

The  
Indiana  
Historical  
Radio Society

**BULLETIN**

Volume 39

June 2010

Number 2

*Grandpa's New Radio*





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News Articles, Radio Ads, Photos  
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Donations & Scrapbook Material

**Bulletin Deadlines:** News, Articles & Radio Ads, 2/15, 5/15, 8/15, 11/15

**IHRS Web site address:** [www.indianahistoricalradio.org](http://www.indianahistoricalradio.org)

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 Herman Gross, our treasurer as noted above.

### **The BULLETIN**

**A PUBLICATION OF THE INDIANA HISTORICAL RADIO SOCIETY  
2 THIRTY-NINE YEARS OF DOCUMENTING EARLY RADIO**

# The Indiana Historical Radio Society Bulletin

## June 2010

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### In this issue:

Herman Gross took notes and pictures while restoring his Grandfather's 1941 Motorola console radio. As a result he is able to tell us of the history and restoration of "Grandpa's New Radio."

Ed Dupart continues to keep us up on radio restoration with his process of stripping, bonding and painting of a disaster bakelite Zenith. In "The \$1 Basket Case Zenith 6D-512"

Ed accomplishes what most would deem impossible and that is the repair of badly broken bakelite. His article is a great review of his 2010 Spring Meet Technical Topic on the same radio.

Even though the Spring Meet Vintage Radio Contest entries (pages 14, 15 and 28) were fewer than previous years, several radios in the contest made great photo opportunities - such as Lou Devorak's Grunow making a fine back cover. We can always expect a quality entry from Michael Feldt, this year he showed a rare Indiana manufactured Fairbanks Morse. Add the Tom Williams entry of a nicely restored Philco and we had a contest!

Fred Prohl, Bulletin Editor

**Indiana Historical Radio Society  
2010 Summer Meet  
4H Fairgrounds - Columbus, Indiana  
Saturday, August 14 - 8 A.M.  
I65 to SR46 (exit 68) East to SR 11,  
South on SR11 to Fairgrounds**

**Family Arts Building (east end of Fairground buildings)**

**Swap N Sell** Fair weather –set-up out side – rainy, in side set-up.

In the building:

**Vintage Radio Contest (Popular Vote)**

Category 1 – **ARVIN** Radio

Category 2 – **Open** – you decide

Tables will be available for display of radio and communications related equipment.

**Silent Auction** of vintage radio equipment.



General admission is free. Swap N Sell vendor fee is \$10.00 for current members of the Indiana Historical Radio Society and \$15.00 for non-members.



Family Arts Building



**Things to do in the Columbus area (after the IHRS Summer Meet):**

**Exit 76 Antique Mall** – 8 miles north on I65 (exit 76)

**Edinburgh Outlet Mall** – 8 miles north on I65 (exit 76)

**Historic Nashville** – Art, antiques, shops – 16 miles west on SR46

**City of Columbus** – Architecturally significant churches; Cummins

Manufacturing; Once upon a time Noblitt Sparks (Arvin) building sites.

*Many choices for Lodging and Food at I65 exits 68 and 76*

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**The Indiana Historical Radio Society Meeting Schedule**

**Summer 2010 – August 14 - ARVIN Country!**

Bartholomew County (4H) Fairgrounds, Columbus, Indiana

**Fall 2010** – Riley Park, Greenfield – October 9

- - - **Regional Events of Interest to Members** - - -

**Antique Radio Club of Illinois** [www.antique-radios.org](http://www.antique-radios.org)

RadioFest August 5 – 7, 2010 30<sup>th</sup> Anniversary Celebration

Willowbrook Holiday Inn conference Center,

7800 South Kingery Hwy (Rt 83)

Willowbrook, IL 630 325 6400

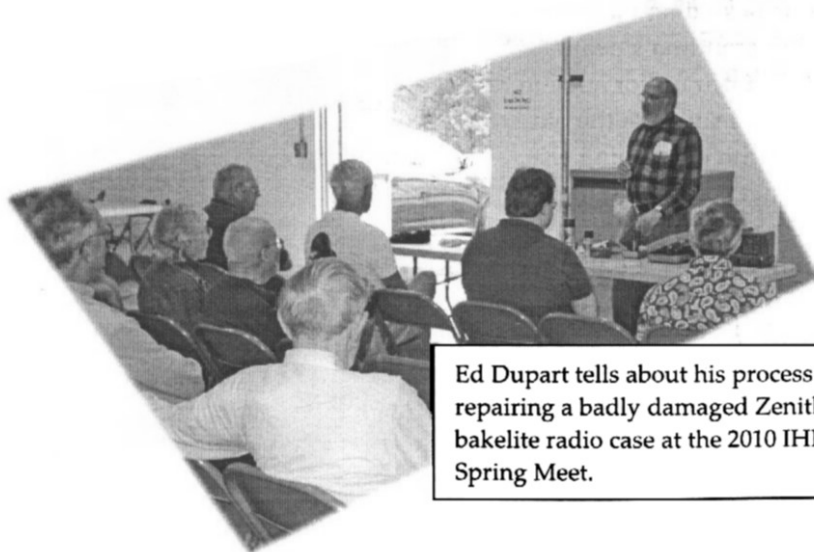
**Michigan Antique Radio Club** [www.michiganantiqueradio.org](http://www.michiganantiqueradio.org)

Next meeting: October 16, 2010 - Farmington Hills, MI

**AWA-Antique Wireless Association** [www.antiquewireless.org](http://www.antiquewireless.org)

Annual Conference – August 18 – 21, 2010 The original and largest historical radio group. The AWA publishes a quarterly AWA Journal.

Membership is \$25 per year. Write to: Antique Wireless Association, Inc.  
Box 421, Bloomfield, NY 14469



Ed Dupart tells about his process of repairing a badly damaged Zenith bakelite radio case at the 2010 IHRS Spring Meet.

## Grandpa's New Radio

By: Herman Gross

It was November of 1940. I was 8 years old. We were enjoying Thanksgiving dinner at our home in Bristol, WI. with a couple relatives from my Dad's side of the family when someone rapped on the door. It was our neighbor with an urgent message for my mother. We had no phone in those days. It was from my mom's family telling her that her mother's condition was deteriorating fast and she was not expected to live. We left the guests, hopped in the old Chevy and, driving at the breakneck speed of 50mph, proceeded to the farm about 30 miles away. Sadly, as we entered the driveway we were greeted by a couple of mom's sisters (there were 12 children in the family) with the news that grandma had just passed on. My mother was devastated that she didn't get there in time and regretted that all her life.

We went into the very small dimly lit farmhouse. I'd never been in most of it that I remember except once for Christmas where I recall seeing a Christmas tree with candles on it....no lights. I found out only this year (2009) that there was no electricity in the house at that time. It took the Rural Electrification program after WW2 to correct that situation. Anyway, one other thing I vividly remember seeing that day was what I perceived as a long and narrow radio with a shiny black front panel with big knobs on it. I guess the knobs were my clue. I don't remember seeing a speaker but then I'm not sure I'd have recognized it anyway.

Well, time passed and a few years following grandma's death grandpa put the farm up for auction. We didn't go and I suppose the old radio was sold with everything else, including that neat old sleigh that looked just like Santa Claus'. Grandpa and his youngest daughter Ruth went to live in Kenosha, WI. in an apartment over a store. It was probably about 1942. Before the move, sometime in 1941 I'm told,



Grandpa bought a new, no frills, AM / SW console radio. Aunt Ruth intimated she thought grandpa had bought the radio with some of grandma's insurance money. What provenance!

Fast forward about 55 years to 1995. At our yearly family reunion in Racine, WI. my recently widowed Aunt Ruth said to me, "I heard you like old radios. Would you like to have grandpa's?" Of course I quickly accepted. "It's been upstairs in a closet for a long time and we have no use for it" she said. I was told the program grandpa listened to "religiously" was "The Lutheran Hour" every Sunday morning on station WLIP, Kenosha, and he also listened to Voice Of America broadcasts during WW2 in his native German language. Who wouldn't guess that grandpa was German through and through with a name like Karl Hermann Wilhelm von Reck? I'd guess he probably listened to propaganda messages aimed at Hitler's Grossdeutsches Reich. That same day she offered the radio to me I went to her house in Kenosha and retrieved it from deep in the back of a large upstairs closet. I was glad it hadn't been stored in an attic or basement. It was a Motorola model 61K22. I found the model number stamped on the chassis but it was partly smudged and left some doubt as to which model it was. There was no paper label on the inside of the cabinet. Later I discovered (and confirmed) the model number faintly printed on the loop antenna assembly. The radio sat covered and almost forgotten in my garage for many years until I finally decided I'd better do something with it. I kind'a wanted to get grandpa's radio going again so I could listen to "The Lutheran Hour" too, at least just once. Too bad VOA is kaput.

I have to brag a bit about the *celebrity status* this very radio has in my locality, having been an important prop in the stage play ANNIE, put on by the local Civic Theatre group. You might recall the scenes when FDR, with some of his cabinet members, huddled around the radio listening for news of the war. Well, this is the exact radio that prominently occupied center stage with FDR and his cronies in that production. "Golly Sandy, I'm so proud!"

Now to get down to brass tacks. The first thing I did was remove everything from the cabinet. It had quite an accumulation of dust.

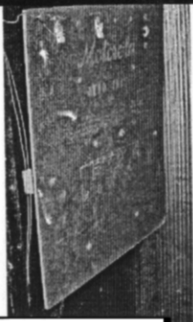
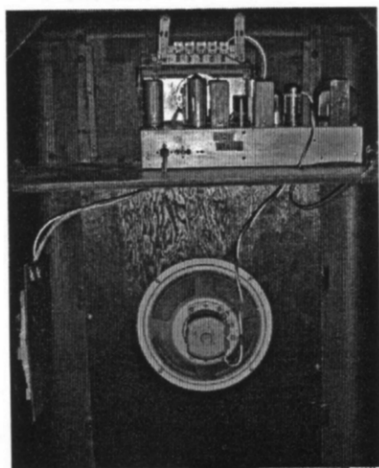
Then I put all but the fragile speaker, remote push button (PB) tuning assembly and loop antenna out on the driveway and blew out most of the dust with the shop-vac, using a soft brush on stubborn areas.

### Grandpa's New Radio (continued)

I have a kit of about 6 pieces that I connect to my shop-vac that allows me to vacuum and brush in very tight places at various angles, and can also blow out dust by reversing the connection to the shop-vac. I bought it several years ago in the vacuum cleaner parts department at a Meijer store for about \$12.00, and it has been very handy. Inexpensive acid brushes are great for cleaning in tight spaces too of course.

The 10" electrodynamic speaker and radio chassis were in excellent condition with minimal corrosion and no rust. I stored the speaker, remote PB sub-chassis and side mounted loop antenna in separate boxes for safe keeping while I worked on other things. I decided to "attack" the cabinet first and do the electronics sort of catch as catch can. Judging from the looks of the cabinet I suspect Aunt Ruth's family used the radio for a long time after grandpa's passing. It had quite a few dings and scrapes and the base had evidence of being run into by their old "Bissell's Standard" carpet sweeper too many times. Also, it had a coat or two of dark walnut varnish stain slathered on it, knobs and all. That had to go! It looked awful.

I took several photographs of the console including close-ups of the lettering identifying the front controls and also made a sketch of important dimensions so the replacement lettering could be positioned correctly. I removed the speaker mounting board. The grille cloth was glued to it. The grille cloth, although intact, was so marred with that varnish stain treatment or furniture polish I opted to replace it with some material I purchased from Radio Daze that closely matched. Then I removed the five vertical bars in front of the speaker/grille assembly. I've heard that arrangement of vertical bars has been called the "waterfall" effect by some.



Back of Grandpa's Motorola above, and the antenna. (page 18)

I located some of the old "Zip Strip" varnish remover left over in rusting cans from the days when Shirley and I refinished a couple of my mother's small furniture items....removing, of course, multiple coats of walnut varnish stain. I started using plastic scrapers to get the bulk off (they melted pretty fast) then switched to medium coarse steel wool and ending with 0000. I used some lacquer thinner on a soft rag for a final clean up wash, always sure to use eye protection and rubber gloves for this whole operation. It worked very well and uncovered a beautiful walnut veneer. All this was done outdoors to keep the mess outside but mainly for good ventilation.

Before attempting any refinishing I replaced the veneer that had gotten chipped off in about a dozen spots along the rear edges. None were larger than a nickel, so they are not too evident. Veneer that closely resembled the existing wood was used and I minimized the evidence of the repairs with some subtle shading. Two curved areas where the cabinet sides meet the top, called "shoulders" I believe, were stained very dark with Mohawk Extra Dark Walnut toning lacquer. The same finish was applied to the base at the very bottom of the cabinet. I originally tried using some Min-Wax dark Jacobean stain but it ran too much on the smooth curved surface and wouldn't cover evenly no matter how sparingly I brushed it on. The lacquer covered evenly and dried almost immediately without running. Sure, it will run if you don't spray it sparingly but I've learned the hard way to walk away after each thin application to resist giving it another "shot". A 3" band around the top and bottom was taped off and given a thin coat of dark walnut stain to give some contrast....a nice transition from the main body of the cabinet. This was in accordance with the photos taken before stripping the cabinet. Actually Aunt Ruth applied so much walnut varnish stain that it was difficult to see the contrasting bands....but they were there originally and are there now.

I used the same dark walnut stain on the five vertical bars mentioned earlier to make them look close to the original color. In preparation I had to fill, sand and stain several nicks and gouges in a couple of them, probably put there decades ago by my cousins roughhousing around.

I debated as to what to use for the final finish, lacquer or polyurethane. I have a friend who says that if they had polyurethane back in those days they would have used it. I opted for spray lacquer because it dries faster so is more immune from flying dust particles and I

### Grandpa's New Radio (continued)

can apply more coats in a short amount of time. I didn't consider filling the grain with walnut sanding sealer because the stain can bleed over to the wood and make the whole thing darker. I know you can fill after you give the cabinet a thin coat of whatever finish material you elect but since I didn't have any suitable sealer on hand in the first place I used the method outlined in my favorite wood finishing book *Understanding Wood Finishing* by Bob Flexner and that is apply a couple coats of finish and then sand lightly. Repeat as necessary until the voids are filled. I repeated this procedure so many times I lost count. The open grain was deep in some places. One factor in the slow buildup of finish material is that in the spray can lacquer I use there is only 10 to 20% solids, the remainder being solvent. Towards the end I wasn't so sure I made the right decision but the die was cast. Everyone who reads this will have a different opinion as to the best way to do the job.

By the way, having been warned in a previously published article in an IHRS Bulletin by member Ed Dupart, whenever I had to do some taping I was careful to use lacquer compatible tape.

I initially applied three thin coats, being careful to avoid runners, before I started to very lightly sand it with 320 grit paper. From then out I sanded between every second coat. I have a law I follow regarding spraying anything. Be careful to apply only the minimum so as to avoid runners and blushing and then quickly walk away to avoid the urge to spray on more before the preceding coat is completely dry. Patience is a virtue in this case. I've run into this blushing problem a few times and it is a worrisome thing. Blushing occurs during warm humid weather and the thicker the coat the worse it can be. The rapid evaporation of the lacquer thinner cools the surface so fast that humidity in the air is drawn into the film. The moisture will usually work its way out on its own in a couple hours or overnight. Otherwise, in stubborn cases, you can spray on a light coat of lacquer retarder to re-dissolve the finish so the moisture can escape.

A friend of mine gave me this hint regarding spraying lacquer. Don't do it under bright- bright lights. He made the case that as you spray you might see an area you just went over that seems duller than the surrounding area and you'll want to quickly go back and "touch it up". This can easily develop in a situation where you'll have excess spray in that dull area which can lead to runners if the surface is not quite level. I admit I've done that.

In spite of all my cautions I did get a few runners. Here's how I get rid of them. It works well with lacquer. The runner must be fully cured, preferably overnight. I take a single edged razor and hold it perpendicular to the surface with the sharp edge only touching the raised runner. Then I carefully scrape off the material until it's level with the adjacent surfaces. It's quick and easy....if you're careful. It does mean I had to recoat that area. All this being said, the final finish turned out very nice.

The inside of the cabinet was cleaned as best I could but it still looked dingy so I sprayed it with flat black enamel which made quite an improvement.

I stapled the new 16 X 24 inch piece of grille cloth centered along the top edge of the baffle board using  $\frac{1}{4}$ " staples and a power stapler being sure to stretch the fabric left to right. It helps to mark the centerline of the board at the top and bottom edges. I placed the staples about 1" apart. Then I stretched the fabric as tightly as I could at the bottom of the board using many spring type clamps and push pins spaced about one inch apart or so to hold it in place. With *patterned material* it is essential to use a couple straight edge devices, such as yardsticks, to insure that the pattern is aligned left to right and top to bottom.

Keeping an eye on the L-R alignment of the pattern along the vertical center-line marker, I stretched to material down and placed one staple at the bottom center, then adjusted the tension across the bottom edge to assure the pattern was aligned top-to-bottom using another straight edge as a guide at right angles to the vertical guide. This is very time consuming. Once done, I stapled the whole bottom edge being very careful not to loosen the material. I placed staples at approximately 1" intervals here too. Now for the edges.

With the vertical marker in place at the center-line of the baffle board I gently tugged along both edges to tighten up the fabric all the time keeping an eye on the vertical guide to make sure the fabric was centered along the whole vertical distance. I didn't want any waviness. I clamped the edges in place and then stapled both sides at close intervals. I also glued around the outside edges to insure no possibility of fabric creep. Again, all these precautions with tension, straight edge guides and close spaced fasteners was essential to maintain pattern alignment in both the X and Y axes.

Several years ago I purchased some decals from AES that I never used so here was my opportunity. But, they were too transparent for use

### Grandpa's New Radio (continued)

on a darker surface so I couldn't use them. I found some sets of general-purpose decals that worked out perfectly at Radio Daze. I lack the 2-inch "Motorola" decal. With the photos taken of the original cabinet and the sketches I made as a reference, I laid out a plan for the accurate placement of the control function identification. The job was made a bit easier in that no semi-circular patterns were necessary. With the radio temporarily installed and knobs in place I carefully marked the various switch positions and other control functions on a masking tape level reference using the knob pointers as a guide. This made for a perfectly acceptable panel layout. The actual application was not fun. My slight hand tremors didn't help. It was nerve wracking trying to persuade those water slide decals to move to their proper places. I gingerly used a sharp pointed scalpel and a damp artists brush as persuaders. Once I got one or two decals in place I'd stop and let them dry so I wouldn't damage them when trying to apply the others. I did ruin a couple decals through this whole process but the final product looks quite professional and I'm very happy with it. I experimented with what to seal the decals. I placed a couple of them on a piece of glass and let them dry for several days. Then I sprayed some of the same clear lacquer I used for the cabinet in a glass jar (that was an experience!) and, using a soft artists brush, covered the decals twice. I was afraid they might crinkle or something but they didn't, so that's what I did to those on the cabinet. They look great.

I recently read a couple articles in MAARC's *Radio Age* about cabinet restoration. The author referred to "pita" a couple times when describing placement of decals and stretching new grille cloth. I never did figure out the connection between a type of bread, decals and grille cloth. Any ideas?

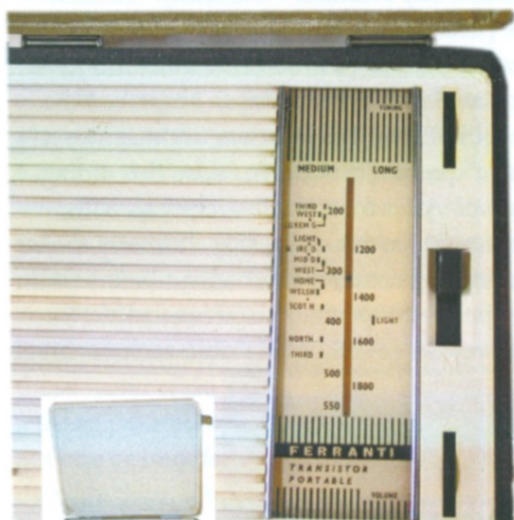
As for the speaker: I carefully removed any dust accumulation. After routine resistance checks, which were all within specs, I applied current to the field from an adjustable power supply, and then connected the voice coil to a small utility amplifier I keep in the workshop. Using an audio generator as a signal source I ran the speaker through a range of frequencies at fairly high volume to check for any audible distortion or resonances. Happily there was none that I could hear and it was deemed "ready to go" except for the rotting insulation on the four-wire interconnect cable. I had to rebuild it, but that's usually par for the course on these old radios.

Restoring the remote permeability tuned push button (PB) assembly couldn't take place until it was carefully cleaned. "Carefully" because those five oscillator coils on the PB assembly are wound with hair thin wire. One of them was broken and I had to reconnect it...a ticklish job requiring a steady hand...which mine is not these days. I replaced the three wires in the interconnect cable. The PB action was another story. It was dry as a bone and "moveable" parts didn't move. Also the sliding contacts were black with corrosion. After a good, all over, bath with contact cleaner/lubricant they started to work sluggishly. It finally took a couple drops of 3-in-1 oil on the sliding actuator mechanism before each PB would consistently work properly. I repeatedly exercised all 5 PBs until satisfied with their operation.



Then I started on the chassis by first checking the power transformer by applying 10 volts to the primary and measuring the secondary voltages. They were close enough. I gradually increased the voltage and all seemed OK. No visual or audible evidence of any problem. It was nice to see the power switch worked. Then I went through the usual routine of replacing all the paper capacitors with Mylar/polyester film units. There were 12. I don't just clip the wires and tack in a new part. I unsolder all the connections using a solder sucker or copper braid and then replace the part, trying not to overheat things in the process. I just feel better about doing it that way. Does take a lot of time though. I rarely find that I need to replace mica capacitors. I also checked all the resistors and had to replace a few because of out-of-tolerance conditions. To my surprise, there were a couple of the old "dogbone" or "body end dot" resistors. I replaced all but one of them, it being in tolerance and in a non-critical circuit application. The three electrolytics were in a can mounted on a socket on top of the chassis.

# Contest Radio – 2010 Spring Meet in Kokomo



above  
Ferranti PT-100  
Bill Morris (The dial  
demands attention!)



above  
GE T2230 FM/AM  
table radio and box.  
Tom Williams



left – Philco 84  
Cathedral  
Tom Williams  
Very nicely restored



left – SoundDesign portable and  
box. First place was awarded  
to Tom Williams in the  
transistor category for his entry.

right – 1902 Collier's Weekly  
(Marconi's Own Story of  
Wireless Telegraphy)  
Entered by Fred Prohl



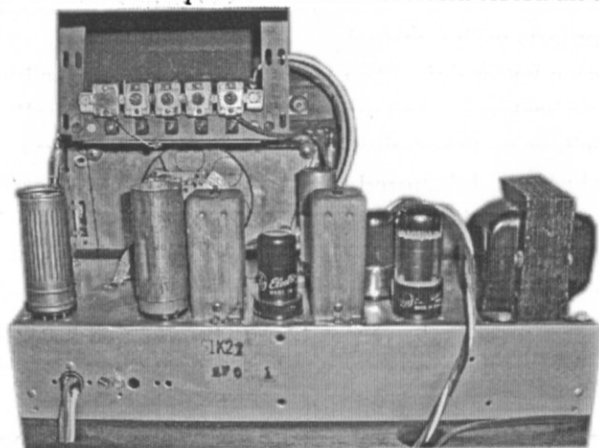


above – Entered in the Indiana Made category this beautiful Fairbanks Morse 8A was submitted by Michael Feldt and was awarded a First Place ribbon.



Ed Dupart entered this attention getting Zenith 6D512 in the Open Category of the contest. Ed used his Zenith restoration as the subject in his technical presentation during the Spring Meet. The pictures to the left show the Zenith case repair at stages from "as found" to final painting of an eye catching red. See page 21 of this issue of the Bulletin for his article on the Zenith restoration.

There was plenty of room to tack discrete capacitors under the chassis but, like the nut that I am, I opened the can and mounted two 47 mfd, 400 vdc, replacement capacitors in it, bringing out leads from the bottom. There was no room for the 20mfd, 25 vdc, cap originally in the case too so I mounted a 22mfd, 160vdc, capacitor under the chassis....oh well. Anyway, now there's no hole in the chassis where the can would've been. Of course I replaced the line cord and tested all the tubes.



Only one tube was weak (but functional). It was the mixer, a 6SD7GT. I had no spares, so ordered one when I ordered the grille cloth from Radio Daze. This is the first time I'd run across the 6SD7. It's a semi-remote-cutoff pentode. This radio uses a 6J5 for the oscillator. Did the designers use this tube for it's avc characteristics or just to add to the tube count because of the separate oscillator? It was probably designed just prior to WW2. We'll never know.

On the bottom of the chassis at each corner is a bracket on which a red rubber ring was placed as a vibration isolator. They were mashed down flat and hard as a rock. They were replaced with large rubber grommets that worked quite well. I went through the usual procedure of such things as cleaning all dust between the tuning capacitor plates and lubricating the bearings. I gave the volume control a shot of cleaner/lubricant just on general principles...after all it's 67 years old and needed some attention I thought. The band switch and three position tone switch were cruddy so I gave them the same treatment as well. The open construction (cheap and simple) tone switch operation was smoothed with a light coating of petroleum jelly over the contact area.

The chassis was nice and clean and only required a slight dusting and going over with a damp cloth here and there.

The initial cleaning of the band switch was not effective. I think the switch had been left in the center BC position for decades so initially it worked only for that band. The silver plating had turned so black that it took a great amount of exercising and multiple shots of several different brands of cleaner/lubricant to do the job. I resisted the urge to scrape the corrosion off the contacts with a scalpel.

The dial had seen better days. The glass was missing. The slide rule dial pointer was broken off and missing leaving only the small traveling part that slides on the track at the top. The dial scale was scratched in several places. I doctored up the scratches with Testor's model paint and a fine tipped permanent black marker making the dial look quite acceptable.

Now, what to do about the dial pointer? I had a couple "spares" in my "old parts" box but of course they weren't even close size-wise. I considered using a piece of buss wire but couldn't get it straight enough and it looked like a piece of wire...sort of cheap. I needed a narrow, stiff, somewhat flat piece of "something" for the pointer. After a few days of thinking about this off and on I remembered that back in the mid 1960s I'd done some silver soldering when I worked in aerospace in Milwaukee. When I was transferred to Kokomo in 1972 I brought a couple short pieces of silver solder rod with me. I recalled seeing them occasionally when searching for whatever in my desk. Here it is, 2009, over 37 years later...could they still be there? Well, actually yes they were. We don't throw away anything do we? I retrieved the two pieces, one being about 6" long and the other about half that. The rods were about 1/8" wide, half that in thickness, straight as an arrow and virtually unbendable. The shorter piece was exactly the correct length although I could have trimmed it easily if need be. I tinned one end of the rod and also the remaining part of the dial mechanism that I described earlier. After cleaning they took solder readily. It took about 10 tries to get the correct angle so the pointer wouldn't scrape on the dial scale or the glass. I found some satin red Testor's paint at the local craft store and, after sliding a piece of waxed paper under the pointer so as not to ruin the dial scale, I applied two coats. I'm really pleased with the way it turned out.

My attempts to cut my own dial glass gleaned from a discarded picture frame resulted in several pieces for the recycling bin, so I had the

### Grandpa's New Radio (continued)

3" X 7 1/2" single weight glass made at the local glass shop. The shop owner gave it to me after I described to him why I wanted such a little piece of glass. Nice guy. Look at all the time and bother I went through just to satisfy my DIY urge and without success at that. The glass fit perfectly after some very careful metal bending in order to slide it in place. I couldn't determine how the glass was mounted at the factory without what looked to be a big tear apart. I worried about bending the metal glass retainer back in place without damaging something but it bent back in place "close enough" ....I held my breath....wheew!

There are two loop antennas on this radio. One is a small, 7.5" diameter, edge wound, 18 turn loop for the broadcast band that can be capacitively trimmed for optimum performance. Motorola called it their "Aero Vane" antenna. It is attached vertically to the inside wall of the cabinet. I dusted it off and replaced the four leads on the interconnect cable and stabilized some loose turns with Q-dope. The second loop, for the shortwave band, consisted of two turns of DCC stranded wire stapled to the inside edges of the cabinet....a vulnerable location. It was in bad shape. I replaced it with 2 turns (18") of DCC 20 gauge solid wire but routed it around more to the inside of the cabinet so it wouldn't be damaged by grabbing the back edges while moving the radio. The DCC wire was white and stuck out like a sore thumb so I dyed the wire black before I installed it to match the interior of the cabinet. The turns were held in place with black double backed carpet tape and then secured in about a dozen places with a clear, thick, somewhat gooey but flexible, KIWI shoe and boot patch "adhesive". Nice stuff!

Well, once all these preliminary steps were completed it was time to marry all the pieces together on the bench. In other words give it the smoke test. I plugged in the speaker, PB assembly and BC antenna, snapped the power switch on and it came alive. First I made a few quick DC measurements and all was OK. I always adjust the IFs and then check alignment. Both the BCST and SW band calibration needed tweaking. Each band had its own trimmer and padder. I ran out of adjustment room on the BCST padder (it had already been screwed down tight) so I added a small silver mica in parallel to give me some adjustment range. That was about all there was to it.

I checked the frequency at which each of the five PBs was tuned to get an idea to what stations my grandpa may have listened. There were no station ID tags on the PBs. Were they set up at the store for his favorite stations or set to the technician's favorites? Did he actually use

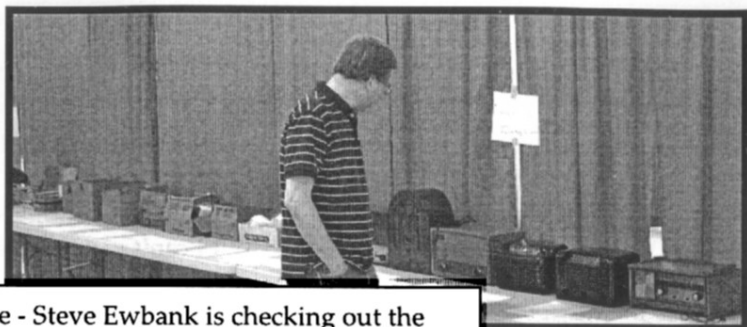
the PBs? Aunt Ruth is in no condition now to remember, so that's that. I'll never know. Anyway, I used a signal generator to determine where they were set (approximately). They were WTMJ 620 and WISN 1130, Milwaukee, and WBBM 780, Chicago. Two PBs were right on the money, WGN 720, Chicago and WLIP 1050, Kenosha....Grandpa's favorite. WGN is very strong in my locality but I can't pick up the Kenosha station. I kept WGN but retuned the other four to central Indiana stations.

I brought all the components to the basement and then, with help from my wife, Shirley, we carried the cabinet down the stairs. Everything installed in the cabinet with no problem. The original knobs and PBs aren't in too good condition but I'm using them anyway.

Grandpa's radio graces my basement "museum" in a corner dedicated to the memories of my parents and grandparents. At this time you'll find Grandpa's radio, Grandma's rocker dating from 1877 (it has a caned seat and back), a brass floor lamp belonging to my parents from the time of their marriage in 1928 and a small braided rug my mother made that lies in front of the rocker. Nearby is a restored Majestic 70 just like the first radio my parents owned and the one I listened to all those kids adventure programs that originated out of station WXYZ Detroit. I had re-caned that old rocker for my Mother in 1974 and Shirley and I restored the brass floor lamp about two years ago. Planned for the near future are framed photos and other memorabilia to be placed on the wall behind the chair and radio, including the sheet music for the song "Little Man You've Had A Busy Day" dated July 12, 1934. It's the song my dear mother used to sing to me when I was between the ages of 2 to 5. I'll never forget it and I can hardly read the words without choking up.

Now I listen to my favorite AM stations when I'm downstairs here in my little inner sanctum. I did a station count at 9:00 AM one morning and logged at least 35 listenable stations with the radio in the basement and no external antenna. Yes, I have listened to "The Lutheran Hour" at least once, just as grandpa had in the past. *Grandson Herman*





Above - Steve Ewbank is checking out the IHRS Donation Silent Auction at the Spring meeting. The majority of vintage radio equipment in the auction was from the John Bolinger collection. John's wife, Mary, set up a "make an offer table" of some of John's radios on Friday of the Meet. On Saturday Mrs. Bolinger placed the remaining items in the Donation Silent Auction. Mary Bolinger gave the proceeds from her sale on Friday, as well as the income from the Silent Auction, to IHRS. The members of IHRS thank you Mary for your generous gift.

The RCA 4T in the auction and shown at the right was restored by John Bolinger

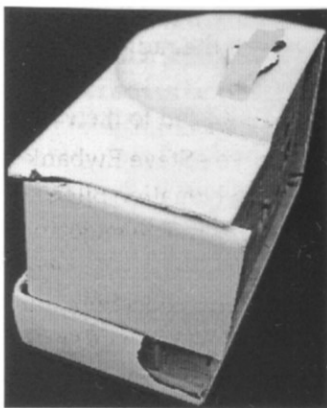


On June 16, 2010 a message from [radioinfo@indianahistoricalradio.org](mailto:radioinfo@indianahistoricalradio.org) was emailed to the IHRS membership. The message announced two events for June 19 – the Farnsworth Auction and Radiorama 20 in Cincinnati. If you received the message – great! If you did not, and would like to receive emailed news from the Indiana Historical Radio Society, send your email address to [radioinfo@indianahistoricalradio.org](mailto:radioinfo@indianahistoricalradio.org). Keep in mind some strict spam filters may require that you authorize receipt of [radioinfo@indianahistoricalradio.org](mailto:radioinfo@indianahistoricalradio.org) for you to receive messages.

## The \$1 Basket Case Zenith 6D-512

By Edward Dupart

I went to the Michigan radio show held in Farmington Hills, Michigan last January of 2010 and had a blast. I found all kinds of parts I needed and at the end of the show there is always the donation auction. I picked up a few radios for parts and a couple for friends to tinker with. One of the radios I bought was for me, a busted up white Zenith 6D-512 that had AM and the upper short-wave band. I don't have many Zenith radios and I liked the style of this one

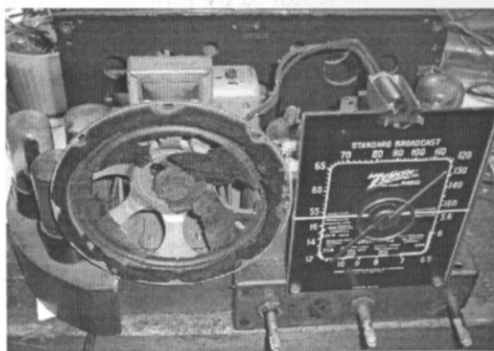


The badly broken Zenith case.

and the dial in particular, so I decided to resurrect it. I've done a couple of cracked and busted up plastic radios before, but I never documented the process and I thought there might be a few people out there who would be interested in how I do it. So here goes.

I also need to tell you that I have painted a lot of cars in my lifetime and I basically treated this radio like a small car, which explains why I used a lot of car body repair products that are easily obtainable.

Here is the description of the radio as I got it. The right side was busted out of it into three pieces and I'm very happy that the previous owner had the foresight to tape the remnants to the top. The radio was originally white and someone added another layer of thick white paint on top of it.



The chassis was very clean with all the tubes and four of the tubes are original Zenith tubes. The speaker was a disaster with the entire cone missing and the voice coil damaged. All the capacitors and resistors are original and incredibly the radio worked when I hooked up an external speaker and it had no hum.

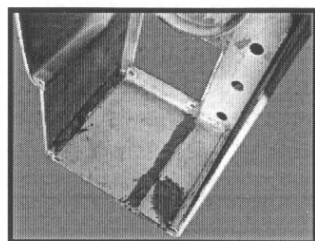
## The \$1 Zenith continued

Even the filters were good! Oh yes, the pilot light was burned out, but there are wires with crumbling insulation that need to be replaced. Overall the radio was in good shape electrically, but the cabinet was a disaster.

All I did to it electrically is replace a few wires, the pilot light and the speaker. I cleaned the controls, the switches and the chassis and that's about it. Even the alignment was still perfect! That completed the electrical restoration. Now for the hard part, the cabinet.

The radio is made of Bakelite, so it can take very strong paint strippers without any damage. Before I applied any strippers I took everything out of the cabinet and most importantly, the perfectly original dial lens. Any strippers that are not made for plastics would destroy the dial lens. Once everything was removed from the cabinet I proceeded to dust it out and then wash it out. After it was dry I put a very strong stripper on the busted out pieces. The stripper worked well on the top layer, but barely touched the original white, which must have been a baked on heavy duty enamel. I could actually take a paint scrapper and with the scrapper held vertically I could scrape the original white off and it flaked off in small pieces and made quite a mess. Once the busted out pieces were stripped, I super glued them back into the cabinet. Then I used JB Weld and I applied a fairly thick layer behind the cracks of the broken out pieces and behind the other cracks in the cabinet. I also applied JB Weld on top of a couple of the major breaks and used it like Bondo. I let the JB Weld sit overnight and the next day the cabinet was again very strong. I wanted the cabinet reassembled before I continued stripping it. I was afraid that if I tried stripping the cabinet without the pieces put back in, that the weak cabinet might further break up, which I didn't want to have happen.

If you have never used JB Weld before, this is how I mix it. Mix an equal amount of hardener to an equal amount of resin/plastic. Don't mix any more than you need, because it will set up within minutes and you must thoroughly mix it with no

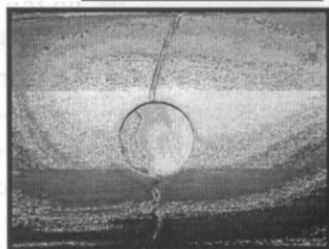


streaks of different coloration in it. When it is thoroughly mixed, it will be of a uniform color. I used Popsicle sticks to mix it and apply it. Make sure the plastic on the Popsicle stick is thoroughly mixed before applying it to the surface of the cabinet. If you have doubts, use a separate stick for mixing and a separate stick for applying it. They have a nice straight edge, which is good for applying it to the plastic. Cereal boxes or other pieces of stiff cardboard make for good disposable mixing surfaces. I have also used old screwdrivers for mixing purposes, but not for applying it. For applying it I usually used a paint scraper or a Popsicle stick. Usually when I use JB Weld it is for small applications, so I don't need a wide applicator. JB Weld is good for many different applications and once you have used it you probably will use it again. As you can tell I like the stuff.

Once the cabinet was back together, I was ready to strip it completely. I also realized that I would have to use two or three applications of the stripper. The first application removed the top layer easily as I observed with the busted out pieces. With the top layer gone, I let the second application sit on the baked on enamel for several hours. When I came back it would come off with a lot of scraping, but it did come off. The third application cleaned up the remnants left behind. Real fine steel wool cleaned it up even further. When I got done stripping off the paint, I had a very shiny black cabinet with JB Weld on top of the breaks. If it weren't for the breaks, cracks and the JB Weld it looked pretty good!

My next step was to take a Dremel tool with a small round grinder that I used to create a valley on top of all the cracks in the cabinet. The reason for this is so that there would be a wider area for the Bondo to fill in and give it more strength and to prevent a crack from reoccurring.

I sanded down the JB Weld that was on top of the cabinet to get it as smooth as possible. I used JB Weld on both sides of the breaks to give it lots of strength. Bondo is good, but JB Weld is stronger and in repairing a broken plastic cabinet you want all the strength you can get.



## The \$1 Zenith continued

Mixing and applying Bondo is much the same as it is for JB Weld except the mixing proportions are way different. Very little hardener is used as compared to JB Weld. A ¼ oz of hardener to 8oz of resin/plastic was the ratio used with the Bondo I had. For a tablespoon of resin I'll use about ¾ inch strip of hardener. For best results, follow the instructions for the plastic you use.

Now I'm ready to apply the Bondo. Bondo sands easier than the JB Weld so I used it to fill in the valleys and the imperfections in the JB Weld. I wet sanded the Bondo and the JB Weld with 400 wet or dry sandpaper and I used a wooden sanding block. The sanding block made for a nice, smooth flat surface. Avoid getting stray Bondo stuck to places on the cabinet where it is not needed. If that happens, it just means more work for you. When sanding you want to feather the edges out so that an edge cannot be felt. Any edges will definitely be seen when the final coat of paint is applied. Take your time in wet sanding the Bondo. Any imperfections at this stage will show up.

Here comes the primer. I used an automotive grade of primer that was oxide red and is a filler primer. A filler primer can fill minor scratches and even low areas if it is built up. You will want to paint this in a well, ventilated area and I

See the red primer coat on page 15, third picture down on the Zenith project.

recommend a spray mask. So now the radio is all one color, a dark orange red. Not shiny, but it looks pretty good. I also wet sanded this with 400 sandpaper and the sanding block. I put several layers on, but there were still a few low spots. Now I use the glazing putty, which is also, oxide red. The glazing putty is made to go over the primer and I used a putty knife to put it on and this glazing putty is thicker than the primer and it will fill the low areas and imperfections quicker. I also wet sanded this with 400 sandpaper and with the sanding block. Now the radio looks good. So good you can't tell where the cracks were and that's what you want.

I decided to paint this radio red and I know some purists will take me to task over this, but I always wanted a red Zenith and this would give others a chance to see what one would look like. This chassis originally came in a black or white Bakelite cabinet or in a wood cabinet, but not red. Using a topcoat of red is the reason why I chose a red oxide primer and a red oxide glazing putty. I obtained the red paint at one of

the local discount auto supply stores and is a 5oz touch up can of lacquer. The primer and glazing putty I bought at the local NAPA store. I used up the entire 5-oz can of touch up red on the radio.

If this radio had simply been scratched up and did not have cracks and busted out pieces, I would have repainted it the original white and when I got done you wouldn't have known that it had been repainted, other than it would look like new. So, I consider this radio like a rusted out 57 Chevy destined for the crusher. Somebody buys it, puts a new frame underneath it, drops in a 454 with a blower and 10" slicks and puts a fancy paint job on it. The car has been saved. Considering the condition of the cabinet when I got it, I felt I had the liberties to make it a different color. I chose a darker red that I felt would be more representative of the time period the radio was made in, rather than a very bright fire engine red. Most of my red toy cars and tractors from the 1940's tended to be a darker red, so a darker red I used. The radio has been saved.

The dial lens, while perfect, did have some white paint on it. I used a pocket screwdriver very carefully to scrape off the paint, trying not to scratch it. After the paint was removed, I used white polishing compound to remove any minor scratches and smudges. The lens is now ready to be installed.

After the cabinet dried thoroughly, I used a white polishing compound on the cabinet to get rid of any overspray and to smooth out the surface. The red paint I used was not very shiny so this radio does

not have that wet look, but has more of a semi-gloss finish, which I like better. I could give it that wet look, but I'm happy with it the way it is.

I like the black knobs and the black and blue dial against the red cabinet, which, I believe gives it a nice contrast. Besides, my high school colors are red and black.

I probably spent about 15-20 hours on this radio, probably more than what the radio is worth, but I liked this radio and I wanted others to see that a broken up plastic radio can be saved. Mission accomplished.

*Ed - March 2010*





**Auction:** Huge selection of radios and radio parts. IHRS member John DenHartigh is selling the majority of his radios at auction – Saturday, August 14, 2010 – 9:00AM at the Wenke Retail Greenhouses, 5071 Market Street, Kalamazoo, Michigan 49048. I94 (east of 131) to exit 80, north on Sprinkle Road to Market. Watch for signs. Auction starts at 9AM, Saturday, August 14. Preview is 3-9PM on Friday August 13 and 8-9AM August 14.

**For Sale:** Radio's – Radiola model-18 w/ speaker, Brunswick model-5KR w/ speaker, Guild Spice Chest, Philco model-84, and Philco model- 89/19. Horn Speakers – AK-G, AK-L, AK-H, Western Electric 10-D, and Magnavox M-4 All items in good/excellent restorable condition - \$900 FIRM  
Contact Larry Allen – Delphi, IN (765)490-5317 06/10

**For Sale:** DeForest DT-700. Very good condition. Wood case with lid. Instructions in the lid. \$750.00. Zenith 12-S-275 the Darth Vader set. Good original finish and grill cloth. Its been recapped plays good with all Zenith G tubes. 750.00. Call or email for pictures or more info. Scott Beard 812-466-9367 or [Triodesb@aol.com](mailto:Triodesb@aol.com) 06/10

**For Sale:** Zenith Model 9-S-369, Nice large desirable radio. Needs some buttons, nice case. See picture on page 16 of the December Bulletin. Asking \$350.00. Also a Zenith model 10S669 \$25.00. Stephen Sommerrock, Greenfield, IN 317-468-1782 e-mail [stsomm@aol.com](mailto:stsomm@aol.com) 06/10

**For Sale:** Standard Signal Generator model 605-B quite heavy and appears to be working \$125. Two boxes of N.O.S. automobile radio parts consisting of power trans., signal seeking radio parts, IF trans., volume and tone controls; etc. all for \$150. Also cabinet for a Zenith 10S464 free to any club member that can use it. Bob Pote, 1181 Crestwood Dr., Greenwood, IN email [mrzenith41@aol.com](mailto:mrzenith41@aol.com) 12/09

**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 [batterymaker@gmail.com](mailto:batterymaker@gmail.com) or at 317-895-1334. 03/10

**For Sale:** Boonton Radio Corp FM Signal Generator Type 202-B, Ser. # 1942 \$25. Balastran Corp. #78 Regulated DC Supply, 3V, 5 Amp., \$20. Dynamotor-Bendix Radio, Type D-3A, Ser.# W32204, Input 28VDC, 10.5 Amps., Output – High Voltage 300 DC, .260 Amps., \$25. Sola Constant Voltage Transformer, Cat.# 20-13-450, Ser. #B687, Pri Volts 95 to 130, \$20. Basler Regulated & Filtered Power Supply, Model 12RS14D, 12V & 6V, \$15. Jackson Model 652 Audio Frequency Oscillator, \$17. Simpson Genescope Mod. 480 for FM/TV, AM Marker Generator, Crystal Calibrator, FM Generator, Oscilloscope, \$40. Acme Electric Corp. Voltage Transformer, Input 65-145V, Output 115 volts – 350VA, \$25. Bk Model 970 Transistor Equip. Analyst, Ser #A5957, \$25. RCA Transistor SC12, 1966, \$5. MIT Radiation Lab. Theory of Servo Mechanism Manual 1947, \$5. MIT Computing Mechanism Linkages Manual, \$5. AM Radio Mobile Manual, \$5. AM Radio VHF Manual 1965, \$5. Radio Operator License Study 1977, \$5. General Class License Manual 1991, \$5. AM Radio Tech. Class Manual, 1991, \$5. 2-Powerware Battery Packs PW 5119-1500 UPS, (needs batteries) \$25 each. ARC Smart UPS Battery Pack 1000 (needs batteries) \$20. ARC Smart UPS Battery Pack 1400 (needs batteries), \$20. All equipment is stored in dry storage. Working order when stored. Mike Jones, 4453 S 200 E, Anderson, IN 46017, 765-644-0244, email [miketiltent@comcast.net](mailto:miketiltent@comcast.net) 03/10

**For Sale:** Reproduction cabinet parts (wood). In stock parts; front panels, rear arch supports, base molding, for Philco models 20,21,70,90 (others per sample). Philco Colonial Clock top trim including finials, Grandfather Clock finials for Philco 570, GE H-91, Crosley 124 (others per sample), Almost any wood part available per sample, any make or model (per quote) (tooling charge may apply). Dick Oliver c/o Antique Radio Service, 1725 Juniper Place #310, Goshen, In. 46526. Ph. (574) 537- 3747, e-mail- [dolivears@aol.com](mailto:dolivears@aol.com) 03/10

**Interested in TV history?** Want to see how it started? Try this Web site. [www.televisionexperimenters.com](http://www.televisionexperimenters.com) You'll be amazed how far we've come. Pete Yanczer, 635 Bricken Place, Warson Woods, MO 63122-1613 03/10



A First Place ribbon was awarded to Lou Devorak and his fully restored Grunow 654 table radio in the Pre-1940's Radio category at the IHRS Spring Meet in Kokomo.