



# The Oscillator



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

The Official newsletter of the DVHRC

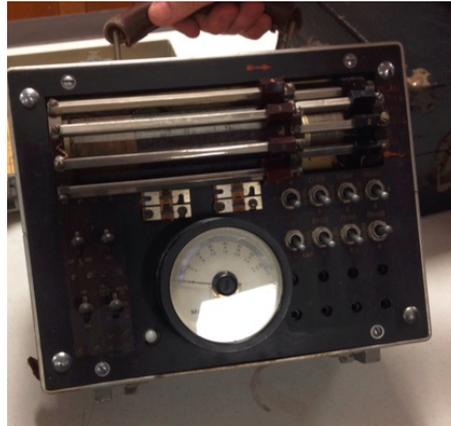
SPRING 2016

## SPRINGTIME, WHERE ARE YOU?

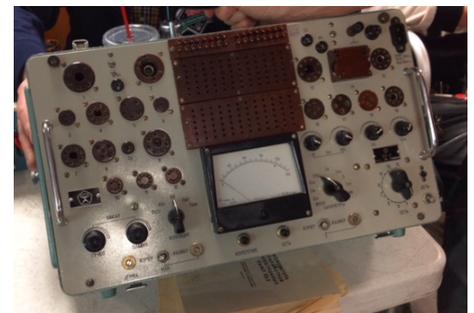
An early tease of above-average temperatures may have prompted many of us to begin radio projects requiring outdoor ventilation. We look forward to true meteorological spring so we can resume those projects and the DVHRC looks forward to planning and putting on a great Kutztown XXXIV event. [Web links shown herein are not hyperlinks and need to be pasted into your browser to access sites.](#) Please suggest any improvements in format as we go. We hope you'll continue to supply technical, historical or project articles that can be published. Simply email your items to [gdoctor@yahoo.com](mailto:gdoctor@yahoo.com).

## MEETING OF MARCH 8, 2016

The theme of our March meeting was *odd test gear*. Many of our members have a passion for historically significant examples of test equipment. These pieces gave electronics technicians the tools to analyze components, circuits and outputs and these devices were also instrumental in the education of those technicians. Following are some pictures of members' test gear shown through pictures courtesy of Dave Snellman.



Above: Chuck Azzalina, a self-admitted test equipment enthusiast, showed off several items including early tube testing equipment and a more "modern" digital voltmeter.



Above: Pete Grave shows a "Pontiac" tube tester for testing of only Pontiac automobile radios, of course. Seen second is a Russian tube tester and below that, a more modern tube tester.



Delaware Valley Historic Radio Club  
PO Box 5053  
New Britain, PA 18901  
[www.dvhrc.com](http://www.dvhrc.com)

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

Articles on radio and television history or collecting can be submitted by the 25<sup>th</sup> of month prior to quarterly issue dates of April, July, October and January to the editor at [gdottor@yahoo.com](mailto:gdottor@yahoo.com).

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. Meetings held 2<sup>nd</sup> Tuesday of each month at Telford Community Center.

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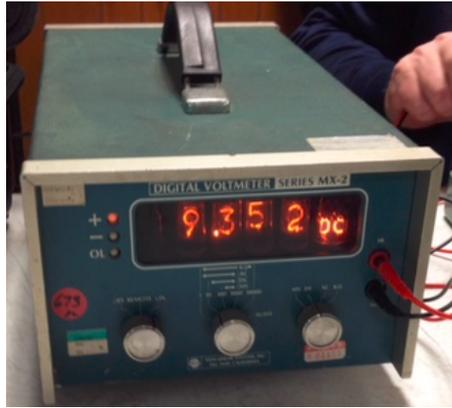
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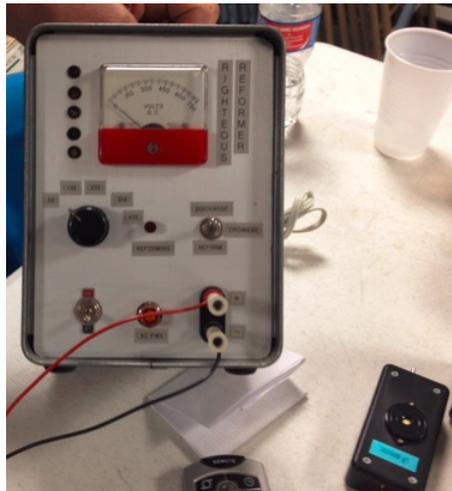
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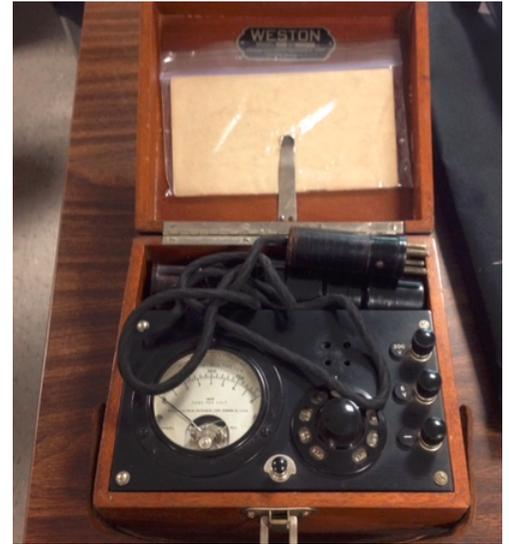


Above: Dave Abramson demonstrates vintage Nixie tube voltmeter



Above: Dave Dean brought a Bird RF Power Analyzer in nice case including frequency/power range elements and the "Righteous Reformer"

Please remember to pay any outstanding 2016 dues at the April meeting or by mailing \$20.00 to DVHRC, PO Box 5053, New Britain, PA 18901.



Above: Jiri Placek shows off some vintage tube testers made by Weston and Dayrad.



Above: Dave Snellman brought an old Volt/Amp meter circa 1910 used in education.



Above: Our smallest instrument was a more modern "pill-cam" used in certain medical procedures as displayed by Jack Meyer.

## NIGHTLY BASEBALL RADIO GUIDE

As the ionosphere discharges the baseball world recharges. Here are some 50kW stations to follow your favorite teams this summer.

kHz	station	team
660	WFAN	YANKEES
700	WLW	REDS
710	WOR	METS
780	WBBM	CUBS
890	WLS	WHITE SOX
1080	WTIC	RED SOX
1100	WTAM	INDIANS
1120	KMOX	CARDINALS
1500	WFED	NATIONALS

The Phillies, our favorite team, is seen on TV, heard on WIP 94.1 FM and regional AM outlets including WNPV 1440, WEEU 830, WSAN 1470 and WBCB (Levittown) 1490. Sadly, 50kW WPHT 1210 is no longer the

flagship sending baseball cheer to Phillies fans in distant locations.

### A NOT-SO EASY RECAP- AS LIVED AND TOLD BY JOE

**DEVONSHIRE** please note this article has already been or will be published in NEARC and NJARC newsletters and we thank Joe for sharing it with us

Last fall, after getting settled from our 500 mile move to Maine, I was looking for an easy project to get back to things radio wise. I chose a Zenith AA5 from the late 50's.



I thought to myself..., 2 electrolytics, 3 paper caps and no selenium rectifier, what could be easier? The schematic and Sams sheet (with thanks from NJARC's Aaron Hunter) were located and I got to work. In short order in one

evening I had everything on the electronic side replaced. I looked over the wiring and compared it to the schematic and once I was sure all was in order, I replaced the tested tubes and gave it a power-up. No Problem. With no noise (static crashes or hum) I let it play for a couple of hours. Over the course of the 2nd hour, I noticed the output was dropping. This was one of those Humm moments we all get. So, once again, it checked the tubes and found them OK. I should have found that by replacing the 12AT6 with a 12AV6 you get better performance (a factory update). I didn't get any improvement. The problem only got worse and now I was getting static crashes. Another Humm moment. I started to take voltage and resistance readings and found everything to be mostly right on spec. It took a little searching and some memories of a past NJARC meeting about Silver Mica Disease. It was at this point that I started to e-mail back and forth with Al Klase. He had some other thoughts for me to follow-up with. His idea was to rule out anything else. What really sealed the case, was when I would tap on one of the IF cans, the radio would play as normal, then crackle and go quiet. At this point, all I could receive were stations from 1200 KC up. As you might guess, this spoiled the night.

Al gave me some of his thoughts and, at the same time, I was doing

some research on this problem. While I could not find anything specific to this chassis, I was able to find information directly related to my problem. I certainly wasn't alone in dealing with this. I wasn't too keen about taking the IF can apart, but at this point, I really didn't have much to lose. As it turned out, the whole disassembly, repair and reassembly, was not all that difficult. First of all, take pictures before you do anything and draw a schematic of where everything goes. Everything after this will go with less stress to get it back together.

As I'm sure most of you know, no two IF cans are alike. In my case, the capacitors for the IF were built into the IF base inside the can. They were made of a single mica disc with a coating.



Internally, the disc is situated between two shoes. As you can see in the photo, they left their mark. Trying to take a reading when they are diseased is nearly impossible. You will need to disconnect each coil to take your readings. In the case of this radio, I should have been reading something close on the caps of the

95-1011 IF. They weren't close. When researching for information about our radios, persistence pays.

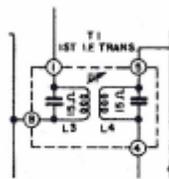
## ZENITH

Model - B508R  
Chassis - 5Z05  
Serial - Z534014

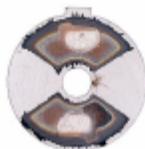
IF Transformers

95-1011

455 KC

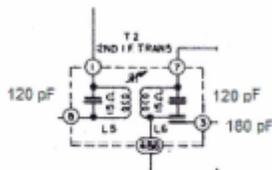


120 pF - 120 pF



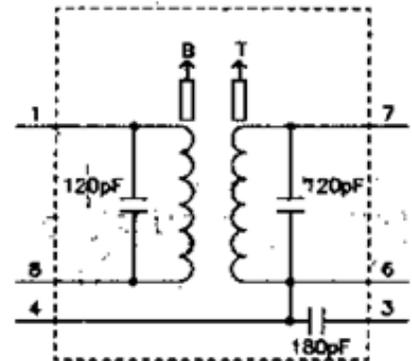
95-1102

455 KC



I was able to locate a thread on Dan Schoo. You might also find him under Dan's Cockatoo Ranch. What a find! Mr. Schoo has

available a tech sheet with 5 of the Zenith IF Transformers. It is certainly not all of them, but it gave me a starting point. Fortunately, one of the IF's (95-1102) in my radio was listed.



ZENITH 95-1102 3RD AM IF

I shy away from assuming, but in this case, both IF coils had the same capacitance and using that data and some other notes I came across in my research, I used the values listed in the schematic photo.

Removing the mica disc wasn't too difficult. Once you disconnect the IF can and remove it from the radio, the best thing to do is as follows... carefully bend the retaining tabs on the bottom of the IF can. Slide the IF assembly out of the can. Look it over so you know where everything is, and take a picture. With a nut driver, remove the retaining nut on the bottom of the IF. Be careful not to over handle the assembly and pay attention to the litz wire. Slowly, separate the upper and lower assemblies just enough to free the shoes from the disc. You don't

need to cut the disc. At this point you may be able to remove the disc, but don't rush it. With a small cutter, remove just enough of the shoes to keep them from touching. At this point, you should be able to remove the disc. Slide everything back together, tighten the nut, reinsert the assembly in the can, and bend the shield retaining tabs back. At the same time, be sure the IF tube is centered in the top of the can. See below about the replacement IF capacitors.

Reinstall the IF(s) back into the radio, and reattach the wires. Solder them, but allow for the new Mica Caps that you will be using to replace the Mica Disc you removed. This is where your testing begins. In my situation, the 120 and 180 pf mica caps were what was called for. I had the 120 pf, but not a 180 pf. Instead, I used a 150 pf that I had on hand. The case here is that if you have a 100 pf, you should be OK or very close. The 180 pf wasn't that critical and I was able to get away with a 150 pf.

Surprisingly, I had very little to do to align this radio. The case was cleaned with Novus 1 and 2 to nearly the original luster. So, what started out as a one night project that turned into a multi-month project, became a valuable learning exercise. It was completed along with the help of a few people and NJARC member expert Al Klase with his wise guidance.

## YOUR RADIO DISPLAY HERE

The Oscillator would like to show off your favorite radio displays as they appear in your residence or "radio shack". A digital picture to show off your radio(s) such as the one below and a brief caption is all that's needed. Send your images to [gdotto@yahoo.com](mailto:gdotto@yahoo.com)



*The corner of the editor's dining room is occupied by the iconic Philco 70 and it was not his idea.*

## NEW HEATHKIT TRF KIT



The reviewer builds the GR-150 1-stage TRF receiver but reserves his excitement. See the link below or search for associated articles. <http://swling.com/blog/2016/01/james-reviews-the-heathkit-explorer-jr-gr-150-trf-am-radio-receiver-kit/>

## THEMES FOR UPCOMING 2016 DVHRC MEETINGS

- April 12- Kutztown Preparation
- May 10-Non-Traditional Cabinets
- June 14- Advertising Items
- July 12-Tailgate
- August 9- Farm Radios
- September 13-Kutztown Preparation
- October 11- 1960's
- Nov 8- Radio/TV Station Items
- Dec 13- X-mas party

## UPCOMING REGIONAL EVENTS

***PARS (Pittsburgh Antique Radio Society) Tri-State Radio Fest Sunday, 4.17.16*** Indoor flea market setup 6:30 AM, Auction check in 9-12AM, food, fun. People's choice contest theme is Crossley. See link below for and click on attachment for detailed flyer: <http://www.pittantiqueradios.org/>

***Info Age/NJARC Radio-Electronics Auction Saturday, 4.30.16, Viewing 8:00- 10:00 AM, Auction begins at 10!*** Huge public vintage radio, ham, tubes, electronics auction. Although organized by NJARC, this is an InfoAge event. Cledis Estes, Richard's son will be auctioneer. The auction will be held in 9032A at InfoAge, 2201 Marconi Road, Wall Township NJ 07719. There will be a 5% buyer's premium and NJ sales tax of 7% collected. Phone 908-757-9741. Paste the following into your browser for more. Check auction info homepage: <http://www.rtm.ar88.net/auction/auction.html> and list of items at: <http://www.rtm.ar88.net/auction/InfoAge2016AuctionListFinalSorted.pdf> Also, check out pictures of lots at: <http://www.rtm.ar88.net/auction/gallery/index.html#>