

The BULLETIN A publication of the Indiana Historical Radio Society Forty-four years of documenting early radio.

# The Indiana Historical Radio Society Bulletin September 2015



*On the cover:* The Popular Vote contest entries at the IHRS Cool Creek Spring Meet were few but rare and of high quality. The 'works' of the contest entries provide the cover picture. The picture above points to a unique feature of each receiver, the chassis or tube. Starting on page 6 of this issue, the IHRS members who submitted the contest entry provide a brief description of their radio. On page 2 of this issue, IHRS President Dave Mantor reviews the contributions of IHRS members and looks forward to his ongoing research of Sylvania.

Ed Dupart, on page 14, tackles a blown power transformer problem, a problem many of us would consider a lost cause, with his repair of a tube tester.

Take note of two events, in addition to our Fall Meet on October 10 in Greenfield - a first ever swap meet at the Early Television Museum in Hilliard, Ohio on October 3, and a Glenn Fitch auction of radios and radio parts on October 17.

See you at Greenfield for sure! Fred Prohl, Bulletin Editor

## From Your President's Keyboard



"Doing Your Homework-1946"

Greetings everyone,

Welcome again to the pages of IHRS's The Bulletin. I always look forward to see what our editor has compiled within its contents, and I enjoy reading what different members are sharing with their projects.

I read with interest Jeremy Schotter's article on restoring his Clinton "Plant A" radio. His article was very detailed, included great pictures and certainly a wealth of background information on his project was . I liked his before, during and after shots as well as his tube voltage table. Folks, it's articles like Jeremy and Ed Dupart provide that make our quarterly publication such a good one. Of course, it comes together the way it does because of Fred's expertise of "editorship."

Thanks to those of you who do write articles for The Bulletin. However, I'm sure there are others who are capable of writing good material for use in our quarterly. Please consider doing an article. We have many craftsmen, and craftswomen, within the club who probably have an idea for an article. Jump in there and prepare. If you need help on editing, I'm sure Ed Dupart, Fred or myself would be glad to look over your article for sentence structure and grammar usage or whatever else you have to offer. We all would like to read what you have.

The greatest facet of any club or organization is its members. Every single one of you is important, and the club's officers appreciate you. I would like to encourage the club's membership to be faithful in paying their dues and supporting the meets. We had 2 new locations this year, and I did not see any of the usual glitches that can plague anything new. We had to move with haste with the transition of the Kokomo meet to the Kokomo Shrine Club building, thanks to Don Yost's quick perception of the motel's demise. It was great! Mike Feldt set up the new location

#### President's Keyboard continued

for the summer meet at the beautiful Cool Creek Park Nature Center in Carmel. It was great! Many thanks to both Don and Mike for their work in establishing what could end up as 2 new meet sites that we may very well reserve again. We will try to fine tune the directions around the roundabouts so as to make getting into Cool Creek easier.

So. how did the aforementioned details come about? It's because of our members. It's fortunate in that IHRS has a great membership, not just centrally located but with a widespread influence over a number of counties and states. This does come with a measure of responsibility however. When we deal with non-club folks and we proclaim our affiliation with IHRS, then we need to realize that those we're dealing with will associate any positive or negative actions they see in us with IHRS. It's important that we remember the old adage that "our actions speak louder than our words." Good hunting to you as you seek out the interesting and rare – it's fun.

Little by little, I'm finding interesting items that have to do with Sylvania. Their advertising budget must have been exceptionally large as there is a huge amount of advertising to choose from. I'm hoping to soon have a Sylvania display at one of our meets, complete with service manuals and radios. It's hard to concentrate just on Sylvania when I go to a meet where other neat and "begging-to-gohome-with-me" items show themselves. One of these days, I'm going to have to reverse the process. But for now, I'm having fun. Dave



### On Saturday, October 10, 2015 the Indiana Historical Radio Society and the Hoosier Antique Phonograph Society will meet at the Riley Park Shelter, Greenfield

The Riley Park Shelter is located one block north of US 40 on Apple Street, Greenfield. Radio Swap space is available inside and outside the shelter building.

General admission is free. Swap N Sell vendor fee is \$15.00 for current members of the Indiana Historical Radio Society and \$20.00 for nonmembers.

#### Schedule of events:

7:00 AM Set up Swap N Sell of vintage radio equipment.
Set up indoors or out in the parking lot, first come first serve.
8:00 AM The IHRS Fall Foliage Meet officially begins
9:00 AM Popular Vote Contest entries in place Contest categories—1. Radio to 1929

2. Post WWII Tube Radios

# 11:00 AM Lunch – If you are able, bring a dish to share along with IHRS provided lunch meat service.

Questions? Contact an IHRS Officer. The Officers are listed on page 23 of this Bulletin . Or check indianahistoricalradio.org



## Kodel Goldstar ca 1924 – Ed Dupart

This is a radio that a friend gave to me years ago and at that time I knew it was rare and is the only one I have ever seen, other than in pictures. It is a three tube reflex radio that would be similar to a Crosley Trirdyn. I have not done anything to this radio other than keep it clean. Kodel was located in Cincinnati, Ohio and was noted for building power supplies and microphones. They bought 8XB/WMH in 1925 and became WKRC in Cincinnati, KRC-Kodel Radio Corporation. The little research I have done, it appears they are still in business and based out of New York.





The three tube Kodel is similar to the Crosley Trirdyne

An interesting bonus in Ed's Kodel is the HE-MO-JO 01A tube. The HE is for hardware store co-owner Henkle and the JO for Joyce. An internat search in an effort to find out what the MO represents only yielded that HE-MO-JO is a brand associated with the Henkle and Joyce Hardware store, indicating that other items in addition to the tube are labled HE-MO-JO. What I did learn is the second generation owner of the Hardware store, Richard O Joyce, flew with the Dolittle Raiders, April 18,1942. Editor



# Isofarad Battery Set-Michael Feldt





#### World Radio History

## Majestic 130 — Bill Morris

The 1939 Majestic 130 was the smallest superhet portable that could be built using then-standard sized components. It used three tubes: a 1a5, 1n5 and a 1D8 combination detector/output tube.The entire assembly was powered by proprietary A and B batteries.

After the war, a couple of manufacturers made replacements for only a couple more years. By that time, manufacturers were using the 67.5v A batterypower combination.

For my sets, reproduction batteries have been created to look and work just like the originals. The A battery uses a single C cell; the B uses six 9 volt transistor radio batteries.

The brown model (top picture) is supposedly from Robert Young's estate. The red one is the product of three 130 parts radios assembled to make one complete set.

Check batterymaker 1939 Majestic 130 'camera' portable radio on YouTube for a nicely produced review of the radio. One of Bill's many talents—YouTube videos.





Inside the Majestic 130 (note the Majestic battery)

> The red 'parts' Majestic 130 with the antenna (back) up.

World Radio History

### Detrola (Monarch) 104-Ed Dupart

Detrola 104 4 tube TRF with the low-band short-wave. I like radios with small round dials so I picked this up at the Elkhart meet in 2003 and restored it the following week. I used all enamel finishes on this, with wet sanding and steel wooling between coats, and I tried to get the coloration as close to the original as possible. The only thing left for me to do is to get the correct toning around the knobs and I might replace the grill cloth, but it looks pretty good the way it is. There was a piece of veneer missing, but I'll let you try and find where I replaced it. *Ed Dupart* 





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### 1938 RCA 811T-Michael Feldt



1938 RCA 811T is a multiband receiver with push button control of fidelity and station selection.

A "Know Your Radio" quiz—Identify the station geographic location (city) of the call letters listed on the 811T:

> WLW WBH WBBM WLS WXLW WIBC WHDE WXNT



As an example of: "It's the inside that counts!" the chassis of the RCA 811T shows radio construction just prior to WWII. Not readily shown in the picture is the like new appearance of the chassis. *Editor* 

## The Multivalve Baby Emerson by Bob Sands

Bob Sands' Baby Emerson appeared in the IHRS 2015 Spring Meet Old Equipment Contest and more recently in the Antique Radio Club Of Illinois contest where it won first place. The unique tube in the 'Baby Emerson' makes the receiver a fitting topic for "It's the inside that counts!".

This " Baby Emerson", manufactured by Clapp-Eastham in 1927, is a one tube set that can drive a loudspeaker due to it using a rather unique tube - one of the earliest commercially available multiple valve assemblies constructed in one envelope - a triple triode with a common filament (acturally three filaments in series). The tube is called the 'Emerson Multivalve' (not to be confused the the Emerson Radio and Phonograph Co.) and was only made for a couple years around 1926-27 by the Clearton Vacuum Tube Company under the 'Emerson Radval Corp.' name, whose premises was back-to-



back with the Clapp-Eastham rado factory in New York. This tube is also mentioned in 'The Saga of the Vacuum Tube' by G. F. J. Tyne.

As vacuum tube technology advanced, the number of tube types that had two or more functional tubes in the same glass envelope became quite common. But surprisingly enough, the use of multipleelement tubes began quite early. Two sets using the multivalve tube seem to be the only ones manufactured in the early days of radio – the Clapp-Eastham Baby Emerson and the Standardyne Multivalve. This compact radio measurers 12" wide X 8<sup>1/4</sup>" high X 9<sup>1/2</sup> " deep at the base. The sloping front panel re-



sults in a smaller top dimension of 7<sup>3/4</sup>" deep. Of course, the use of the Multivalve tube contributes to the radio's small size, but the set's designers went one more step by making it a reflexed TRF. In a reflex circuit the audio signal is fed back through an RF stage to obtain additional amplification. The use of a reflex circuit was used sometimes in very compact radios because it produced more amplification without the need to add another tube to the radio. The receiver is very simple: the antenna is inductively-couple to the coil of a parallel-tuned RF circuit feeding the first triode (G3) as a grid leak detector. The plate circuit of this stage is inductively coupled at audio frequency to the grid (G1) of the second tride at the first stage, the plate of which is capacitive coupled to the grid (G2) of the third triode, the coil of the horn speaker forming its anode load. Volume control is effected by a grounded series-tuned circuit inductively couple to the main tuned circuit coil. The 'Filament' control adjusts the filament voltage via a 20-ohm rheostat. The set requires a 6V at 0.25A supply for the filaments (adjusted to provide 5V via the rheostat), 45V for the detector stage and 90V for the two audio stages. Apart from the tube, ther are only 10 components in the radio.

Radios designed to use a multiple-element tube had a number of advantages. By eliminating two tubes, the cabinet could be made



The tube's base is a modification of the UX-style, 4 pin base used for the Type 01-A and other similar tubes. A Bakelite ring, containing four binding posts, is mounted at the top of the base. The binding posts are used to make electrical connections to grids 1 and 2 and plates 1 and 2 (G1, G2, P1, & P2). The four pins in the base are configured like an 01-A - - two large pins for the filament (F- and F+) and two small pins for grid and plate connections (G3 & P3). A schematic of the base configuration is shown in the above drawing. The Emerson Multivalve has the same filament rating as the Type 01-A - - 5.0 volts at 0.250 amperes.

much smaller. Also the A-battery drain was lower – the Multivalve's filament operated on one-third of the current required for three Type 01-A tubes. The lower current requirement meant that the radio could be operated from dry cells as well as from a storage battery. From a cost standpoint, the Multivalve had only a marginal advantage at best. The Multivalve sold for \$6.50 when 01-A tubes were selling in the \$2 to \$2.50 range. However, use of the Multivalve permitted the elimination of two tube sockets which resulted in a lower cost for material. Why then

did the Multivalve radios have such a short marketing life? Perhaps sales volume was not adequate to cover the start-up costs. Even though these radios were not a commercial success, the idea of multiple element tubes did not die. In 1933, the Type 19 twin-triode tube came on the market. The Type 19 is a twin-power triode with a 6 pin base. These tubes were followed by more twin triodes, triodes with two diodes, tiodes with pentodes, and on and The multiple-element tube on. wasn't such a bad idea after all. Bob Sands



# The Superior Tube Tester TW-11 and a Bad Power Transformer By Edward Dupart



My favorite go-no-go tube tester has been the Superior TW-11 emission tester. It's easy to use with a minimum of switches and knobs to deal with. While not as accurate as my Hickock it's good enough for radio tubes that aren't that critical and it will check tubes from the early 1920's to about 1960. Earlier this summer I decided to test some transmitter tubes to take to the Cool Creek meet and while the Superior did test them, the filament/heater current is higher than most radio tubes and put a stress on the power transformer that I didn't realize at the time. Some time later I needed to test some 6V6's and 6F6's and in the process I heard that familiar sizzling of a transformer going bad and the next thing was the smell. I knew then that my favorite tube tester just blew a power transformer and so now I was left with my Sencore tester which will check the later tubes such as, Novars, Nuvisters and Compactrons and the cumbersome, but accurate, Hickock.

So now the search was on for a replacement transformer. I checked the Internet to no avail. I didn't want to buy another tester, so what I really needed was a junk tester with a good transformer and

wouldn't you know it, I got rid of one last year. John Den Hartigh heard of my plight and he had a junk Eico 625 that I could have that didn't work. I was happy to get it and I was hoping I could make the transformer work. When I got it home I opened it up and saw it was complete except for a couple of missing knobs and a pilot light, so I plugged it in and yep, it didn't work. With a little cleaning I got the Eico 625 working again and now a new dilemma occurred, do I still take the Eico apart or use it for parts? The Eico 625 is a common tester so parts it will become and John wanted the carcass back, which is good, because it would be one less piece of junk I have to store around here.



The question now is, will the Eico transformer work? The Eico is a better and bigger transformer, but can I make it fit into the smaller Superior tube tester and can I make it work electrically? The Eico transformer was longer, wider and taller and so I did a lot of measuring. So I measured the space in the Superior and I decided it would fit if I put it in on an angle and do some grinding on the wood cabinet to allow for the ¼" of extra height. It looks like I can wiggle it into the Superior.



**EICO** replacement power transformer

Now to compare them electrically and see what modifications that will be needed to make the Eico transformer work in place of the Superior transformer. The first step is to dig out my manuals and copy the schematics so I can put them side by side to make comparisons. When I did this I made a list of differences and similarities.

 As stated earlier the Eico transformer is bigger which means it can handle more current and that is desirable.

- 2. The Eico has a separate primary, which gives isolation from the input AC line.
- The Superior's primary is built into the secondary making it an autotransformer.
- 4. The Eico uses a potentiometer to adjust the input line voltage, which is better.
- 5. The Superior uses a switch to adjust for variations in the input line voltage, high or low.
- 6. Both have a 250-volt winding.
- Both have the same filament voltages and not all tube testers do, so I was fortunate that this was the same, but...
- 8. The Eico applies 25 volts to the 19 volt tubes and...
- 9. The Superior applies 25 volts to the 35-volt tubes.
- 10. The Superior schematic showed the colors of the wires and the Eico schematic did not.
- 11. The Eico has pilot lights and the Superior does not, so this is not a problem at all.

After making these comparisons I decided I can make the Eico transformer work and so this is what I did.

I studied the filament switches in both testers and using an ohm meter I made sure which terminal was the .75-volt terminal and which one is the 110/117 volt ter-

minal. Then I cut the wires in the Superior tester leaving a little bit of the wire on the terminal with the insulation so if I needed to identify that wire I could with the Superior schematic. After I cut the wires I the Superior's transremoved former. Then using transparent Scotch tape, the kind you can write on I would label all the wires on the Fico transformer with their prospective filament and primary voltage. I cut the wires on the Eico transformer leaving them as long as possible and then I removed the transformer. With the Superior's transformer gone I could now wiggle the Eico transformer into the Superior and see where I would have to drill a new hole. Everything was so tight I only needed to drill one hole and besides the transformer would rest on the cabinet bottom helping to keep it



A Dremmel grinding bit was used to make room in the lid for the new transformer.

in place. I drilled the one hole and mounted the transformer and then put it in the cabinet and determined where to grind out a slot in the cabinet bottom for the top of the transformer to fit in which



would take care of the extra height of the Eico transformer. The Dremmel tool with a grinding stone on it did a great job and at the same time I used a vacuum cleaner, turned on, to suck up the sawdust as I went along and this enabled me to see how far down I was grinding. I didn't want to grind through the cabinet. Now to see how everything fits and everything did fit back into the cabinet nicely and I screwed down the panel with no bending of the panel, so physically it looks fine and the extra screw head isn't a detraction.

Electrically this is what I had to do: My first step was to solder all the filament wires and the 250volt wire back in place and make sure they got onto the right terminal. I sure wouldn't want the 110volt winding hooked to the 5-volt winding! Goodbye 01A's and 5Y3's! The Eico transformer had a

#### Superior Tube Tester Repair - continued

separate winding for the 33/35-volt tubes so I had to cut the wire on the Superior switch that tied the 25 and 35 terminals together. Then I soldered the 25-volt winding to the 25-volt terminal and soldered the 35-volt winding to the 35-volt terminal, so this was an easy modification to make. The Superior transformer had a separate winding for the 19-volt filaments, but the Eico did not. It fed 25 volts to the 19volt filament and I thought that was too much, so I put in a dropping resistor from the 25-volt terminal to the 19-volt terminal. For the .15 amp filament of a 19T8 I would need 40 ohms and for a .6 amp filament of a 19AU4 I would need a 10-ohm resistor, so I compromised and put in a 5 watt 15 ohm resistor. The filament wires are now completed.

The primaries on these two transformers are different, the Eico used a separate primary winding, which I like and the Superior used an autotransformer arrangement which is cheaper and a cost effective way of doing it and it worked well. For my conversion I had to remove the wire that connected the AC line to the bottom of the Superior's winding, the common or black wire terminal. Then I removed the wire that ran from the AC line to the 117-volt terminal that on the Superior transformer served a dual function of AC in 18

and as the 117-volt filament supply. The last step is hooking up the power cord and the High/Low switch. One side of the AC line cord went directly to the bottom side of the AC primary and the other side of the cord went to the High/Low switch where it went originally. On the Eico schematic you will see the primary has two wires, one labeled 125-volts and the other labeled 100-volts that go across a potentiometer to adjust the input line voltage, which is a nice arrangement. To duplicate that on the Superior tester I would have to drill out the rivets that hold the High/Low switch in place and I would have to drill a hole for the potentiometer. All changes that I didn't want to do. So, what I did was solder the 125-volt wire to the high voltage terminal on the High/ Low switch and the 100-volt wire to the low voltage terminal on the High/Low switch and that worked. While I was at it I replaced the .01mfd capacitor with a 1400volt ceramic unit and checked the resistors. Well, the transformer is in and hooked up.

Now to test it. I took a bad 80 tube and busted it all up with a rag wrapped around it and cleared the base of all glass and unsoldered the wires. Then I soldered in new color coded wires, blue for plate, green for the grid and brown and black for the filaments. I plugged it into the tube tester and turned it



on with a meter hooked up to the filament wires. This enabled me to measure the filament voltages for all the filament positions to make sure the transformer was hooked up right and it was. Whew! That was a relief! There were about 20 wires on these transformers! Now to test the short light, so I touched the grid and plate wires together and sure enough the short light came on and that made me happy. At this point I figured I could actually test a tube and so I lined up a 42, 6A7, 6Q7, 24A, 27, 80 and a few had ones that I knew were had and a host of others and it worked flawlessly. I now have my favorite tube tester back and up and running. Ed Dupart - September 9, 2015



#### IHRS Summer Meet-Cool Creek Nature Center



Marsha Moses joined her family to sell some of the Lou Moses vintage radio collection.

Ed Dupart talks vintage radio with a visitor to the Cool Creek Nature Center.



Bob Pote and Pete Nausada chat about the great weather for an IHRS Swap Meet.

Ed Dupart (left) and Bill Morris (center) receive Menards' gift cards from IHRS President Dave Mantor. The cards were given as an award for their prize winning Crystal Radio contest entries at the IHRS Spring 2015 Meet.



# - 2015 Regional Vintage Radio -

Indiana Historical Radio Society Fall Swap Meet, October 10 — Riley Park Shelter, Greenfield, Indiana See page 5 of this Bulletin for information indianahistoricalradio.org

> Mid-South Antique Radio Club MSARC Meet information contact: <u>layvinrad@twc.com</u>

Antique Radio Club of Illinois <u>www.antique-radios.org</u> October 4–Swap Meet, Carol Stream December 6–Indoor Swap Meet, Carol Stream

Michigan Antique Radio Club www.michiganantiqueradio.org

**CARS-Cincinnati Antique Radio Society** Info. at oltubes@roadrunner.com or Bob Sands 513-858-1755

> Dayton Antique Radio Club (SPARK) Contacts Ed App 937-865-0982

Central Ohio Antique Radio Association – COARA Info. at http://coara.org for event schedule.

AWA-Antique Wireless Association www.antiquewireless.org

ETM Early Television Museum Swap Meet October 3 (see next page for information)

# AUCTION OF VINTAGE RADIO

On Saturday, October 17, 2015, IHRS member Glenn Fitch will auction some of his vintage radios, radio parts, and related electronics. The auction will take place at 5995 850 North, Carthage, Indiana. Start time is 10:00AM Steve Sandford is the auctioneer. Check the <u>Steve Sandford Auctioneer</u> website for details and pictures.



#### Submit your "FREE TO CURRENT MEMBER" RadioAd by the 15th of February, May, August, or November in time for the Bulletin issue that follows.

Wanted: To complete a restoration l need the battery compartment cover panel (which has the paper label on the inside) for the Zenith Transoceanic Royal 7000-1 portable radio. Just the cover panel with the captive fastening screw, not the entire radio back, although that would be OK too. So please check your parts sets for this panel. Please contact me at <u>prisoner2@mindspring.com</u>. Thank You, Harry Synovetz. 09/15

**Wanted:** I'm looking for any information, history details, advertisements, parts, complete or partial units, photographs and/or manuals on the BC-610i military transmitter used by the United Forces in WWII. Please contact me at <u>dmj.mantor@gmail.com</u> or 765-618-8342 (before 7 p,m.). Many thanks, Dave Mantor

**For Sale:** REPRODUCTION RADIO BATTERIES: I've developed replica battery solutions for most tube and transistor radios--batteries that have not been available for nearly thirty years. They look, they feel and they work--just like the originals! Plus, they are a reusable resource. Inside are holders for AA, C, D and 9-volt batteries. When the batteries wear out, simply remove them and install new ones. Contact Bill Morris at <u>batterymaker@gmail.com</u> or at 317-895-1334. *12/14* 

# Early Television Museum First Annual ETM Swapmeet - October 3 5369 Franklin St., Hillard, Ohio 43026

Swap meet starts at 8, goes until whenever. We will have refreshments and lunch. Lots of surplus museum sets (nothing exotic) will be for sale - best offer. Mechanical, prewar, postwar black and white, and early color sets will be demonstrated. Tours of the CRT rebuilding facility. For those staying Saturday evening, we will have dinner reservations at a local restaurant. \$20 per table for sellers. www.earlytelevision.org



#### 2015 Officers

#### **Responsibilities**

Activities, business, administration, & publicity

David Mantor President P. O. Box 1 Fairmount, Indiana 46928 (765) 618-8342 before 7pm Indiana time email dmjmantor@gmail.com

<u>Michael Feldt, Vice President</u> 12035 Somerset Way, East Carmeł, Indiana 46033 (317) 844-0635 email: feldtm@msn.com

Sites and dates of meets

Don Yost, Treasurer 3814 E 400 N Windfall, Indiana 46076 (765) 945-7014 email: dearsir@netscape.com

<u>Dues</u>, financial, and address change. Please notify <u>immediately of change of address</u>.

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News articles, radio ads, photos for Bulletin publication Maintain indianahistoricalradio.org

Donations & scrapbook material

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**Bulletin Deadlines:** News, Articles & Radio Ads, 2/15, 5/15, 8/15, 11/15 **IHRS Web site address:** <u>www.indianahistoricalradio.org</u>

The INDIANA HISTORICAL RADIO SOCIETY is a non-profit organization founded in 1971. Annual membership dues of \$15.00 includes the quarterly IHRS "BULLETIN." Radio-Ads are free to all members. Please include an S.A.S.E. when requesting information. Send applications for membership and renewals to Don Yost, our treasurer as noted above.

The BULLETIN A publication of the Indiana Historical Radio Society Forty-four years of documenting early radio.



## "Radio Fun" December 24, 1938

"Radio Fun" was a British comic paper that ran from 1938 to 1961, The format of the humorous strip was to pack in as many gags and slapstick situations as possible, The comic mainly featured comic strip versions of radio and film stars. Roy Wilson is is the illustrator for "George, the Jolly Gee-Gee". (*Wikipedia*)