

Indiana Historical Radio Society

BULLETIN

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By Purdue News Service

Professor Leslie A. Geddes demonstrates the first all-electronic TV receiver, developed in the 1920s at Purdue.

(See Story on Page 5)



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IHRS is a NON-PROFIT organization which was founded in 1971. Annual membership dues are \$8.00 which includes first class quarterly IHRS Bulletin. RADIOADS are free to all members.

** PLEASE **

**Send a stamped, self-addressed envelope
when requesting information.**

Regional Spring Meet

Friday, May 4, Saturday, May 5

Indiana Historical Radio Society and Antique Wireless Association Regional Spring Meet at The Holiday Inn, Plymouth, Indiana, SR 17 near US 30 & US 31.

Friday, May 4 - Noon Buffet in the Motel Dining Room.

Afternoon - Early Registration, Edna Yanczer and helpers.

3:30 P.M. - "Show and Tell" Restoration Clinic. Bring your ideas and your questions on restoration. Ross Smith, moderator.

7:00 P.M. - Old Tyme Movie by Pete Yanczer, AWA Show and Reception. Terry and Cathy Garl, Host & Hostess.

Saturday, May 5 -

9:00 A.M. - Swap Meet in the North Parking Lot. Registration in the Lobby. Sellers must register and post signs.

9:30 A.M. - Register items for the Old Equipment Contest.

10:00 A.M. - Register items for the Afternoon Auction. All items must be registered by 12:00 Noon.

10:30 A.M. - Contest Judging. Best of Show receives the Grebe Trophy.

Noon - Buffet in the Motel Dining Room.

1:00 P.M. - Auction of personal and donated items. Steve Waldron, Auctioneer. A 10% donation is expected. Glen Fitch, Chairman. Marilyn Johnston, Clerk.

4:00 P.M. - Continuation of the Swap Meet.

6:30 P.M. - Social Hour.

7:00 P.M. - Banquet and Old Equipment Awards. Entertainment. Eric Sanders, Master of Ceremonies.

Old Equipment Contest Categories

- Class 1 - John Meck Radios and Associated Equipment. Meck made Scott radios, phonographs, ham equipment and test equipment.
- Class 2 - Crystal sets or passive receivers.
- Class 3 - Art Decco, Catalin, Clock sets and Mirror sets Pre-1940.
- Class 4 - 1 or 2 Tube sets.
- Class 5 - 3-Tube sets (A) Battery (B) Electric.
- Class 6 - 4-Tubes or more (A) Battery (B) Electric.
- Class 7 - Wood cabinet and Mantel sets Pre-WWII (A) Upright (B) Horizontal.
- Class 8 - Cathedral Sets Pre-1940's. (A) Philco (B) Others.
- Class 9 - Speakers before 1930. (A) Horn (B) Cone.
- Class 10 - Advertising, Displays and Documentations of Radio, TV and Related Equipment.

Best Of Show - Receives the Grebe Trophy. John Keller & Don Myers, Co-Chairmen.

Console Radios and Juke Box Displays in the Lobby (Not to be judged).

For Room Reservations: (\$39 Single, \$45 Double) Contact the Holiday Inn, 2550 N. Michigan Ave., Plymouth, IN 46563. Write or call 219-936-4013 and mention IHRS/AWA for special rates above, not available on their 800 number.

Note: Advance Registration is \$4. Registration at the Door is \$5.

AWA, IHRS Members and Guests are welcome!
Ross Smith, General Chairman.

Purdue to loan historic TV set to media museum

The first all-electronic television receiver, developed by two Purdue University electrical engineering professors in the late 1920s, will be loaned indefinitely to the Museum of Broadcast Communications at 800 S. Wells St. in Chicago beginning Tuesday.

"The receiver paved the way for mass production of the television because less technical expertise was needed to operate the set," said Leslie A. Geddes, a professor of electrical engineering.

The receiver, shaped like a box, is 2½ feet on each side and weighs about 50 pounds, the Purdue News Service reported. It resembles a television set except the 7-inch circular screen is in the upper left corner.

Created by Roscoe George and Howard Heim, the receiver replaced the mechanical type in use in the 1920s. The Purdue receiver eliminated the synchronizing problem in earlier receivers and produced a less

distorted picture.

George and Heim also established a television station, W9XG, in late 1931 at Purdue. The station — with a broadcast range of 150 miles — operated until World War II.

During World War II, George and Heim were involved in a variety of research projects that were the beginning of modern electronics research at Purdue.

George was director of Purdue's first high-voltage laboratory and served on Purdue's faculty for 45 years, retiring in 1965. He died in 1975.

Heim was a test engineer for General Electric Co. and a substation engineer for the Nebraska Power Co. before coming to Purdue in 1929. He retired from Purdue in 1965 and died in 1976.

The George-Heim television receiver had been in storage at Purdue for the past 50 years. It was resurrected as part of the university's Electrical Engineering Centennial celebration in 1988.

President's Corner

Greetings fellow I.H.R.S. members! With this bulletin we are entering our Nineteenth year as an organization. If the February Meet is any indication, we are as strong as ever! Two hundred and twenty-five people attended the meet.

I was very impressed with the quality and variety of the radios that appeared in our contest. Equally impressive was the quantity and variety of radios at the Flea Market. The increased size of the room was appreciated by all. Bob and all his helpers put on a great show!

This was one of the few times that I have returned home from one of our meetings with none of the items that I brought. I did bring home an early nine tube superhet, however.

A short business meeting was held after lunch. A short discussion was held concerning a membership drive. It was noted that several new members and several former members have joined the organization since December.

The consensus seemed to be that while it was desirable to add members. We want to exercise some discretion. A motion was passed to include publicity as one of the duties of the Vice President. Also, two members were added to the Museum committee to look into possible locations for a new Indianapolis IHRS sponsored Museum.

Dates for two of the meets were firmed up. (Elsewhere in this Bulletin) Ross Smith reported that the Plymouth meet is coming along nicely. Remember to make your reservations soon for Plymouth! See you soon.

Eric.

The Scott News

Published Frequently at Chicago by

E. H. SCOTT RADIO LABORATORIES
Chicago

E. H. SCOTT, Editor

THE CUSTOMER IS ALWAYS FIRST!

During the past few weeks there has been a considerable amount of publicity given a new type of tube with a metal, instead of glass envelope.

Here at the Scott Laboratory I keep a very open mind on every new development, and my research laboratories investigate all of them as soon as they appear. When rumors first began to circulate about metal tubes some six months ago I was very much interested. About four months ago I received our first samples of them, and immediately built a number of experimental models for practical test. A careful analysis confirms the following points about metal tubes.



E. H. SCOTT

- 1—They are new.
- 2—They are more compact than glass tubes.
- 3—They are *partially* self-shielding.
- 4—They will enable manufacturers of radio receivers in the moderately priced class to design sets slightly smaller in size, and sell them to the public at a slightly lower price.
- 5—When manufacturing processes have been perfected, a slight decrease in cost of tubes can be expected, owing to the fact that about six metal covers can be stamped out for the same price it now costs to blow one glass cover.

The above, I believe, represents every possible advantage that can be claimed today for the use of metal tubes in a radio receiver. In my opinion, however, the disadvantages of metal tubes far outweigh the few advantages. I believe you will be interested in learning from someone, *not a tube manufacturer*, the other side of the metal tube picture.

(1) Tests on metal tubes used by us so far have shown that apparently the manufacture of them has not so far been perfected to the point where a large number of metal tubes can be manufactured with characteristics which are as uniform as the present highly developed glass type tubes.

(2) Operating temperature of several of the metal type tubes is extremely high. In fact, it is quite impossible to touch them *without seriously burning the fingers*, and so hot that a piece of solder placed on top of the tube can be melted in a short time.

(3) Metal tubes when used in *highly developed sensitive receivers are not completely self-shielding in themselves, but require an additional shield to cover the most sensitive part of the tube—the top grid cap*. The fact that such shielding is *not* necessary in some receivers, is rather conclusive proof that the degree of sensitivity of the receiver is not great.

(4) Metal tubes positively do *not* eliminate receiver noises on account of their shielding, as has been claimed in many descriptions of this tube in recent advertisements. At least 95% of the noise from a carefully designed radio receiver comes from static and electrical interference picked up by the antenna, *and this type of noise is not eliminated nor is it reduced any more with metal tubes than it is with our present type glass tubes*.

(5) Metal tubes do not improve the tonal reproduction, range, or power output. The most powerful metal output tube at present available is the 6F6. When four of these tubes are used as class AB, it is possible to secure 30 watts with 7% distortion, or when used as strict Class A, 10 watts with 2½% distortion. With four 2A3 glass type tubes we can secure over 40 watts Class AB, with 7% distortion, or 33 watts strict Class A with only 2½% distortion.

(6) They are *not* as revolutionary in performance as recent publicity releases and advertisements would lead one to expect but have exactly the same characteristics as the corresponding glass tubes. The principal difference, despite all claims to the contrary, between the metal and glass tubes, is the fact that one tube has a glass envelope, and the other metal; and the biggest asset of the metal tube to the radio industry today, is that it is something "new" to sell the public this Fall. Proof that every characteristic of the metal tube *can be duplicated in a glass tube*, is shown by a recent advertisement published by the RCA Radio-tron Company. One week the following paragraph appeared in their advertisements regarding metal tubes:

"RCA all metal tubes are not interchangeable with any glass type."

However, the following week this manufacturer published the following retraction:

"It has been called to our attention that at least one manufacturer is providing glass tubes with Octol bases and characteristics similar to those of RCA metal tubes. We, therefore, wish to withdraw our original statement."

This statement from the principal manufacturer of metal tubes proves quite clearly *that metal tubes are not quite so revolutionary as one might be lead to believe after reading the advertisements.*

That the radio industry as a whole is not "sold" on metal tubes is indicated by statements that have appeared during the past week regarding them from three of the largest manufacturers in the industry. One very prominent manufacturer has just announced "They (metal tubes) will be used in our cheaper models, but not in our higher priced ones." Still another says, "Metal tubes will be used in our better models, and glass tubes in the cheaper models"; another one, "You can get any of our models with either glass or metal tubes."

The question that naturally comes to one's mind is, "Why, if metal tubes are so revolutionary, and so great an improvement over glass tubes, are they not used exclusively by these manufacturers?" On the other hand, I believe it is equally significant that

the largest manufacturer of radio receivers in the world tested metal tubes several months ago, but is supplying all new models with glass tubes exclusively. Their engineering laboratory came to the same conclusion as my own, that is, *that the metal tubes at present offer no advantages over our present highly perfected glass envelope tubes.*

The information given above is an entirely unbiased analysis of metal tubes versus the glass tubes, for I have no axe to grind. It is just as easy for me to supply the new Scott Full Range High Fidelity Receiver with metal tubes as it is with the present highly developed glass tubes, and if my intensive laboratory tests of these tubes had proven that it was possible *to build a better receiver with them*, you would find them as standard equipment in my present receiver.

I will guarantee that the new Scott Full Range High Fidelity Receiver equipped with glass tubes will outperform any receiver equipped with metal tubes. You can purchase it with the distinct understanding you are to be allowed thirty days' trial in your own home to make a comparison test, should you desire, against any receiver equipped with metal tubes. If you can find a receiver equipped with metal tubes that gives better performance than the Scott Full Range High Fidelity Receiver, simply return the Scott any time within thirty days, and your money will be refunded. I don't believe there is a manufacturer of any receiver now using metal tubes that has enough confidence in the performance of his set to make a similar offer. After all, it's performance that counts.

At the Scott laboratories the customers interests always comes first. When the development of metal tubes has reached the point where they will enable me to build a better receiver than I can now build with the glass tubes, they will be immediately incorporated as a permanent part of the design of my receiver.



Lost or Stolen

On October 20, 1989 I ordered a radio transmitter made by John Meck Industries, in Plymouth, IN., from a gentleman living in Burbank, CA. In less than two weeks I received the transmitter.

In December he wrote and told me that he had found a similar transmitter made by Audar, Inc., in Argos, IN. I knew that Audar was a division of John Meck Industries so on December 11, I sent him a check for \$100.00 to pay for the transmitter and UPS.

I received a letter from him stating that he had shipped the transmitter on December 22, 1989. I waited and waited, but no transmitter. I called him in January and told him I had not received it. He said he would have UPS put a tracer on it.

About the third week in January a lady from UPS called to see if I had received the transmitter yet. When I told her that I hadn't she said that they would issue a check to cover my loss. I received that check on February 13, 1990.

I was glad to get the check, but really wanted the transmitter made by Audar, Inc., Argos, IN. It may be the only surviving one in the USA.

I've shipped and received packages by UPS for nearly 25 years and this is the first package that has been 'Lost or Stolen'.

James Fred

"Round Town Ramblers"

STRING BAND

Plymouth, Indiana

Live and Lively Music



Lane & Jennifer Laffoon
(219) 936 2747 or 936-9826

Mark & Liza Woolever
(219) 936 7410

Variety Acoustic Music
Folk • Country & Western • Hoedown • Irish
Country Dancing • Laught

To Deal, or Not to Deal . . .

When I visited a local antique mall recently, I noticed a very valuable radio on display. My interest was sparked, so I talked with the owner of the mall. He told me that the owner of the set was not there, but I could call him. When he told me the name of the person I was a little surprised.

The person selling the radio is an IHRS member. I believe this brings up interesting questions. Is this member a dealer? Is this member a speculator? Is this any different than holding a mail auction? Is this any different than sending out a monthly flyer listing radios for sale?

Nobody takes an oath not to sell radios when they become IHRS members. In fact radios are sold at each of our meets. Perhaps it is just a matter of keeping everything in perspective.

I have always believed that the majority of our members were collectors. I think the reason most of us collect radios is that we have a genuine interest in some aspect of radio. For some of us this means circuitry, uniqueness, or general good looks. Some collectors simply collect cabinets. They could care less what makes the radio work inside the cabinet. However, a common thread that ties this group together is the belief that a radio's value is in its beauty, historical significance, or rarity.

A speculator, on the other hand, only sees dollar signs when they look at a radio. A speculator uses his knowledge of the relative values of radios when deciding which radio to buy. He will pass up a radio that has a poor market value.

A speculator is like the grave robbers that broke into the Pyramids. They are hoping to find the Golden Sarcophagus. Anything they own may be bought. For this reason the original members of IHRS discouraged speculators.

Some of us that were too young to collect radios when it was a poor man's sport are finding it increasingly difficult. Many antique dealers have access to the antique radio classifieds. Often, the dealer will be convinced that a radio is valuable here in Indiana because they see an East Coast price in that publication.

As prices shoot through the roof, speculators are thrilled and collectors lament.

RADIO Broadcasting on a commercial basis began over half a century ago with KDKA, the Westinghouse station in Pittsburgh, and within a short time commercial stations began appearing in all major U.S. cities. Nearly all receivers at the time, however, were simple low sensitivity crystal sets, and most areas of the country were out of range of these new stations.

The answer to the problem obvious to us today: buy a more sensitive receiver and plug it in. But the receivers of that day didn't plug; they required storage battery power, and recharging these cost a dollar weekly when it could be done at all (equivalent to four times as much today). On the farms and in small towns, receiver operation on this basis was largely out of the question. Even in large cities, in fact, many homes were still lighted with gas; electric service was by no means universal as it is today.

quired less filament *current*, but not a whole lot less filament *power*. It was rumored that the bell-ringing '99 was far superior as an r.f. amplifier and this canard effectively killed the WD 11 as an experimenter's tube. WD 11 prices dropped sharply. RCA by its cross-licensing policies eliminated the nonsense of bring-back-the-dead-tube-and-we'll-sell-you-another and deserves a lot of credit for this. The great tube availability due to lower prices fostered technical development.

The '99 is still listed by a few suppliers, with the going price \$5.00; The WD 11 is exclusively in the hands of collectors, and the price is whatever you have to pay for it. (The tube which illustrates this article cost fifteen dollars.)

All of those pioneers involved in the development of the Westinghouse WD II have passed on, and there is next to nothing in print about it. In an effort to piece to-

The WD-11

BY J. K. BACH*

The New Low-Current-Filament Tube Marked A New Era In Radio Communications.

The answer to the problem came in 1922 when the long-since-forgotten WD 11 tube was developed and introduced by Westinghouse Lamp Co. Here was a tube whose filament could be lighted for weeks by a single Columbia #6 dry cell, costing thirty-five cents; a revolutionary achievement which opened up the whole country to broadcasting, and caused the emergence of an electronics technology country-wide. The WD 11 in its Aeriola Senior receiver and succeeding models changed the entertainment habits—and the thinking—of the nation. Metropolitan newspapers hired their own "experts" to conduct columns of advice and present building plans for receivers, functions soon taken over by the radio magazines.

The reign of the WD 11 as *the* dry-cell tube was short, only about three years. It was superseded by GE's UV 199, announced a year later than the WD 11, but which got off to a slower start. The '99 re-

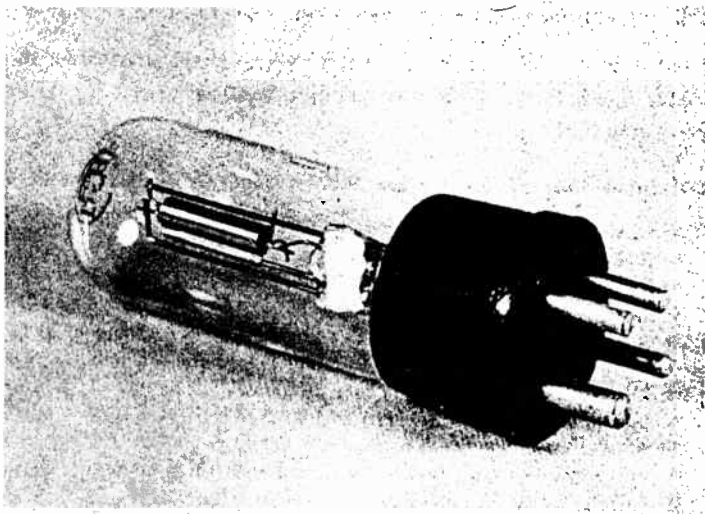
gether its history, I inquired of Westinghouse, which referred me to two retired employees, Lauren Peckham and Bruce Roloson. With their aid, which I gratefully acknowledge, it is possible to complete descriptions and trace developments and even hazard some inferences to fill in the gaps. This brief history of this revolutionary tube owes them a lot.

The concept of a small vacuum tube powered by a dry cell for portable equipment is due to Doctor Frank Conrad, of Westinghouse. The date was probably late in World War I, and the suggestion probably made to Signal Corps brass. At the time he had no thought of broadcasting, which he later initiated, and the development contract was given, not to Westinghouse, but to Western Electric.

Why Western? The reasons were not made public, but probably depended on the technical fact that the standard Tungsten filament could not be scaled down without reducing the emission to an impossible level.

*Ivy Hill Road, Walden, N.Y. 12586

A later version of the Westinghouse WD 11. Note that this tube uses a Bakelite base and has no evacuation tip visible at the top of the tube. The white "spot" at the center of the photo is not a highlight in the photo, but is the lime getter painted on the glass element support within the tube. Earlier versions used a brass base.



But Western had been using the Wehnelt (VAY-nelt) cathode in telephone repeater tubes since 1915—that's right, only nine years after the Audion was invented! These first tubes looked very much like the wartime VT-2. This cathode was a filament painted with a mixture of Barium and Strontium Nitrates, the same salts which produce the greens and crimsons in fireworks. In tubes they are reduced to oxides in processing. Such filaments are at least twice as efficient as Tungsten, operating at a dull red heat. They have high emissivity, are stable, and can have extremely long life.

The actual design for the new tube was undertaken by H. J. Van der Bijl (VAN der BEEL) of Western's tube department. He was already well known on the continent as a tube designer, and he had invented grid modulation.

He was a proponent of simplified tube construction, and so mounted the new elements between glass beads for bracing. (The standard construction was to fuse the element support wires in a re-entrant "mount" such as is used in lamp bulbs.) Van der Bijl inserted this assembly in a tiny tube with the exhaust tip on one end and an *external* press, like that on an NE 2, on the other. He felt that in such a small assembly the grid could be supported at only one end, provided that the wire be thick enough. Experimental tubes with this construction have not survived, but they must have been impossibly microphonic! In production, tube

elements were well braced at both ends. All tubes were microphonic then, except the VT-1 (also his design) but the new little tube was among the best (least microphonic) in this respect.

The filament was of Platinum/Iridium, only .002 inch in diameter, probably the smallest commercially-available wire. The Iridium had no function, though it was widely assumed to have. It was far cheaper to include it than to refine it out, and like Platinum, it was inert and did not poison emissive coatings.¹

Van der Bijl's little tube was the original "Peanut Tube" and not the UV 199, as is widely believed. It was assigned a whole list of names: VT-5, D-80039, 115-A, later 215-A, SC-201-A, Type N, and it used Western Electric 121 A or 125 A sockets.

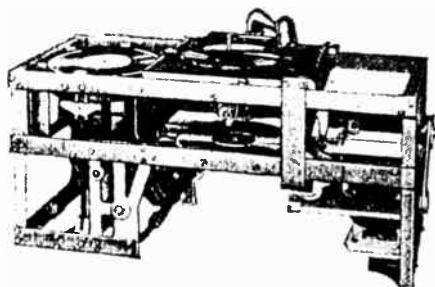
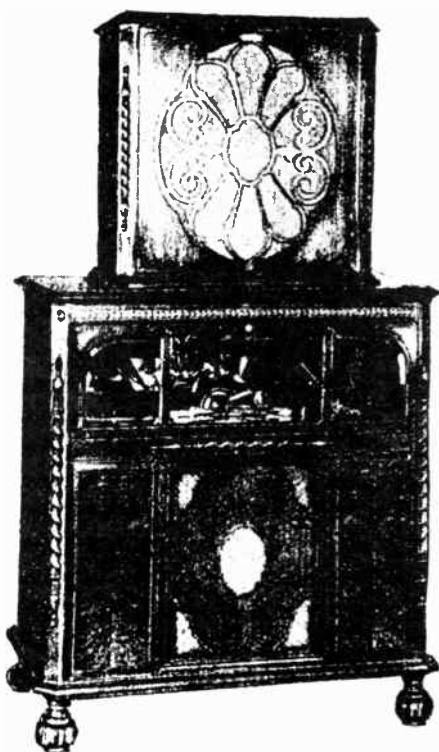
In 1921 when the design was licensed to Westinghouse (who at that time made only Tungsten-filament tubes) the company saw no reason to change the size of the grid wire, so that the elements of the Type N and the WD 11 were identical. Westing-

¹Platinum itself had, in 1900, been a waste product in the gold placer locations in the Colombia rivers. It was a nuisance; the miners called it Juan Blanco (John White). Some enterprising Columbians used the hard white metal from the tailings to counterfeit a popular Spanish gold coin, with a gold wash for color. These passed easily, since the workmanship was of high quality. These counterfeits are worth much more intrinsically than the genuine coins today.

Have You Heard This One?

Here's Some-
thing New in
Phonographs

A NEW model phonograph featuring a new departure in automatic record-changing has been put on the market by the Capehart Company. In some models the reproducing is augmented by three-stage amplification and dynamic speaker, which makes it feasible for outdoor entertainment. The records are en-



closed in cabinets on either side of the turntable and lifted by means of arms to the turntable and the tone-arm is lowered—all automatically.

The main advantage of this instrument seems to be its adaptability to

any problem where phonographs are to be used. The instrument is supplied with loud speaker built in cabinet or with external speaker, and this makes its use possible for both home and theatre. It is also interesting from the commercial point of view, for it may be adapted to coin-box control, and thus solves the problem of musical entertainment for the small confectionery shop-owner or for the proprietor of the small dance hall. It reproduces very well.

A SENSATION IN THE TALKING MACHINE WORLD

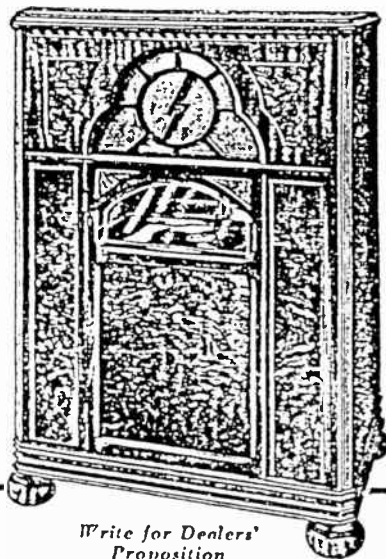
The **CONCERT-TROPE**
AUTOMATIC PHONOGRAPH

**A 'Sound' Investment
See Us At the Show**

[Booth No. D-62, Demonstrating Room]
in the Ambassador Hotel

Concert-Trope

1. Plays 64 selections continuously.
2. Changes records in 10 seconds.
3. More income per hour.
4. Highest quality units used throughout.



Concert-Trope

5. Finest tone qualities.
6. Positive action.
7. Extreme simplicity.
8. Few working parts.
9. Beautiful dignified design.

*Write for Dealers'
Proposition*

CONCERT-TROPE MANUFACTURING CORP.
Indianapolis, Ind.

SPEED IN CHANGING RECORDS MAKES MORE INCOME PER HOUR

Look-A-Likes!

On page 14 is shown a Capehart Company phonograph. Vintage unknown. Has any reader ever seen this model?

On page 15 is shown a Concert-Trope automatic phonograph. This advertisement came from Radio Retailing magazine of June, 1930. It was supplied by Alan Douglass.

I want you to notice several similarities between the two cabinets.

1. The legs are round with spindle carved designs.
2. Looking through the glass window you can see that both pickup arms look alike.

Many years ago I went to an auction sale at Steam Corners, IN. At that time I had never heard of Concert-Trope, but at that sale was an empty cabinet nearly identical to that of the Concert-trope. I was so intrigued by the cabinet that I bought it.

In the book, "From Tinfoil to Stereo", page 305, lower right corner, there is one sentence referring to the Concert-Trope, coin operated phonograph, made in Indianapolis, IN. Through old Indianapolis city directories, I found who the owners of the company were. By looking in a current Indianapolis phone book I found addresses of persons with the same names. The two that I was able to contact knew nothing of the Concert-Trope Manufacturing Co.

If any reader has information of this company please write to: James Fred, R. 1, Cutler, IN 46920.

house did, however, enlarge the tube considerably, provide it with a special push-pin base, the first in this country, and used its own development, the "Lime Getter" which was painted on the flat part of the stem to improve the vacuum. This can easily be seen in the photograph.

The original WD 11 had a tip, a brass base, clear bulb, and lime getter. Later tubes had a bakelite base and were tipless. Sometimes both lime getter, and metallic flashing were used together, but at last only the flashing ("Batalum" or Barium) was employed. It was the large grid wire common to the N tube and the WD 11 that persuaded me that there might be some connection between them, and led me to query Westinghouse. It is startling to see a lighted WD 11 or N for the first time in a dark room. The large grid wire reflects the glowing filament, so that it looks as if the grid were red-hot.

Some collectors want only to display their tubes; others insist on trying them, and I belong to the latter congregation. I bought a Radiola III (a later version of the Aeriola Senior, one of several) and the seller assured me that the tubes in it were for show, being no good. The first lit up like a VR-150 when plate voltage was applied in the tube tester. I switched to low plate voltage, applied normal drive (transmitting tube fashion) and heated the flashed deposit on the tube envelope with a cigarette lighter flame—very cautiously—as old timers used to do. It hardened up very well and is now OK, with no grid current and the rated G_m of 400. But even if it hadn't, I could have used it as a detector, or even as an audio amplifier with 15 v. or less on the plate. That's what we used on the sensitive UV 200, and even if it is a "transistor" voltage, it works better than you would think.

The other tube tested open, but the filament clamps appeared to be still under tension. I tried resoldering the filament prongs which sometimes works on old tubes, but didn't this time. I then gave the filament two or three short pulses of 2.5 volts, and as I had hoped, the clamps re-welded themselves and it lighted up fine with the normal 1.1 volts. It, too, tested OK. If it hadn't, I would have placed it in series with a 10 watt bulb across the 120 volt line. Ten watts does not figure to a quarter amp, but remember the surge current in the cold lamp filament.

The WD 12, like the UV series, is a Shaw-based WD 11 with a bayonet pin on the side. The WX 12 has a UX base, with long pins. The Western Electric 239 A is, curiously, a first cousin of the WX 12; which latter was itself derived from the old type N. The WE 231 D is much different; it is most like the '99 in ratings, but has a V filament, oxide coated. They are interchangeable, except that the 231 D has a higher transconductance and is less microphonic. RCA's 864 is a V-filament flat plate super WX 12, noted for its quietness. The filament glows so dimly that it is difficult to see, even in the dark. But the G_m is right up there. These are still available at reasonable prices, and will interchange with WD 11's and 12's in all applications. For instance, you could equip an Aerola or Radiola III with them by changing the socket.

The coming of the a.c.-powered tube slowed but did not stop battery tube development. Even smaller filaments were wanted, and pure nickel was finally drawn down to a thousandth of an inch. While the new filaments were vastly cheaper than Platinum, which by now was a precious metal, they didn't work very well.

In 1933 Westinghouse produced Konel, an alloy of Nickel, with Cobalt, Iron and Titanium. Its resistance was high, so it could be used in larger gauge, with increased emission. It made the type '30 a resounding success, and several families of new tubes used it.

The N survived in the Telephone Company until about 1940, the longest span of any tube type. Similarly, that old revolutionary, the WD 11, could still compete with much younger triodes in operating characteristics except that it had been phased out in the '30's.

Probably no tube can stand up to Solid State of the Art, but will any Transistor be collected at some future date, and valued as these old tubes are today? I wonder. ■

Peter Kailus, 85, Western Springs, Illinois, died in November. He was an EE graduate of Lewis and an alumni of ITT. He belonged to ARRL, DeForest Pioneers, and was a member of IHRS for 16 years. Kailus had been employed by DeForest, Western Electric, RCA and was retired from ATT for 15 years. Kailus was interested in early wireless, broadcasting, tubes, and equipment; he had been collecting since the 20s and had one of the most complete collections of vacuum and DeForest tubes.

Mr. Kailus is survived by his wife of 57 years, one son, and three grandchildren.

John H. Bayse, Cartersburg, Indiana died in January. He had been affiliated with and a service man for H. R. Mills Co. and Montgomery Ward in Clinton and Terre Haute, respectively. Bayse collected and restored early receivers and equipment. He joined IHRS in 1989.

Indiana Historical Radio Society's Members extend their sympathy to the families of John Bayse and Peter Kailus.

A Book Review

I recently received a new publication titled "1990 Price Guide to Vintage TV's, 1935 to 1960 plus Catalin, Novelty, and Mirror radios, 1935 to 1950's". This very interesting book was written by Harry Poster and John Sakas.

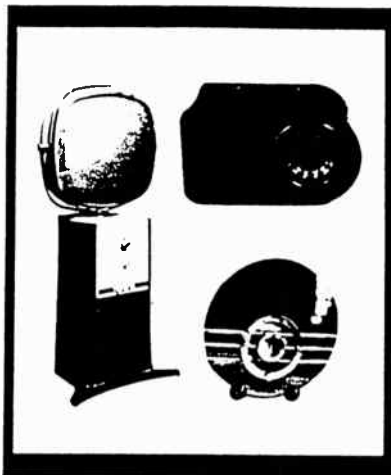
Over 325 vintage TV's are described and priced; and over 225 collectible radios and their variations are given and priced.

The prices were quite a revelation to me since I have no knowledge of which TV's are important to collectors.

The book may be purchased for \$10.00, prepaid by mail from Sight Sound style, P. O. Box 2224 South Hackensack, NJ 07606 or by calling 201-794-9606.

1990 PRICE GUIDE

\$10. USA



VINTAGE TV's, 1935 - 1960's
— plus —
CATALIN, NOVELTY and MIRROR
RADIOS, 1935 - 1950's

RADIO ADS

WANTED: Hallicrafters S-76, SX122-A, Collins 51J-4, have Breting 12 for sale or trade. Jerry Beaudin, P. O. Box 146, Curtis, MI 49820, 906-586-3021.

NEEDED: Wiring diagram/chassis schematic for all 1927/28 Ward's AIRLINE superhet receivers. Send information to Robert Boots, P. O. Box 4, Ladoga, IN 47954, 317-942-2479.

FOR SALE: Nice Zenith curved front console, Grundig-Majestic, several Zenith plastics plus a poor Majestic cathedral. R. E. Eriksson, 530 Brummitt Pkwy., Chesterton, IN 46304, 219-926-1459. Submitted by George Hauske.

WANTED: A CBS color wheel and related electronic chassis, was built in Columbus, IN. Robert E. Lozier Jr., 600 E. Green St., Monroe, NC 28110.

FOR SALE: Best offer during second week after adv. is read. Stromberg radio receiver #430M, 8 push buttons, equipped with acoustical labyrinth, console cabinet, needs refinished, grill cloth good, has been in storage for a number of years. Radio is at The American Legion new Indianapolis Post 4. Condition of radio is unknown. Contact Sterling Gossett for viewing at 317-359-0208. Radio is in Indianapolis, 10th and Arlington area.

WINTER MEET

The IHRS held its annual winter meet on February 17, 1990 at the Holiday Inn Southeast, Indianapolis, IN. The weather was nasty in the morning so the Flea Market was moved inside. By 3:00 p.m. the sun was shining for our trip home. I would say that this was typical winter weather for Indiana.

225 collectors registered with 70 members having lunch together.

After lunch the business meeting was called to order. The treasurer reported that we had gained 25 new members since the December Bulletin.

Firm meeting dates for 1990 were announced as follows:

1. May 4 and 5, the really "Big One" at Plymouth, IN. See the program elsewhere in Bulletin. This is a new location for the Spring Meet. In other years it has been held in Lafayette, Auburn and Fort Wayne, IN.
2. August 18, at Don and Marilyn Johnston's home near Windfall, IN.
3. October 6, Walt Sanders will host a meet in a park in Terre Haute, IN.

Further business was conducted (reported elsewhere in Bulletin) and the meeting was adjourned by the President, Eric Sanders.

The winners of the most popular radio contest at our February meet was:

1. Martian Beauty, Grady Richards.
2. Sparton Blue Mirror, Peter Yanczer.

The women of the IHRS would like to get together during the May meet. If you have a craft or skill you would like to share, or a product to sell, please bring it. We already have a person to demonstrate egg decorating and one who makes candles from antique cut glass molds. If you need a table for display please let Lucy Anne Miller know. Write her at 29846 County Road 190, Fresno, OH 43824.

Members who have equipment in the A-C-D-Museum may pick up their items any time through June this year. Contact Ross Smith or John Foell for details.

Will members who have items in the Museum please send me a copy of your list so that we make an orderly check-out. Also when you are ready to pick up the items, please contact the registrar, Mary Lanoue, at 219-925-1444 and let her know when you will be there.

Glen Fitch is now a member of the Museum Committee and will persue opportunities in the Indianapolis area. We are also contacting the Association of Indiana Museums.

Ross Smith
1133 Strong Ave.
Elkhart, IN 46514
Ph.219-295-7770

Radio Ads

Want List

Cover or entire cabinet for a Radiola II
Cover for an AK 36 Power Supply 5''x10''x $\frac{3}{4}$ ''
Panel for a Kennedy 20 or 22 Receiver
Binding Post Knob for a Grebe 8, 9 or Rork
RF coils for AK Breadboard
Cans for or entire condenser units for AK Breadboard
TA covers or entire TA units for AK 10 and AK 12
Breadboards
Tube covers for Nuetrowound Receiver
Small knobs for Kennedy V (fine tuning knob and
tube control knob).

If you have any of these items for sale or trade, please let me know. Richard Bury, P. O. B. 25, Gurnee, IL 60031. Phone 708-623-7746.

For Sale

Dial Belts - - will bring to Plymouth, Indiana in May. Bring the make and model number for belt you need. Don K. Johnston, R. 1, Box 218A, Windfall, Indiana 46076-9706 (317/945-7735).

Wanted

Magnetic Coil Winding Machine - the type made by the Geo. Stevens Mfg. Co. Can be either cam or gear driven. Contact: Dan Healy, P. O. B. 764, Woodacre CA 94973 (415) 488-4596.

Want to operate that neat old Zenith Transoceanic or other suitcase portable without being tied to a line cord? Just install a PORTA-POWER converter. You'll be surprised how good that radio will sound. Those were good sets! PORTA-POWER works on any radio with 1.4 volt tubes. Fits in the battery compartment with six "D" cells supplying all the power the radio needs. You can even use it in more than one set. Works on farm radios too. Order the CVA-1 for sets requiring a 1.5v "A" battery and the CVA-9 for all others. Only \$89.95 plus 3.50 UPS. Guaranteed. Order from Peter Yanczer, 835 Bricken, St. Louis, MO 63122, What are you waiting for?

IHRS/AWA SPRING MEET RESERVATION - MAY 4 & 5, 1990 at PLYMOUTH, IN.

Mail check and form (checks to IHRS) to: MARILYN B. JOHNSTON, RR-1,
Box 218A, WINDFALL, IN 46076

Banquet reservations must be received by April 28 (Prepaid).

	NUMBER	AMOUNT
MEMBER REGISTRATIONS (Includes Spouse)*	—	\$4.00
ADULT GUEST REGISTRATIONS @\$4 each *		
BANQUET RESERVATIONS @\$12 each		
TOTAL ENCLOSED		

* Please include names for badges

NAME _____ STREET _____ APT. _____

CITY _____ STATE _____ ZIP _____