

Indiana Historical Radio Society

BULLETIN

Vol. 5

May, 1976

No. 2



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Applications for membership are available from the Treasurer, Ed Taylor. Dues are \$6.

Please use SASE when corresponding.

The next bulletin will be published in August. The deadline for submitting material is July 25th.



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## SUMMER MEET AT LAFAYETTE

SATURDAY, JULY 17

10 A.M. to 3 P.M.

Final plans have been made for IHRS meet at Battle Ground, Indiana. This is a National Historical site and a beautiful place for our summer meet.

Battle Ground is located about 6 miles north of Lafayette east of the junction of SR 43 and I65. This will be an Atwater Kent exhibit, and members are asked to bring at least one AK item. Bring your surplus gear for a swap session.

Buffet style noon meal. Members are asked to bring a covered dish-vegetable, salad or desert. Enjoy a summer meet in the country in picnic fashion. In the event of any question please contact one of the Lafayette members.

## radio's '1st lady'

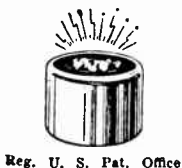
Mary Margaret McBride, whose 20 years behind the microphones established her as the undisputed "FIRST LADY of RADIO", died at her Catskill Mountain home at age of 76. She ended her informal network talk shows in 1954, but until recently she continued to broadcast three days a week over Kingston's WGHQ from her home, a 200-year-old refurbished barn about 100 miles north of New York City. During her radio career, which began during the depths of the depression, Miss McBride interviewed more than 30,000 persons

## IHRS MEET AT IVY TECH

On February 28th IHRS held a successful meet in Indianapolis at the Indiana Vocational Technical College. About 35 collectors met for the swap session and business meeting. A change in the wording of the articles of incorporation of IHRS to satisfy the IRS regulations, regarding contributions from foundations for the proposed Auburn museum, was unanimously adopted. Several new members joined the society. Morgan E. McMahon presented, through Gary Vierk, four plaques of the commemorative stamps issued by the Post Office Department in recognition of fifty years of radio broadcasting.



Our picture shows President Fred Prohl and Treasurer Ed Taylor holding the plaques, which will be hung in the Auburn museum this summer.



50c

*Genuine*  
**Miller-B-Metal**

*Crystal*

**ALIVE**

— **LOUD**

# AUBURN MUSEUM

The IHRS meeting at Auburn Indiana April 24 was highlighted by the annual auction. Over 100 persons attended and 40 members held auction bid cards. Part of the auction receipts will be used to finance the IHRS Museum Project Material donated to the club, by members and friends, sold for a total of \$423.25. Six display cases were purchased by individual members and donated for use at the museum. The second part of the auction gave members a chance to sell collection excesses. Interesting sidelights were the items and low sale prices; A mint FADA 170A with tubes \$35, A RADIOLA IIIA \$26, RADIOLA 28 for \$19, UV199 and 201A (good fil.) \$2, all speakers, regardless of condx brought lively bidding and good prices, furniture, gadgets and junkie all found buyers. Mike Burns, former Mayor of Ft. Wayne, again did a splendid job of auctioneering. The Radio Display Area and Facilities were shown to guests and members by the Executive Director of the Museum Skip Markette and IHRS Project Director Del Barrett. Congrats to our member hosts Dr Hansellman, Keith Hansellman, Del Barrett and Julian Stark, for a fine day, an interesting program and a memorable experience. Our sincere thanks to the cordial and helpful personnel of the Auburn-Cord-Duesenburg Museum staff. Well done !



Some of IHRS members assembling for the Auction

# *Auburn·Cord·Duesenberg* *Museum*



FUTURE HOME OF IHRS RADIO DISPLAY



A-C-D Executive Director Skip Markette and  
IHRS Project Director Del Barrett inspecting  
Radio Display Area.



## PURDUE'S RADIO STATION WBAA

In a year of historical and bicentennial celebrations, it is easy to overlook a significant part of Indiana's history - its radio stations. Nestled in the basement of Purdue University's Elliott Hall of Music is WBAA, Indiana's oldest licensed radio station celebrating 54 years of broadcasting.

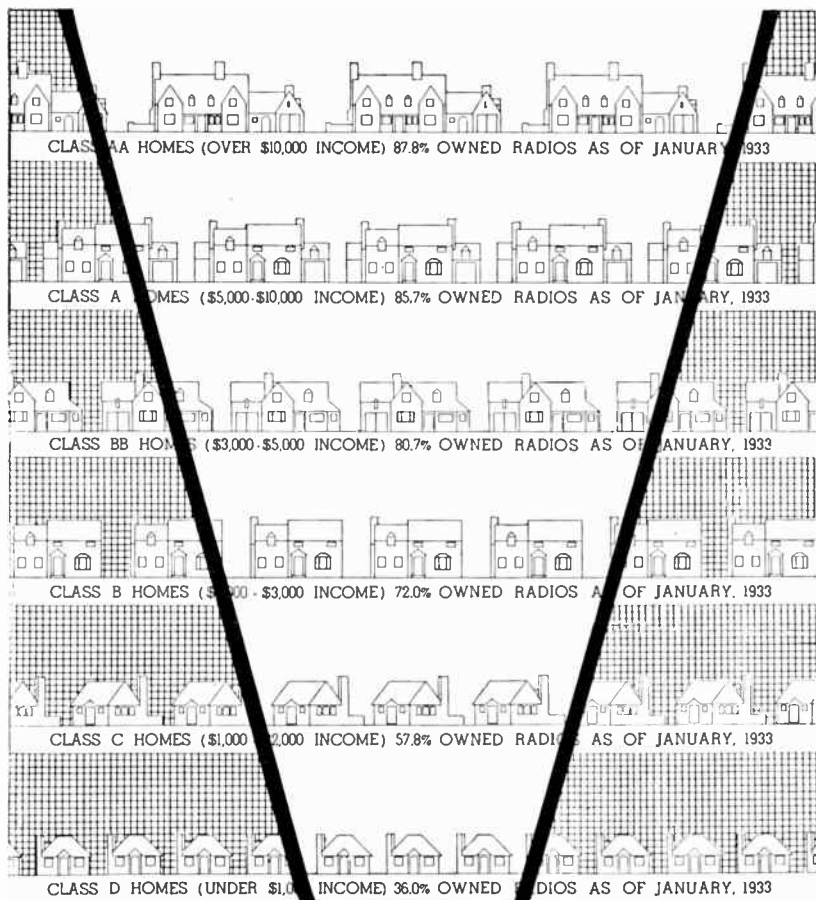
WBAA began as a technical research facility for the School of Electrical Engineering during WWI, when a group of Purdue students and faculty were experimenting with early wireless communication. By April 4, 1922, the experiments had reached a point of sophistication to permit voice transmissions and on that day a very abbreviated schedule of broadcasts was aired from the station, housed at that time in the Electrical Engineering building.

Its early programming consisted mostly of Purdue news stories and local musical talent. The early '30s operation existed on practically no budget. In 1933 changes were made for "The Voice of Purdue". Its frequency was changed to 890 kilohertz, the frequency over which WLS radio in Chicago now broadcasts, and a new interest in programming was sparked. Albert P. Stewart, director of Purdue Musical Organizations, found local talent for the musical part of programs.

In 1941 the station moved from the EE building to its present location. It also expanded to a broadcast day of 7 a.m. to 10 p.m. six days a week and changed to its present frequency of 920 KH. Along with its full schedule of programs, the station also provides internships for Purdue students. Among its more notable pupils have been TV personality Durward Kirby, sportscaster Chris Schenkel, George Peppard and actress Karen Black. A national leader in the broadcasting of university courses for credit, the station has more of an adult format, "appealing more to high school students on up", says its present manager Dave Bunte. radius, The station has a present coverage in a 65 mile but in the early days before so many stations were vying for the air waves, WBAA's signal was heard as far away as Australia and New Zealand.

## Radio Ownership by Income Level, as of January, 1933

(Those homes falling within the "V" own radio sets)



This chart represents a radio ownership of nearly 17,000,000 sets in 30,000,000 homes. It was prepared by the Columbia Broadcasting System and shows a national study by income levels. It is presented here to the radio trade for the first time.

While Class AAA homes (over \$10,000 income) show a high saturation point, note that there is still a very sizable market for set in homes not yet equipped and whose family income falls between \$1,000 and \$5,000. This market is approximately 30% still unsold.

In the Class C homes—and these families can afford a radio set—this ratio jumps to 42%.



### VINTAGE RADIO

Box 2045  
Palos Verdes Peninsula,  
California 90274

# Beat Our July Price Increase!



6636 Newgard Avenue

CHICAGO, ILLINOIS

Radio W9WZE Ur RST 3-4 Sigs Wkd Hr 3-4 1937 at 11:58 P M.,E.S.T.

# W9WZE

TRANS: RK23 osc., RK23 buff., Pair 10s final. RCVR: New 1937 "SX11" Super Sky rider.

Remarks: Thanks for a so.

Tnx Pse QSL 73 WILLIAM J. HALLIGAN



## The Four Horsemen—S'sh, It's Polo

And no hay-wire game either—if four more horses for the opposing team and gentlemen who can stay on them can be obtained in advance of the Radio Show at Atlantic City. The gladiatorial combat will be housed in a riding academy at the seashore resort. Free tickets will be distributed at the Silver-Marshall booth. The challenging equestrians, shown leaning on their croquet mallets, are all of Silver-Marshall. From the left they are Burton Browne, McMurdo Silver, William Halligan and Lawrence Chambers. Their erstwhile opponents may be Sam Cohen, Herman Hollander, John Griffen and—a couple more s'sh's—The Headless Horseman of Sleepy Hollow.

## The Midget Receiver

The depression years brought many changes to the American Way of life. The Radio Industry was still in a period of rapid growth. During the early stages of the depression the number of Radio Manufacturers began to decline. Good management and distribution policies had begun to take its toll of small producers. Radios were generally large bulky pieces of furniture characterized by the "Highboy" "Lowboy" style. When the depression deepened there came a need for changes in marketing and economic policies. The large furniture styled unit was still considered the final answer to the home center entertainment set, however, the smaller set was introduced as a second radio for the home. The secondary purpose for the "Midget" was to provide a budget priced item for a depression market. The new design revolutionized the industry by becoming the primary home radio and thus, reintroduced the smaller enterprising producer to a new market.

The advent of the Hi-Multi-Mu screen grid and power pentode tubes, made production of these sets economically and technically feasible. Improved sensitivity and increased audio power of the new tubes made the midget set performance equal to or better than the large console multi-stage and cascaded amplifier receivers. A new era of radio manufacturing had dawned. The popularity of these "Midgets" provided economic salvation for a financially depressed market. The success of the design ranged through the depression and WWII era. Shortly after the war the solid state and miniaturization technics soon made the midgets obsolete and hand carried and pocket sets became the desired product. The correct name as given in this period was Midget or Mantel Radio. This name was replaced by the now more familiar one of Cathedral Radio. Cathedralers are rapidly becoming a highly desired items in classic radio collections.

# MIDGET RECEIVER

By Ralph L. Power



*U. S. Radio & Television Corp.*

**M**IDGET golf, midget motor cars and midget radio sets. And this doesn't necessarily mean that people are satisfied with small-sized editions of the real thing, either.

What it does mean, though, is that midget or pee-wee golf takes the place of a full grown course for those who cannot get away from the city to the country club, and it serves as a practice area for those who want to perfect certain parts of the game.

The midget or baby motor car seems to have a field as a second family car, especially valuable in city traffic.

The midget or mantel radio receiver does not at all mean merely that it is a low-priced commodity or one which competes with the more fully grown receivers.

But the mantel type set has been largely instrumental in bringing in the two-set home and providing radio entertainment, too, for those who cannot afford the higher-priced outfits.

The smaller, more compact sets have proved their worth as a portable to take away on vacation jaunts, as a set for the guest chamber, one for the nursery, servants' quarters and even in the family garden.

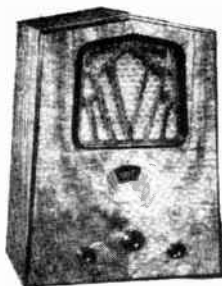
Starting towards the close of 1929 in Los Angeles, in an attempt to keep factories going during a depression, the

*Continued*

JANUARY, 1931



*Cardinal Radio Mfg. Co.*



*Pierce Airo, Inc.*



*Advance Elec. Co.*



*Automatic Radio*



*Transformer Corp.*



*Davison-Haynes*



*Gray-Danielson*

*Zaney-Gill*



## *midjet receivers*

movement has gone into full swing so that there are now 37 factories in the southwest in actual production of mantel sets and at least four, if not more, nationally known radio organizations have followed suit.

Just what the ultimate result will be of the entrance of national groups into the field is, of course, problematical. Certain it is that the southwestern factories have the momentum of an early start, if that means anything, and a pretty good sized part of the research work done there is evidenced in the sets now actually on the market.

### *General Design Features*

In large measure, the mantel sets are fairly similar in cabinet design, although there are outstanding features to distinguish them apart—curved peaks for some, futuristic designs in others, one or two with a clock inserted in the face of the cabinet. One shop puts out mantels in a dozen different paint jobs to match the furniture, while another has inserted a phonograph turntable in the top and thus makes a creditable miniature radio-phonograph combination set.

In the matter of the technicalities of these small sets there is not a great deal of difference, although every month or so some one manufacturer comes out with a change or two to furnish opportunity for a "new line."

Let's look at an "average" set and see what's in it. Here are the specifications and work sheet for one of the factories: D.C. voltage into filter, 300; d.c. voltage out of filter to -45 plate, 225; d.c. voltage to r.f. plate, 175; d.c. voltage to power detector plate, 50; to -45 grid, 45; to power detector screen, 22 maximum (volume control); to r.f. screen, 100; to r.f. cathodes 1 to 12 (volume control); to power detector cathodes, 1 to 10; 40-volt surge with tubes removed; a.c. voltage with side transformer secondary, 360; a.c. voltage r.f., power detector, -45 filament, 2.2; a.c. voltage -80 filament, 4.9.

The speakers, small sized, are ordinarily full dynamic, especially built to match the receiver—special field winding, 2,400-ohm, and a special voice-coil spider peaked approximately 80 cycles. Rola, Magnavox and Lansing speakers seem to predominate in the western factory make-up.

A.F. couple—resistance couple of special design (not Loftin-White), with 500 volts maximum, designed for flat curve amplification and minimum plate voltage and drain, 300 volts maximum at source.

R.F. system—two stages sharply tuned screen-grid r.f. with coils designed for maximum gain per stage without the necessity of shields, thereby preventing the losses incurred through the use of shields; three-gang condenser.

In this the gain of the r.f. channel is equal to the average receiving set which employs three stages with shields. The interstage coupling is minimized through proper coil design and proper arrangement of coils on the chassis.

Oscillation is obtainable and controllable, thus adding considerably to gain and selectivity with a fairly even distribution of stations at the lower end of the dial.

The volume control is practically perfect, without loss of tone quality at any setting, and there is no absorption or loss in gain at the maximum setting.

It controls the r.f. bias, power detector screen and



## *Midget Receiver*

power detector simultaneously, thereby incurring no overloading of electric strain on any part of the circuit; smooth and positive in operation, not subject to excessive wear and thus necessitating frequent replacement.

In the filter system, the speaker field acts as a choke; condensers, 16 mfd. total. This is of the electro-chemical type and is not subject to corrosion or seepage. The voltage rating is conservative, self-healing in the event of punctures and perfectly sealed from moisture.

The power transformer is conservatively rated, is well insulated, designed for effective cooling, L-shaped core allowing coils to be separated and resulting in better ventilation, mounted on chassis for free air circulation.

So this five-tube set—three screen grids (one is the power detector), a -45 and a -80—can be taken as an "average" mantel type set.

### *Similarity of Midgets*

I think, on the whole, that while the more than thirty factories are getting out the same number of different sets, there is no radical difference to be noted in any of them.

Some of them vary in the number of r.f. stages, some using two and others three. Some use the Loftin-White and some resistance coupling in the audio. Some use two and others three stages of screen grid. A few are using -27's instead of screen grid in the power detector circuit. Some shield while others do not.

There are, of course, various ramifications in attempts either to make the set a trifle different from other makes or in the interests of getting out something actually better.

By far the majority of the cabinets are in walnut or veneer, with a dark, hand-rubbed finish. One manufacturer has just begun to go into production for his multi-colored line in jazzy colors, while another is designing his cabinets in the form of a replica of famous California missions.

The average list price is \$59.50, although perhaps a quarter of the factories list at ten dollars higher. There is an additional charge for the carrying cases if needed.

One set is made in the form of a valise with handles on the side.

The Los Angeles factories range from small stores with perhaps ten employees and 100 sets a week, to the largest with more than 100 men and 2,000 sets every seven days.

There are, of course, a few backyard manufacturers—that is, men who do ten or a dozen sets a week in their garage at home and peddle the sets direct to the retail trade.

For sundry reasons, perhaps the difficulty and the time lost in locating miniature parts, the small establishment and the home set-builder have not done very much in this field as yet.

So the mantel type movement, starting originally to keep the men busy during dull times, has actually developed an entirely new market. Still in the embryo state, almost any day some new development may take place which might make revolutionary changes in the actual set-up of these small, low-priced receiving sets. The majority of midget set makers are licensed under RCA, Hazeltine and La Tour patents.



*Paterson Radio*



*Flint Radio*



*The Sterling*

*Griffin-Smith*





**"Takes the Resistance Out of Radio"**  
Editorial Offices, 96-98 Park Place, New York, N. Y.

## "Midget" Radio Sets

By Hugo Gernsback

**A**NOTHER minor revolution in the radio industry has occurred, during the past few months, on the appearance of the so-called "midget" or mantel radio sets. We started out with rather small sets during the years 1923 and 1924, when the table model was popular, and before the console had arrived. We are now going back to old times; but going the old style set one letter by making one still smaller. Curiously enough, the first table model was of the five-tube variety, while the present mantel sets are mostly of the five-tube variety as well. History, it seems, is repeating itself.

Many people, in the trade and elsewhere, are of the opinion that the popularity of the mantel set is due to present economic conditions; because it seems that, at the present time, the mantel sets are far outselling the more expensive models. One manufacturer alone, within a short season, has sold over 150,000 of these mantel sets; and there are a number of others who are doing as well and even better. This seems to prove the popularity of the midget type. But, so far the economic point is concerned, I do not think that we should stress this too much. Either a family wishes to get a radio set or it doesn't. If they do, the great majority buy on the installment plan, anyway; and, inasmuch as the payments are reasonable, the chances are that the temptation to buy the bigger and more elaborate set, rather than the smaller one, will prevail—always provided that the family wishes a piece of furniture. And herein lies the whole crux of the question.

Modern living conditions are such that space in the average apartment is at a premium. Houses and apartments are becoming smaller all the time; and apartments, particularly, tend to shrink in not only the number of rooms, but the size of the rooms as well. Families who used to live in eight and ten-room apartments now live in four or five rooms; and so on, in proportion. Consequently, room is at a premium and this fact, I believe, is a direct cause of the success of mantel sets, rather than the price.

Furthermore, we seem to be heading towards the average of two and three radio sets per family. There was a time when any family could get along with a single car; but statistics show that today many own two or more cars. The case of radio is similar: there are so many programs in the air, and of such wide variety, that it is impossible to satisfy all tastes with a single set. The old people wish to listen to serious music, lectures, etc., while the younger element prefers lively dance music and what-not; and, as a rule, there is a clash in the average family when the radio is turned on. So,

here the mantel set steps in and solves the problem. It is no longer a novelty to find two radio sets in an apartment; I have seen as many as four in a home, although this may be an extreme case. The well-to-do family will wish to have a "furniture-type" receiver in the living room; whereas Junior or the daughter will have sets for themselves in their respective rooms and—with domestic help what it is today—it has been found that a midget set in the maid's or the cook's room will do a lot towards keeping them satisfied.

Make no mistake, the midget sets are here to stay; and the chances are that, during the next few years, they will grow in popularity. I venture to predict that we will have excellent sets even smaller than those which are in such vogue at present. Practically all of the present mantel sets are equipped with dynamic speakers, and have as much power as the large sets. Practically all of the small sets have entirely too much power for city use; and it is my opinion that still smaller sets, using magnetic speakers and fewer tubes, and selling for considerably less than the present mantel sets, will come into use. Such "Tom Thumb" "sub-midget" sets will be desirable; particularly for those owners who do not wish to be annoyed with too much power and who desire a type of receiver that can be used in a small room. It would seem that such sets should be particularly attractive for hotel installations, hospitals and other institutions; since the user would be able to tune in any program he wants, rather than take a choice of one or two—which is now the case with many hotel and hospital installations.

What midget set users require most, today, is a built-in antenna connection that will do away with an outside aerial. One or two such models have already appeared, and it is to be hoped that soon they will be universal. Such sets will become still more popular at the moment when all you are required to do is to plug into the light socket, which will supply also the aerial and ground connections automatically. (It is true that such connections are usually undesirable except in congested centers, where there are many broadcast stations; an outside aerial is, of course, preferable.)

From the service angle, the midget sets are almost ideal; for it is much easier to service them than sets of the large furniture type. The components of the midgets are far more accessible to the Service Man and, consequently, they can be serviced much more quickly and efficiently than other sets.

In my opinion, the chances are that these sets will ultimately outsell all others and that, numerically, they will be far in the lead within the next few years.



1931



Fig. E

**A SUB-MIDGET RECEIVER**

PICTURED in Fig. E is the newest thing in small radio set design, the "Model 48" or "Wigit" midjet radio receiver manufactured by the Crosley Radio Corp. Two interior views are Figs. F and G; the schematic circuit is Fig. 1. (See page 619.)

This selective receiver is probably the first screen-grid electric set, incorporating a sensitive reproducer, to list under forty dollars. It utilizes two screen-grid tubes as R.F. amplifiers, and a third as a power detector, which feeds into a type '45 power tube.

*The smallest of modern screen-grid receivers is this Crosley "Wigit."*

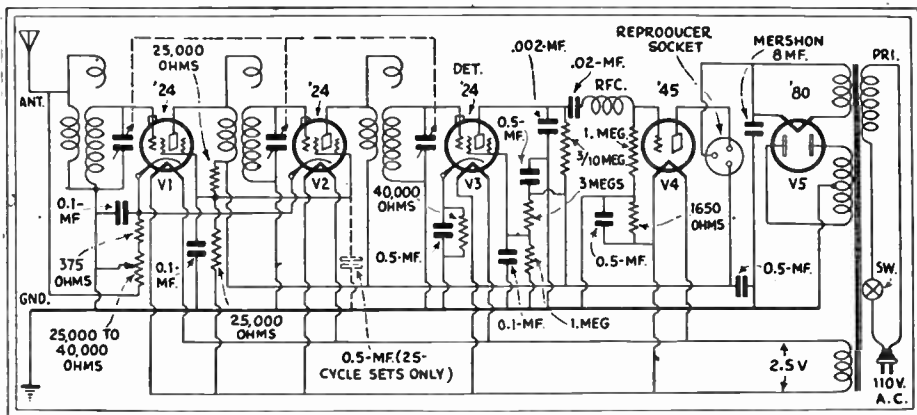


Fig. 1

*Circuit of the Crosley "Model 48" or "Wigit" illustrated on page 603; the small coils attached to the primaries are single turns around the grid ends of the secondaries*

**ANNOUNCING!**

**The New RADIO PHYSICS COURSE**

by Alfred A. Ghirardi, E.E.

**Greatly Enlarged & Revised Second Edition Now Ready**

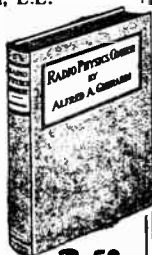
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# ★ ★ RADIOADS ★ ★

**SELL:** Reprint of AK Instruction Bk Vol.2 (1925) 48pages of pixs and diagrms for Mod 10,12,19,20,24, and 20 & 21 compacts \$6.00 Pre.Pd.-Route 2 Coatsville Ind 46121-Wm. Huntley

**SELL:** Xerox copies of Powel Crosley's Blue Book, "Simplicity of Radio" Pocket size 80 pages \$3.50 profits to AWA Museum Fund-6518 Gunpowder Lane,Prospect Ky 40059--Gordon Eklund.

**SELL:** Working Kingston "B" Elim. less tube \$4.00, Good AK type F4 speaker \$5, Radio Boys Trailing a Voice \$2.50, Farrand cone speaker \$12.50 plus Pstg--1922E Indiana St Wheaton Ill 60187-Geo. Hausske

**TRADE:** DeForest Interpanel Set, Deforest Everymans, Kennedy 281, Crosley Pup, Aerola Sr, Radiola Sr, RadiolaIII, Freed Eis.Nr 5, Riders Vol. 6-7-8-10, Duck Catlg #16, WANT early 1-2 tube sets & Xtal sets--SASE--2301 Independence Ave Kansas City Mo 64124,--Bob Lane

**TRADE:** SW3, Pilot Super Wasp, RA tuner FOR Grebe Revrs in any condition and any kind of Grebe parts--1402 Ocean Blvd Shell Beach Calif 93449-- C. Byrnes

**WANTED:** Crosley Pup, Old Microphones & any early sets--for permanent historical display at studio lobby--Rural Radio Network, Box 415, New Palestine Ind 46163--Harry Martin

**WANTED:** RADAK, Airline, Westingale, Meteor, three tube sets, parts or chassis Crosley Tridyn & AK bread-boards--Box 3053 Marion Ind--C.E. Strand

**WANTED:** Old Mikes, Spark Gear and Battery sets--8520 Fernald Morton Grove Ill 60053 Tx 312-967-9161 after 4PM-Burt Pequod

# ★ ★ RADIOADS ★ ★

WANTED: Metal Cabinet for Federal DX58,  
Pix of chassis of Clapp-Eastham Baby  
Emerson, Loop for DeForest D12 and other  
old "Radio Items"--45 Allen Dr Woodstock  
N.Y. 12498--J.R. Doak

WANTED: Last two tube island for 5th & 6th  
amp. AK mod 12 complete to restore set--  
RR4 Syracuse Ind 46567--John Sudlow

WANTED: Early Light Bulbs, Tubes, AFT Tuska  
Superdyne Jr, 2 AFT for Kennedy 525 amp.,  
Old Pocket Watches, base for Tower "Little  
Spitfire" horn, AFT for NR6--8303 East  
Mansfield Ave Denver Colo 80237--B.T.  
Wooters W5KS0/0

WANTED: RCA Victor Serv. Notes Vol. 1 & II  
1927-1930 Radio College of Canada diagrams  
and "Miracle Crystal" set--26451 Dunwood  
Rolling Hills CA 90274--Morgan McMahon

WANTED: Info on Reginald A Fessenden, his  
work at Brant Rock Mass. 1905-1912. Copies  
of any published articles, 'current news',  
magazine references, pixs of station or  
equipment, biography 'Builders of Tomorrows'  
--Box 225 Pocasset MA 02559--Alan Douglas

SELL: Old radios and related items. State  
your needs--45 Allen Dr Woodstock NY 12498  
J.R. Doak

SELL: Or TRADE Radiola IIIA case. Box  
good, finish fair. Need case for Radiola  
Sr or Aerola Sr also dial plates(3) for  
Aerola Sr--1005 So 18th St Lafayette Ind  
47905--Glen E Rogers W9ASX

WANTED: Philco or AK Cathedral Radios--  
2505 Kickapoo Dr Lafayette Ind 47905--  
Gary Vierk Tx 317-474-5700

WANTED: More info, More Radioads, More  
letters. What you got? What you want?  
What you need? --Eds IHRS Bulletin

# ★ ★ RADIOADS ★ ★

WANTED AK coupled ckt tuner and lid for AK 40. SWAP Honey Comb coils and mount also lid for Crosley 608 Gembox--1924 Dolphin Blvd. St Petersburg Fla 33707--John V Smith

SELL OR TRADE : Light Bulbs and limited supply of fittings 1915 to 1930, mostly European. Want odd brand light bulbs and tubes pre 1930---673 Great Western Hwy, Faulconbridge, NSW 2776, Australia -Fin Stewart

WANTED: Cabinet for Kennedy XV, type 430. page 98 in Vintage Radio.--494 Hirsch Ave Calumet City, Ill 60409--Joseph P Benne

TRADE: AK10 #4700-a beauty. WANT other BB or early spark gear. WANTED ant. for Radiola 26, Pandora Xtal set, Pfanstiehl model 8C, DeForest Responder.--118 Countryview Dr Naperville Ill 60540-Mike White.

Found a stock of 1930 to 1945 tubes 6 & 12 volt fil., UTC 125W class B Mod. Xfrm-new, 900V CT UTC Pwr Xfmr-new, numerous ham mil. mtrs., misc parts and units.--EDS of IHFS Bulletin.

INFO. Anyone need Hinges for Aerola Sr or Radiola Sr.? Stanley Ornamental Hinges of Classic Brassware # CD5316 US3-exact duplicates except for brass finish. Source-Ace Hdw. --W9ASX

WANTED:Hallicrafters ULTRA SKY-RIDER Model S10 or SX10. CASH or TRADE.--1133 Strong Ave., Elkhart Ind 46514-Ross Smith

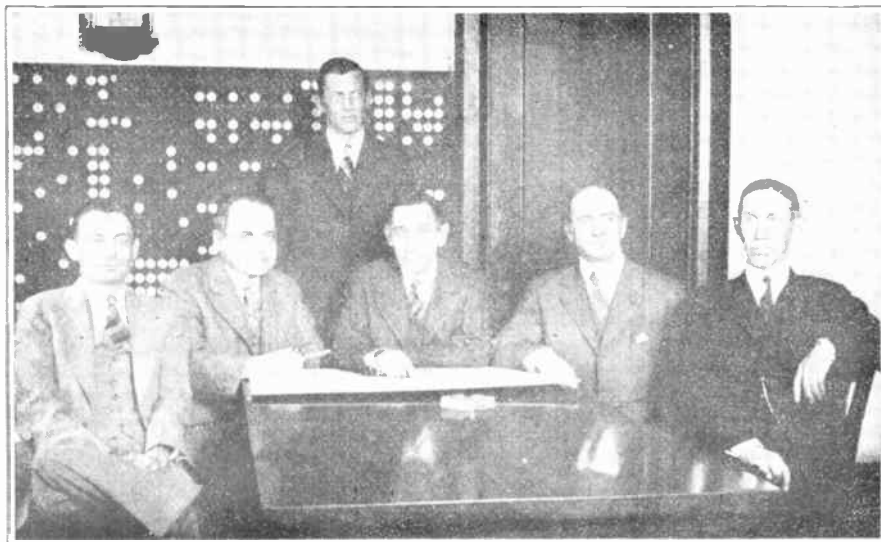
FOR SALE: 8½ x14 COLOR CODE CHART(in color) of CARBON RESISTORS IN STANDARD VALUES... all details from 1920 to 1933, suitable for framing. \$1.25 PP.--BOX 15370 Long Beach Cal. 90815-Brent Dingman

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# NEWS INFORMATION

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## Membership of Radio Commission Now Complete



With the extension of the life of the Federal Radio Commission until February 23, 1929, and the confirmation of all its members, the Commission now has a complete working organization. From left to right are: Sam Pickard, Zone 4; O. H. Caldwell, Zone 1; Judge Eugene Sykes, Zone 3; Harold A. Lafount, Zone 5; Ira E. Robinson, Zone 2; and, standing, Carl H. Butman, secretary of the Commission.

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### China Broadcasting Association Formed

The "China Broadcasting Association" for the purpose of providing an efficient foreign broadcasting service, giving musical and instructional programs, has been formed in China, reports the Department of Commerce.

The association, it said, is planning to rent a transmission plant during certain hours of the day. It will charge a subscription of \$10 a year for membership. Funds from membership fees will be used to cover the expenses of providing programs and an announcer.

### RADIO TRADE MARKS

"Eveready" for radio receiving sets and speakers. T. M. Serial No. 270,300. National Carbon Co., New York, N. Y. Used since July 5, 1928.

"A-C" for radio antenna. T. M. Serial No. 271,487. Goldberg Bros., Denver, Colo. Used since July 25, 1928.

"President" for radio receiving sets. T. M. Serial No. 271,748. S. Freshman Co., Chicago, Ill. Used since Aug. 9, 1928.

### Edison Enters Radio Field

As a result of arrangements recently concluded, Thomas A. Edison, Inc., Orange, N. J., and the Splitdorf Bethlehem Electrical Company, Newark, N. J., have pooled their radio patents, and manufacturing, research and laboratory facilities for the purpose of making and selling radio and electrical phonographs, reproducers and other radio equipment of a similar nature. The new line of radio sets and phonograph and radio combinations are already in production.

As a result of this agreement, Charles Edison becomes a member of the board of both the Splitdorf Bethlehem Electrical Company and its subsidiary, the Splitdorf Radio Corporation. Arthur Walsh, vice-president of Thomas A. Edison, Inc., and general manager of the division of radio and phonograph, also becomes a member of the board of the Splitdorf Radio Corporation. Edward H. Schwab is chairman of the Splitdorf Bethlehem Board, of which Charles M. Schwab is a member. Walter Rautenstrauch, president of the Splitdorf Radio Corporation, will be consulting engineer for Thomas A. Edison, Inc.

AND THAT'S THE WAY IT WAS  
FIFTY YEARS AGO

Broadcasting stations were licensed by the Government to operate on certain specified wave lengths. Those in use ranged from 204 meters to 545 meters. In this year (1926) 496 broadcasting stations were licensed. Most were low powered stations, serving a limited area. From the total number of 496 listed, four stations were 5 watters, 45 were 10 watt stations, 19 stations used between 15 and 30 watts, 110 stations had 100 watt transmitters, 42 had 1KW stations and 15 stations were 5 KW units. Most of the remaining stations power ranged between a low of 250 and a high of 900 watts. A list of notable calls of that year included: KDKA KFI KOA KWKH KYW KSL NAA (435m with 1KW ) WBAA WBAL WBBM WBZ WCAU WDAF WFAF WFAA WFBM WGN WHAM WHAS WHO WJR WJZ WLS WLW WOAI WOC WOR WOWO WPG WQAM WRVA WSB WSAI WSM WTAM WJR WWLand many other stations whose calls are still active. Monday night was known as "Silent Night" in Chicago and after dark all local stations went "off the air" to give city DXers an opportunity to fish for "out of town" DX stations. Certain hours at night, during the International Test Week, were set aside for all US stations to remain silent for the DXers to look for "overseas Stations" Interference problems consisted mainly of "summer static", hetrodynes from stations sharing the same wavelength, electric street cars and "EI" trains and the neighbors old regenerative receivers. The active list of Indiana BC stations were: Anderson WBHU 10 watts on 218.8 meters, Culver WCMA 100w on 263 m, Evansville KGBF 500w on 263m, FtWayne WHBJ 50w on 243m and WOWO 500w on 227m, Indpls WFBM 250w on 268m, Logansport WHBL 50w on 215.7m and WBIW 100w on 220m, LaPorte WRAF on 220m, So. Bend WSBT 250w on 275m, Seymour WBFE 10w on 226m, Valparaiso WRBC 500w on 278m and WBAA 250w on 273m.

AND THAT'S THE WAY IT WAS IN 1926--FIFTY YEARS AGO.



# ELECTRODE SPACERS IN EARLY TUBES

by

Robert G. Middleton

A complete collection of tubes should include types with glass-bead spacers, mica spacers, & Isolantite spacers. Fig.1 shows an example of early glass-bead construction, and Fig.2 illustrates glass-bead construction in a peanut tube. In the latter '20s, glass-bead design was obsoleted and mica-spacer construction started, as exemplified in Fig.3 (left).

Different shapes of mica-spacers were utilized, but all of them rested on top of the plate electrode. Holes in the spacer passed supporting wires for the electrodes. At least one tube manufacturer (Stewart-Warner) used still another version of electrode spacer formed of Isolantite, as seen in Fig.3 (right). This photo also shows an example of the triangular version of mica spacer. Spacers overcame a troublesome problem encountered in the earliest tube designs wherein uneven electrode separation could develop into short-circuits between electrodes.

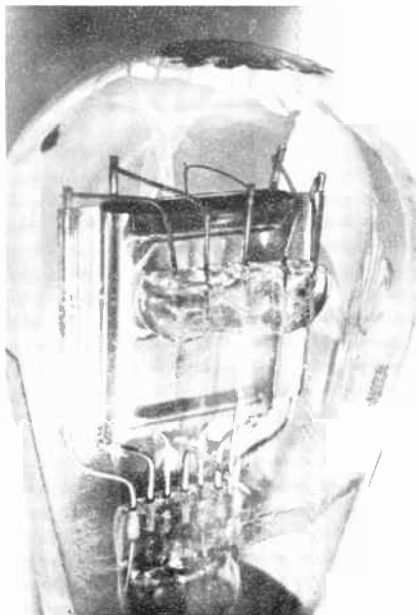


Fig. 1. Early design utilizing a glass-bead spacer.

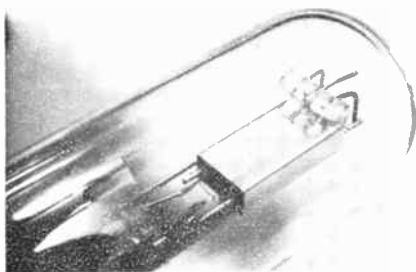


Fig. 2. A peanut glass-bead spacer.

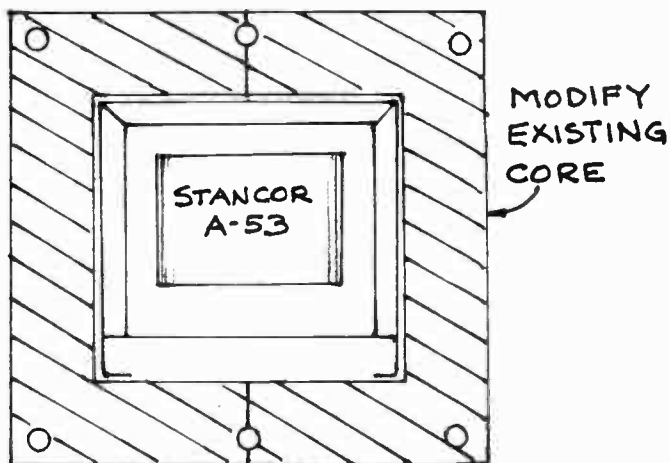


Fig. 3. (left) Mica spacer. (Right) Isolantite spacer.

# Restoring Antique Radio Receivers

## REPAIR THOSE CROSLLEY AUDIOS

Crosley audios can be repaired by cutting out center steel in the original core. Bend the mounting feet of a Stancor A53 audio and fit it inside the original core. A Stancor A 53 can be purchased at most electronic distributors.



Solder leads to existing terminals. Be sure and record which terminal goes where before dismantling. Since the bulk of the new transformer is smaller than the original, a 1/16" cardboard spacer should be placed under the terminal blocks to assure it will remain firmly in place. It would be wise to use epoxy to hold the spacer to the shell before tightening the bolts in the transformer. The repaired transformer will look, feel, and work like an original.

George Hausske

## A K SECRETS REVEALED

The words "Not Guaranteed" are inscribed in the wood beneath the metal plate on the lid of your AK 20 compact.

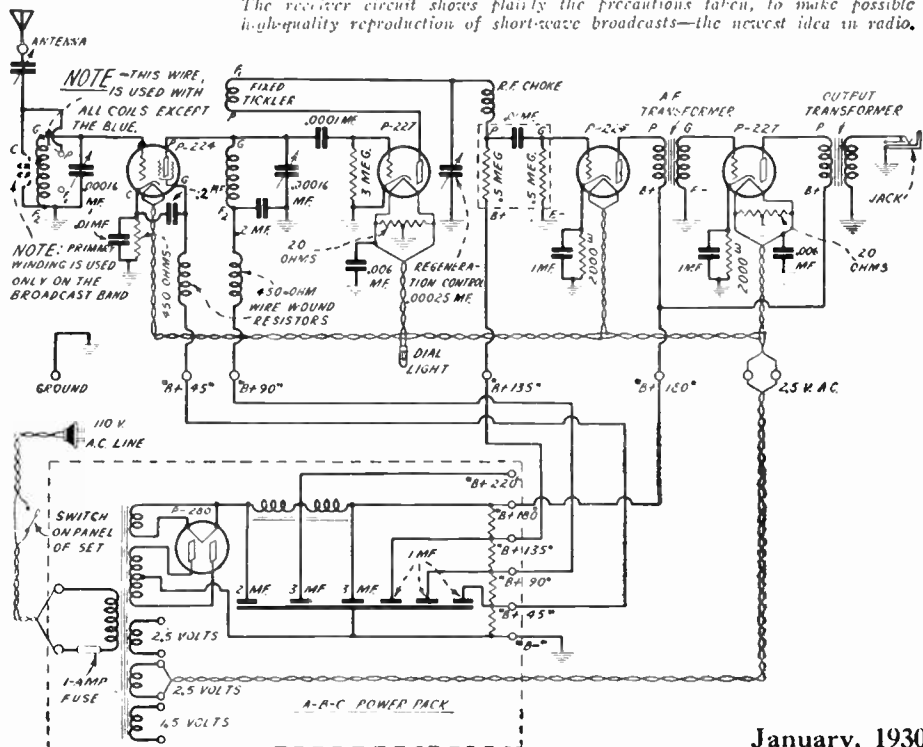
The serial number of this set is printed on a strip of paper back of the metal AK name-plate on the front panel. This number will match the one on the lid.

### NEW POLISH

For a fresh new look try Guardsman furniture polish. It contains no wax, silicone or solvents, and it is nonflammable. It is available at Ethan Allen furniture stores as well as Ace Hardware stores.

### "A.C. Super-Wasp"

The receiver circuit shows plainly the precautions taken, to make possible high-quality reproduction of short-wave broadcasts—the newest idea in radio.



January, 1930

It's Easy To Identify 31 Tubes

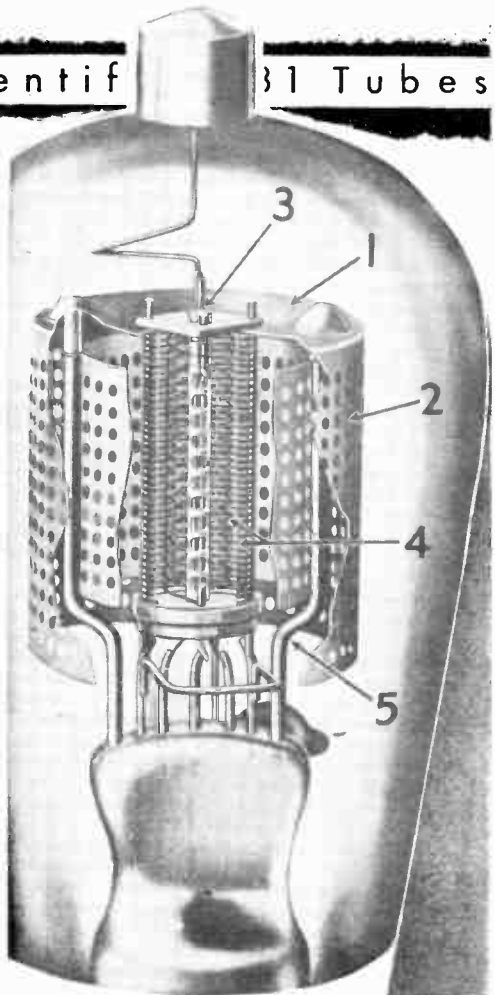
## Look for Clean-Cut Screen-Grids

Minimum metal for maximum electrical and mechanical strength—that is the true test of a screen-grid tube. De Forest engineers have attained those prerequisites by

1. Plate instead of mesh for greater degassification, increased strength and closer tolerances.
2. Perforations to decrease possible secondary emission.
3. Patented De Forest notched cathode insulator for practical quick-heater performance.
4. Molybdenum wire for both grids, casting 20 times as much as nickel. Higher melting point permits greater degassification.
5. Continuous support for outside screen, insuring maximum rigidity.

These and many other advanced features found in every type of Fresh De Forest Audion, insure the 1931 performance of any radio set.

*This is the fifth of a series of debunking messages dealing with 1931 radio tube features. The entire story can be sent to you immediately, upon request.*



*de Forest*

AUDIONS

RADIO TUBES



DE FOREST RADIO CO., PASSAIC, N. J.



After all, there's no substitute for 25 years' experience

