



The Oscillator



"All the Electrons that are Fit to Flow . . . "

The Official Newsletter of the DVHRC

November 2009

A 1930's radio in "kit form"

It's not too often that you get to build an early 1930's radio from its composite parts, but that is what I'm spending my time on right now.



A Jackson Bell Model 62 radio had been completely disassembled, cleaned and packed away by club member Dan Collins.

Fast forward a few years, when the radio was delivered last month by Lewie Newhard in a series of cardboard boxes, along with a working "twin" to be used as a guide when connections or assembly wasn't clear.

The club's goal is to re-assemble the radio and make it look as original as

possible. This will include re-stuffing capacitors, cloth wiring and dogbone resistors.

A side benefit to the club will be a learning opportunity. Progress will be included in *The Oscillator* and some sessions at monthly meetings.

Once complete, the radio either be raffled at the May 2010 Kutztown Radio show or perhaps put up for auction.

The model 62 is an AC set with a power transformer and six tubes: three 24's (1st, 2nd and 3rd IFs), one 45 (Output) and one 80 (rectifier).

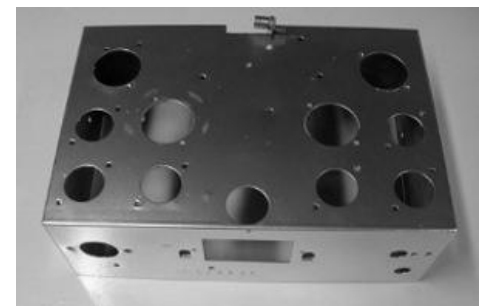
There are 3 series of the Model 62, series 1, 2 and 3. This example is a series 1 according to the serial number. Given this information, the proper schematic is in Riders Volume 3, reproduced later in this newsletter.

The cabinet had been restored by club member Lowell Schultz and was in fine shape - just a few minutes with some polish and a rag was all it needed. If you look closely at Photo 1, you'll notice that the lighter accent veneer pieces that run up the front edges fall just a bit short and leave a small triangle of the darker veneer. At first I thought this was odd, but a check at radioattic.com showed the

same effect on their example.

The knobs are missing, so I will have to hit up Mike Koste of "Gobs of Knobs".

The chassis had been cleaned, but developed rather serious rust and pitting over the years. I tried to polish out the rust, but after an hour or so it was clear that painting the chassis was the way to go.



I used aluminum spray paint. As I expected, the chassis looked too shiny, so I so I rubbed it down with rottenstone, a very mild abrasive. This gave the chassis a more original, less glossy finish.

There are 16 connection points on the transformer, so I numbered them 51-66.

A close look at the schematic showed the following :



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The Oscillator is the monthly newsletter of the Delaware Valley Historic Radio Club.

We welcome information relating to radio and television history and collecting. Submissions should be sent by the 25th of the prior month to saegers@ptd.net. Personal views, opinions and technical advice do not necessarily reflect those of members, officers or Board of Directors of the DVHRC, nor is the DVHRC responsible for any buying or selling transactions.

Dues are \$20 per year and can be paid at a meeting or mailed to the above address.

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3 for the primary. The extra is due to the ability of the set to accommodate either 110 or 125 vac. (With today's voltages, I think I'll be using the 125 vac connection).

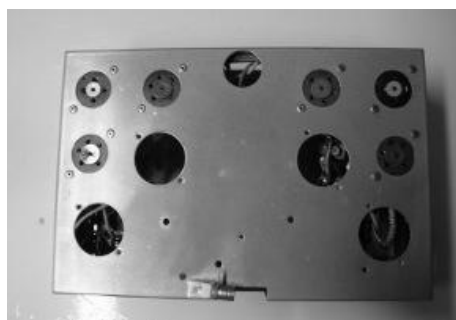
3 for the 24 heaters, including a center tap to ground

3 for the 45 filaments, including a center tap.

3 for the rectifier, including a center tap to ground.

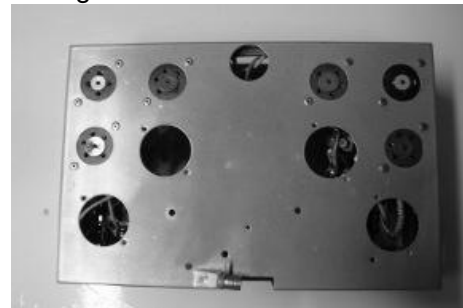
3 for high voltage, including a center tap.

That adds up to 15 of the 16, so some additional tracing will have to be done. Might be a good session for the next club meeting.

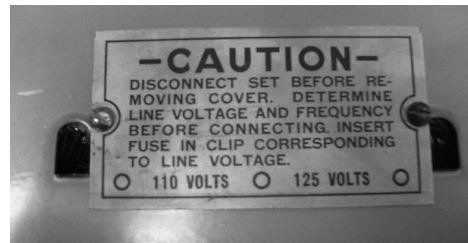


Next up, I decided to attach the speaker and tube sockets to the chassis. Copper blind rivets (aka 'pop' rivets) were included when the

radio came to me as a better alternative than aluminum. I used a washer on the back of the sockets to prevent damage.



I also quickly attached the chassis label with nuts and bolts.



We're not quite at that point yet, but plans are to re-stuff the paper capacitors in this radio.

There are two schools of thought regarding paper caps in old radios. The first is replace only those known to be bad and leave the others alone. The second is to replace them all, because if they haven't failed yet, they will soon. I am a charter member of the "replace 'em all" school.

Paper caps break down over the years as moisture gets inside the covering.

Manufacturers used a number of strategies to combat this problem, the most common being sealing the cap in wax.

The wax eventually breaks down leading to leaks or even shorts.

The normal procedure is to replace these paper capacitors with new film capacitors available from the club and many online vendors.

There is one problem, however. The new capacitors look just that – new. For most radios this is just fine, especially since most caps are hidden underneath the chassis.

What about very special radios like the Jackson Bell, or where the caps are clearly visible?

There is a way to retain the old look but also get the reliability and stability of modern components – re-stuffing.

Basically, re-stuffing is placing a modern component within the shell of the old component. This technique has been described in many places on the Internet, but I thought I would share my methods.

Paper caps have a cardboard shell covered with a paper label coated with wax. Pictured is a Cornell Dubilier 'Dwarf Tiger' .02 mfd 400 volt cap.

To re-stuff, heat the cap with a heat gun – the wax covering will melt off,



and the 'guts' inside will become loose. When it's good and hot, simply pull on the leads on each end to remove the guts. If both leads pull off leaving the bulk of the cap inside, simply push it out with a round object, such as a drill bit.

Next take a modern axial-leaded cap of the same or similar capacity and



an equal or higher voltage rating. A .022 630 volt fits nicely inside the tube.

Slip the new cap inside the shell, and fill with hot melt glue.

The new cap is ready to be installed



and provide years of reliability.

– Stan Saeger



Mark you calendars . .

The dates for the 2010 Kutztown Radio Shows are May 7 and 8 and September 17 and 18.

October Meeting Notes

The meeting started out with a discussion of Kutztown – the many things that went well and some areas for improvement.

In the show-and-tell session, Walt Peters showed another beautiful AA5 radio he repainted as well as a quick discussion on veneers.

Stan Saeger bought in a home-brew

variac/isolation transformer and gave a brief talk on its use. Pete Grave brought along a couple more items from his never-ending supply of radio items.

The night ended with a larger than normal auction as we had a visitor who had pre-arranged to auction parts, test equipment and a couple of radios. Along with member items, there was plenty to bid on.

(This month's meeting review is abbreviated due to our normal contributor, Dave Snellman being absent – one more job Dave does for the club – Ed.)

Golf Shirts

The club is taking orders for collared golf shirts with the DVHRC logo on the front breast pocket area. These will be **first-quality** shirts with the logo embroidered, not silk-screened.

Four different color schemes are available: Gold/navy, stone/ivory, white navy and navy/light green.

Cost will be \$30 prepaid in sizes M, L, XL, or \$33 for XXL or XXXL. Orders will continue to be taken at the November and December meetings or contact Stan Saeger.

Back Issues Online

All issues of *The Oscillator* from 1993 to the present are available online at the club's website, www.dvhrc.info.

Contributions Needed

Contributions to *The Oscillator* are always welcome. Repair tips, historical information or pictures of your favorite radio or project you're working on. Simply email your submission to saegers@ptd.net.

