; Ottumwa, KFJL; Shenandoah, KFNF; Sioux City, KFMR, WEAU; Waterloo, WRAN; Kansas: Anthony, WBL; Beloit, WPAR; Iola, KFID; Louisburg, KFIL; Manhattan, WTG; Milford, KFKB; Peabody, KFEX; Russell, KFQO; Topeka, WJAG, WPAJ; Wichita, KFOT, WEAH; Kentucky: Louisville, WHAS, WLAP; Louisiana: Alexandria, KFEE; Baton Rouge, KFCC; Franklinton, KFJD; Jennings, WCBJ; New Orleans, WAAB, WAAC, WABZ, WCAQ, WCBE, WDBI, WDFW, WTAJ, WTL; New Iberia, KFDD, WGAQ; Maine: Bangor, WABI, WDBN; Houlton, WCLB; Portland, WTAJ; Skowhegan, WDBU; Maryland: Baltimore, WCAO, WCBM, WEAR; Massachusetts: Boston, WDBR, WNAE, WTAT; Dartmouth, WMAF; Fall River, WSAK, WTAB; Lowell, WQAS; Mattapoisett, WBBG; Medford Hills, WGI; Springfield, WBE; State, City, Call: Taunton, WDBE; Worcester, WCBT, WDAS, WDBH; Michigan: Ann Arbor, WCBK; Berrien Springs, KFGZ; Dearborn, WWJ; Detroit, KOP, WCX, WWJ; East Lansing, WKAR; Flint, WAAA; Houghton, KFV, WWAO; Kalamazoo, WLAQ; Menominee, KFLE; Mt. Clemens, WABX; Petoskey, WBBP; Port Huron, WBBH; Saginaw, WABM; Indiana: Hutchinson, WFAN; Minneapolis, KFDD, KFEX, KFMT, KFQZ, WLAQ, WLB; Northfield, KFAX, WCAL; St. Cloud, WFAM; St. Paul, AVT, KFOY; Mississippi: Coldwater, KFNG; Hattiesburg, WDBT; Osprey, WCBP; Pascagoula, WCBG; Missouri: Butler, WNAR; Cape Girardeau, WSAB; Corterville, KFV; Columbia, WAAJ; Fayette, KFQK; Independence, KFJN; Jefferson City, KFJN, WOS; Joplin, WHAH; Kansas City, WDAF, WHE, WOQ; Moberly, KFPP, KFOJ; St. Joseph, KFHD; St. Louis, KFZZ, KFQA, KSD, WCK, WEB, WEW, WMAJ, WRAO; Warrensburg, KFJN; Montana: Butte, KFV, KFLL; Havre, KFBB; Helena, KFNY; Missoula, KFV; Stevensville, KFJR; Nebraska: David City, KFOR; Fremont, WQAE; Hastings, KFAX; Lincoln, WFAV, WJAB, WMAH; Norfolk, WJAG; Oak, KFQZ; Omaha, KFZZ, KFEX, KFOX, KFV, WAAW, WIAK, WNAL, WQAW; Tecumseh, WTAU; University Place, WCAJ; Nevada: Sparks, KFEE; New Hampshire: Chesham, WSAU; Laconia, WKAJ; New Jersey: Atlantic City, WHAR; Camden, WABU; Gloucester City, WRAX; Highland Park, WBA; Lambertville, WTAZ; Newark, WAAM, WBS, WCBX, WOR; Paterson, WEAM; Newton, WBAN; Salem, WDBQ; Trenton, WML, WOAX, WWAB; New Mexico: State College, KOB; New York: Buffalo, WGR; Canton, WCAD; Cazenovia, WMAC; Ithaca, WEAI; Kingston, WDBZ; Lockport, WMAK; New York, WBAJ, WBBR, WDBX, WEAF, WEN, WJY, WJZ, WLAB, WNYC, WQAO, WSAP; Rochester, WABO, WHAM; Schenectady, WGY, WRL; Syracuse, WFAE, WLAH; Tarrytown, WRV; Troy, WHAZ; Utica, WSL; North Carolina: Charlotte, WBT; Wilmington, WBBN; North Dakota: Fargo, WDAY, WPAK; Grand Forks, KFJN, KFJQ; Ohio: Canton, AQ6; Cambridge, WEBE; Cincinnati, WUAD, WHAG, WLW, WUHL, WSAJ; Cleveland, KDPM, WDBK, WEK, WJAX, WTAM; Columbus, WBAJ, WCAH, WEAQ, WMAN, WPAJ; Dayton, AWB, WABD, WDBS; Dover, WABE; Granville, WJD; Hamilton, WRK; Lima, WQAC; Newark, WBBB; Pomeroy, WSAZ; Sandusky, WABH, WQAF; Springfield, WPAJ; Toledo, WABR, WTAL; Wooster, WABW; Yellow Springs, WRAV; Youngstown, WDBF; Oklahoma: Bristow, KFJK; Chickasha, KFBD; Muskogee, KFQL; Norman, WNAJ; Oklahoma City, KFJF, KFQJ, KFQR, WKY; Okmulgee, WPAJ; Tulsa, WGAJ, WLAL; Oregon: Arlington, KFGL; Astoria, KFJJ; Corvallis, KFJD; Hood River, KQP; Medford, KFAY; Pendleton, KFEE; Portland, KDG, KFEC, KFIE, KFQJ, KGG, KGW; Pennsylvania: Allentown, WCEA, WSN; Altoona, WGAJ; Arnold, WCBU; Buck Hill Falls, WCBY; Butler, WBR; East Pittsburgh, KDKA; Erie, WQAY; Grove City, WSAJ; Harrisburg, WAB, WBAK; Haverford, WABQ; Johnstown, WBB, WBC; Lancaster, WDBC, WQAL; McKeesport, WIE; Philadelphia, WCA, WBBT, WCAU, WDAK, WFI, WGL, WIAD, WIP, WNAT, WOO, WVAD; Pittsburgh, KQV, WCAE, WCBF, WJAZ; Reading, WBB, WRAW; Scranton, WQAN; State, City, Call: State College, WPAB; Washington, WAHT; Wilkes-Barre, WEAB; Rhode Island: Cranston, WKBF; East Providence, WKAD; Providence, WBBR, WEAN, WJAR, WSAJ, WTAG; South Carolina: Charleston, WBBY, WQAH; Clemson College, WSAC; South Dakota: Brookings, KFV; Rapid City, WCAT; Vermillion, WEAJ; Yankton, WNAJ; Columbia, WDBW; Tennessee: Lawrenceburg, WOAN; Memphis, WCOB, WMC; Nashville, WCBQ; Tullahoma, WCBV; Texas: Abilene, WQAO; Amarillo, WDAQ, WQAC; Austin, KFQM; College Station, WTAJ; Dallas, WFAA, WRR; Denison, KFQZ, KFQT; Dublin, KFPL; El Paso, WDAH; Fort Worth, KFJX, KFQB, WBAJ; Galveston, KFJX, KFOQ, WIAC; Greenville, KFPM; Houston, KFV, WCAK, WEAY, WEV; Orange, KFJX; Port Arthur, WFAH; San Antonio, ASS, WCAR, WOAI; San Benito, KFLU; Tyler, WJAF; Waco, WJAD; Wichita Falls, WKAJ; Utah: Ogden, KFPC; Salt Lake City, KDYL, KFOO, KFPH; Vermont: Springfield, WQAE; Virginia: Arlington, NAA; Blacksburg, WEAJ; Fortress Monroe, WNAW; Norfolk, WBBW, WTAR; Richmond, WRBL; Roanoke, WDBJ; Washington: Bellingham, KDZR; Everett, KFBL; Lacey, KGY; Nash Bay, KFHH; North Bend, KFQW; Olympia, KFPP; Pullman, KFAP; Seattle, KDZE, KFHR, KFJC, KFOA, KFPP, KFQX, KHQ, KJR, KTV; Spokane, KFO, KFV; Tacoma, KFBB, KGB, KNO; Walla Walla, KFCE; Wenatchee, KDZI; West Virginia: Charleston, WPAZ; Clarksburg, WBAK; Martinsburg, WDBD; Wisconsin: Fond du Lac, KFIZ; Kenosha, WOAR; Wisconsin: La Crosse, WABN; Madison, WBA; Milwaukee, WCAJ, WHAD, WIAO; Oshkosh, WTAJ; State, City, Call: St. Croix Falls, WRAL; Stephens Point, WBL; Superior, WDBP, WEBC; Wyoming: Casper, KFEE, KFPS; Laramie, KFBU; Alaska: Anchorage, KFQD; Juneau, KFV; Kukuk Bay, KNT; Hawaii: Honolulu, KGU; Porto Rico: San Juan, WKAQ; Australia: Willoughby, 2FC; British Isles: Aberdeen, 2BD; Birmingham, 5IT; Bournemouth, 6BM; Cardiff, 5WA; Glasgow, 5SC; London, 2LO; Manchester, 2ZY; Newcastle, 6NO; Plymouth, 5PY; Sheffield, 6FL; Canada: Bellevue, CFCC; Calgary, CFAC, CFCN, CHBC, CHCN, CHD, CJCA; Edmonton, CFCK, CJCA; Halifax, CHAC; Hamilton, CHCS; Iroquois Falls, CFCH; Kingston, CFRC; London, CFCW, CJGC; Montreal, CFCE, CFUC, CHYC, CKAC; Nanaimo, CFDC; New Westminster, CFXC; Olds, CJCM; Ottawa, OA, CKCH, CKCO; Quebec, CFJC, CHCD, CKCI; Regina, CKCK; St. John, CJCI; Saskatoon, CFCC; Sudbury, CFCR; Toronto, CFCB, CHCB, CHCN, CJCD, CJCN, CJSC, CKCE; Vancouver, CFCC, CFYC, CHCL, CJCE, CKCD; Victoria, CFCL, CHCE; Winnipeg, CKY; Cuba: Caibarien, 6EV; Cienfuegos, 6AZ, 6BY, 6CX, 6DW; Camaguey, 7AZ, 7BY; Colon, 8BY; Elia, 7SR; Havana, PWX, 2AB, 2BY, 2CX, 2DV, 2HC, 2HS, 2JQ, 2KD, 2KP, 2LC, 2MG, 2OK, 2OL, 2PW, 2WV; Santiago, 8AZ, 8BY, 8DW, 8EV, 8FU, 8GT; Tunuu, 6KW, 6XJ; Czechoslovakia: Prague, KBELY; Finland: Skatudden; Tammerfors, 3NB; France: Lyons, YN; Paris, CW, ESP, FL; Mexico: Mexico City, CYB, CYL, CYX; Monterrey, CYO; Switzerland: Geneva, HBI; Lausanne, HB2				

### The Reader's View

#### Those Spark Stations Again

The letter signed B. C. L. Seymour, Mo., in your issue of January 26, 1924, brings up a point which is fast becoming so serious that I believe manufacturers will shortly find their sales curtailed as far as receiving apparatus is concerned, if some remedy is not speedily put into effect.

It is disgraceful that the United States should be the only civilized nation which allows promiscuous use of the 450 meters for commercial and ship stations. It is safe to say that with the multitudinous frequencies of the spark, a wave length of 450 interferes not only at its fundamental but will cause QRM 100 meters each way—this being equivalent to causing poor reception from 350 to 550 meters, the principal broadcasting wave lengths.

We have had our troubles here with government stations, which now, however, have been reduced to a minimum—comparatively little spark interference occurring due to Canadian government stations.

There is a certain interference from the "brass pounder," a more serious interference due to reradiation from improperly tuned regenerative sets, but the main difficulty today in the way of decent reception of the vast quantity of splendid material broadcast in the United States, is the 450-meter spark.

Particularly bad is the inconsidered, careless and unnecessary use of the short-wave frequencies assigned to broadcasting by commercial and ship stations.

Is the objection raised that it will be expensive to make necessary alterations? Was there any objection from the B. C. L. when new wave frequencies were assigned for broadcasting which necessitated alterations? I don't think so.

It is too much to expect all at once to see the spark stations converted to C. W., but this is coming. In the meantime, will not the government afford what reasonable relief it can to ameliorate the present deplorable conditions—conditions which are bringing Radio B. C. L. into disrepute as a source of information, or a means of enjoyment?

As I sit here writing and listening to WDAF, the concert is periodically driven off the map or partially absorbed by mush from spark stations, and this will continue after I go to bed, after having vainly tried to extract some enjoyment from the Am-

bassador Hotel orchestra in Los Angeles, as distinct from spark signals on any or all wave frequencies.—B. Geekie Cobb, Toronto, Can.

#### Stunts with Radio

My attention was drawn to an article by J. T. Curtis, Cleveland, O., in Radio Digest on "Loud Speaking Transformers with 5-foot Cord."

I am sure you will admit such things are always received with a smile and forgotten a few moments after reading by those who have never experienced such happenings, but on the other hand, with some credit by those who have had a thrill when something along these lines happened. I wish to give you something on this order, and if you care to publish it I am sure it will be appreciated by every fan who reads your magazine. I warrant either stunt will not be very soon forgotten.

First I have a crystal set, inductance coil 90 turns, 18 taps, buzzer attached, 1 pr. W. E. H. phones, 2,200 ohms. I attach both ground and aerial, tune in and then remove both the aerial and ground. I can now pick up my set and walk around to any part of the third-floor rooms, and the music or speech still continues. When the B. C. stops, it is necessary to return to the point of starting and tune in again with the aerial and ground connection. To do this, one must stand during the reception, touch nothing and keep at a distance from any nearby object. I have tried to descend the stairs to a lower floor, but the signals grow weaker as I do so and gradually fade away entirely. This stunt I have shown many times for my Radio acquaintances. Another peculiarity in connection with this feat is that I never was able to do it elsewhere than in my own attic.

Referring to Mr. Curtis' reception, a few days ago I was confined to my bed with sickness. I am hard of hearing in my left ear, but was lying with my good ear up, and I very distinctly heard the time dots and the final buzz at 10 o'clock, August 24. The station I do not know. I have a room full of Radio sets and accessories of every kind and often use the wire springs of my bed as an antenna. At this time there was only one set connected to the outside antenna, but not working at the time and the rheostats turned off as usual. There were no possible Radio connections to which I could attribute this reception. This, as Mr.

Curtis says, "sounds fishy," but it is a fact nevertheless. I am an electrical engineer and past the age for making any stagey or misleading statements. I will say, however, that I think the springs on the bed have something to do with this freak stunt. For on the same springs, during December, I received a telegraph code message from Pittsburg, Pa., with a pair of head phones, using only the springs as an antenna. If you consider this available for publication, I would be pleased to hear from some other fans who have anything of this order to offer. It is only by experiment and co-operation that we amateurs get anywhere. My experience has brought me some wonderful results that are not to be found in any of the many Radio books for sale today.—Frank F. Howe, Sr., Milwaukee, Wis.

### Review of Books

**Vacuum Tube Receiver.** By O. F. Heslar. A book that tells how to make a simple set. How to make the cabinet. It includes a 27 by 36-inch layout blueprint. Price, 75 cents.

**How to Retail Radio.** A new book telling of tested plans and methods and policies for the dealer in Radio. Financing, location, store equipment and arrangement. Price, \$2.

**Home Radio—How to Make It.** By A. Hyatt Verrill. This book is particularly adapted for the amateur who desires to know how to make Radiophones. Twelve full page illustrations and diagrams. Price, 75 cents.

**Radio for the Amateur.** By A. H. Packer and R. R. Haugh. The underlying principles of Radio thoroughly explained in simple language and understandable illustrations. This book will teach you how to construct and operate a receiving set successfully. Price, \$1.50.

**Radio Reception.** By Harry J. Marx, Technical Editor Radio Digest Illustrated, and Adrian Van Muffling. A simple treatise on Radio reception. Beginning with the elementary principles of electricity it carries the reader on into the essentials of Radio telephony. The most successful methods of Radio reception are explained and special attention given to practical tuning. Price, \$2.00.

**Elements of Radio Communication.** By Ellery W. Stone. A splendid, well connected, complete, accurate and up-to-date

discussion of every phase of Radio telegraphy and Radiotelephony. Written in simple language. The subject is presented from the physical rather than from the mathematical standpoint, avoiding the use of higher mathematics. Price, \$2.50.

**Within the Atom.** By John Mills. May be read by the Radiophan with interest for it deals with that infinite particle as associated with electrons, and all chemical and all electrical phenomena. Price, \$2.00.

**Experimental Wireless Stations.** By P. E. Edelman. Simple directions are given in this book for making Radio equipment for the transmission of messages over long distances. Price, \$3.

**The Radio Amateur's Handbook.** By A. Frederick Collins. A new revised edition of this book is just out. It is a complete authentic and informative work on Radio. Fully illustrated. Price, \$1.50.

**Amateur Radio Call Book.** We have a few copies of this valuable book of the fourth edition. It contains a list of amateurs, special amateurs, technical and training stations. Tells how to construct a Reinartz tuner, detector and amplifier. A two-color map comes with it. Original cost, \$1. While they last, 50 cents.

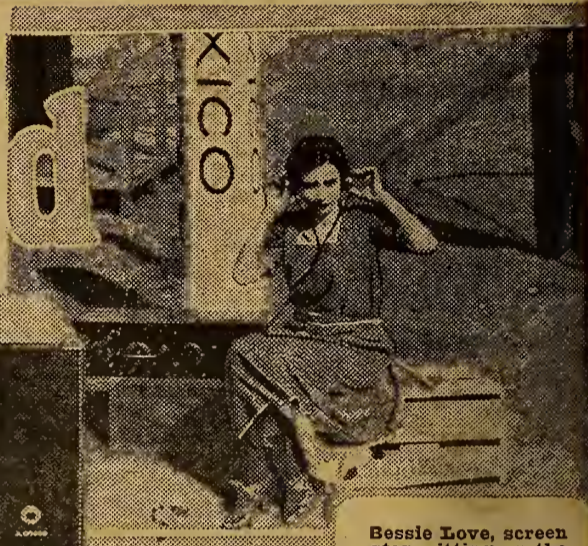
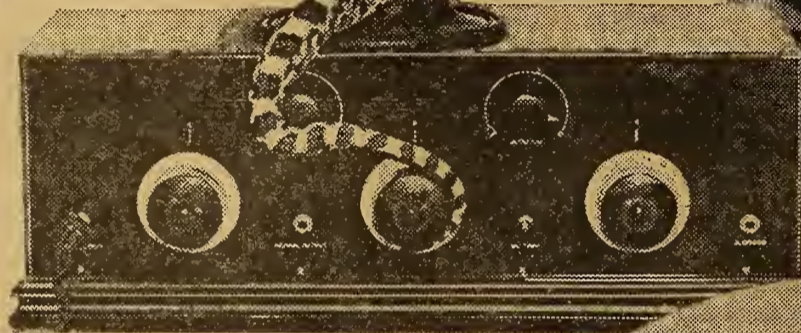
**The A. B. C. Vacuum Tubes.** By E. H. Lewis. It is a book for beginners who have no knowledge of either Radio or electricity and sets forth the elementary principles of theory and operation of the vacuum tube. No attempt has been made in this book to describe all the possible circuit arrangements, but those shown may serve as suggestions to experimenters who desire to evolve their own circuits. Price, \$1.00.

**Ideas for the Radio Experimenter's Laboratory.** By M. B. Sleeper. This book tells in a simple way the how and why of Radio apparatus. Comprehensive data are given on such necessary laboratory instruments as the oscillator, wavemeter, direction finder, Radio compass, vacuum tube, characteristic measuring set and detailed advice given on the winding of various kinds of standard inductance coils. Price, 75 cents.

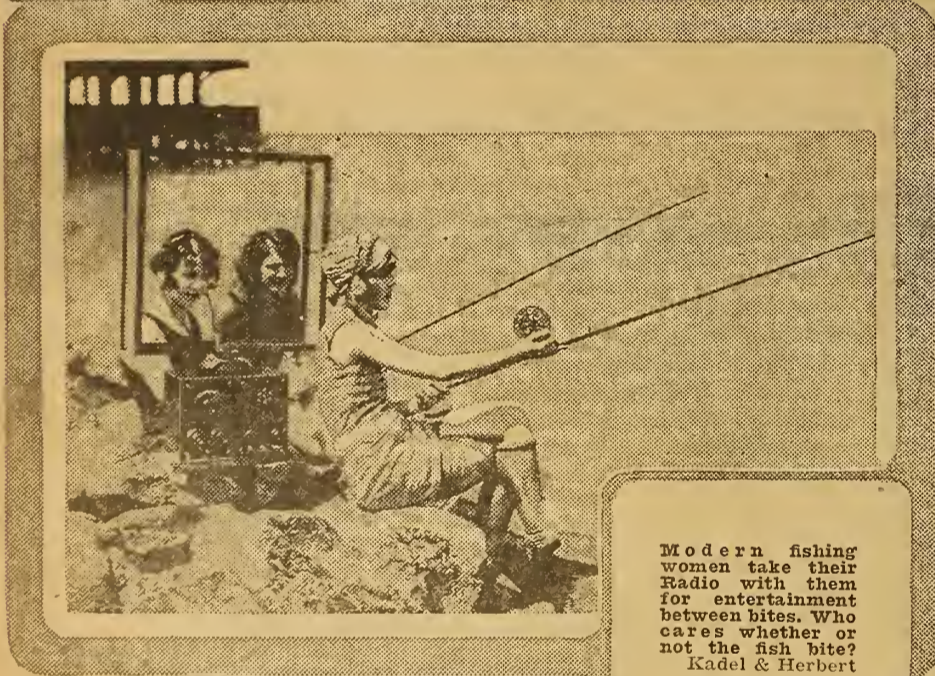
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# Radio Illustrated

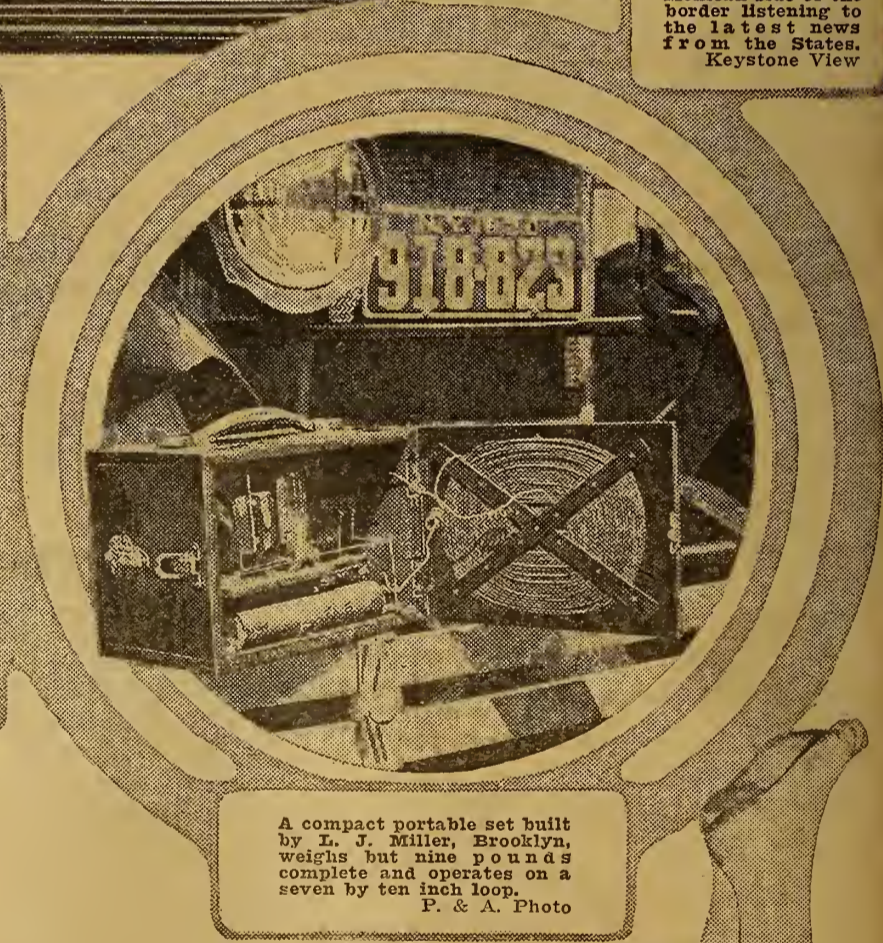
Gip, pet reptile of Marie Conkwright, noted fashion model, listening to the Radio. Int. Photo



Bessie Love, screen star, sitting on the Mexican side of the border listening to the latest news from the States. Keystone View



Modern fishing women take their Radio with them for entertainment between bites. Who cares whether or not the fish bite? Kadel & Herbert



A compact portable set built by L. J. Miller, Brooklyn, weighs but nine pounds complete and operates on a seven by ten inch loop. P. & A. Photo



Ruth Dace taking her pre-breakfast swimming lesson Radiocast from Westinghouse Station KYW, Chicago. © U. & U.