



The Oscillator



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

The Official newsletter of the DVHRC

FALL 2019

Stanley Saeger, Jr. Memorial

In Loving Memory of

Stanley T. Saeger, Jr.



October 8, 1958 - August 14, 2019

The DVHRC, sadly, lost one of its greatest members in August with the passing of Stanley Saeger. Stan served our club as president from 2008 through 2010 and was instrumental in building the club website, smartly designed, which endures. Stan provided numerous articles for our hobby, published in *the Oscillator* in that timeframe with many recent instructional topics posted which can be viewed on DVHRC.com. His articles were clear, concise, and informative with elegantly clear graphics and precision in his presentation. Stan was quick to give a mentor's hand to those starting out in radio

restoration and gave freely of his time to promote the club. One of Stan's trademarks was his immaculate and well organized bench, which many DVHRC members have witnessed. If you want to get to know Stan better, visit his legacy website at:

<http://saegerradio.com/>.

There, you will find his inspiration on how he got started in the hobby along with many good restoration tips. He will continue be an inspiration via this legacy website. Stan grew up in Fountain Hill near Bethlehem, and graduated from Lock Haven University, later earning an MBA from Lehigh University. His memorial service was attended by hundreds of friends and family whom he touched during his life. He was active in his church, singing on the choir and will be remembered for his humility and care for others. Stan, you will always be the (radio) Man and will be greatly missed!

Kutztown XLI Review



The DVHRC meeting following our Kutztown events always feature a lengthy discussion of successes and also aspects we can improve. We tend to be tough on ourselves when we miss something but it is always with the goal of making it better for you. The K-41 Friday night auction featured more boat anchorage than usual and all items changed hands in an efficient manner by 8:00 given an earlier start. We thank those who attended and helped exchange dollars for treasures.



The club wants to keep Kutztown simple, well run and the place where friends in the hobby meet.





Delaware Valley Historic Radio Club

PO Box 5053
New Britain, PA 18901

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 25th of month prior to quarterly issue dates of April, July, October and January to the editor at 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 2nd Tuesday of each month at Telford Community Center.

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Above: Thanks to John Hagman for his colorful photo essay of K-41, (one of many pix) with the entire slide show posted to our website at: <https://john-h.smugmug.com/Kutztown-XLI-the-Legend-Continues/>. John has been a large booster of our event over the years for which we are grateful.

Below: Roger Buttingsnol of Portsmouth, NH is presented cash prize award for "best display" on Friday by DVHRC president Jarret Brown.



Tubes Needed for DVHRC Kutztown Inventory



After Kutztown XLI, we can say the sales of tubes at the club table lagged a bit, due in part to the lack of audio tubes such as the 12AX7. We make an impassioned appeal for replenishment of those most sought after tubes! So during your winter appraisals, be generous by donating to DVHRC's tube program! Following are a list of the tubes the club is looking for. Dave Dean tests tube stock on his military grade tester for maximum QC. Dave and the DVHRC will be grateful for your efforts.

Any and all Globe tubes,

Any high end audio tubes ,

Any "unusual" transmitting tubes.

5751	10
5842	12A7
6AQ8	2A3
6AZ8	45
6BD8	6Q7G
6DC8	6U7G
6BK8	85
396A	12AX7
417A	83
6072A	6SN7GT
EL37	1L6
6A3	50A1
6F5	6L6GC
6F6	6L6GAY
6L6GA	6L6GB

Some Housekeeping Notes

Web references herein may need to be copied or manually entered into your browser. Please offer any suggestions to improve this newsletter as well!

We are always looking for a good story to publish, especially projects and technical fare which are harder to come by. You may forward them to:

gdottor@yahoo.com

DVHRC Radio Clinic at NIMH in Bethlehem a Success



Above: Pete Wieck works on recap of AA5 unit with owner looking on. The July 27th event drew numerous radio owners interested in appraisals and repairs. This owner wanted to make sure the radio he wanted to present to his grandson was safe to use. **Below:** Tom Lager with portable bench seeks out a schematic. Troubleshooting, tube testing, component replacement, appraisals and advice were freely given.



The radio repair clinic concurred with the NIMH (National Museum of Industrial History) "Don't Touch that Dial, 100 Years of Radio" which ran until Sunday, Nov. 3rd. Vintage radios were reviewed with repairs and recommendations made, especially regarding safety and dangers such as shock hazards.



Above: Mark Hilliard sheds light on a nicely preserved AK set that will need some further tests before pulling the switch. **Below:** Behind the 70's era record player, an AA5 unit is reviewed.



DVHRC thanks NIMH for the great space provided the clinic and looks to plan more clinics in the future, possibly back at NIMH, Bethlehem, or a Philly area museum. Many thanks to the Donna Accera, Professor of Communications at Northampton Community College, DVHRC members contributing radios for display, and the NIMH staff for constructing an excellent radio exhibit! Because of the lateness of this publication, we leave you with some NIMH exhibit highlights.

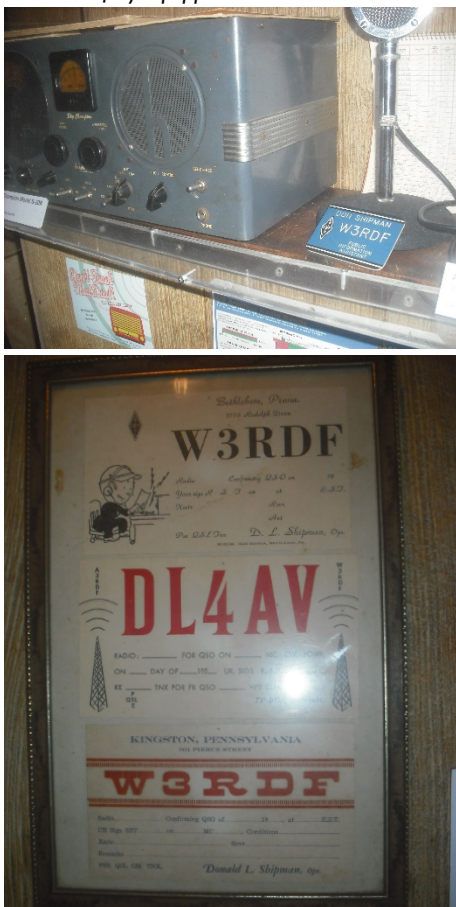
Below: 100 years of radio, Happy anniversary RCA! Radio eras by decade, 2019 NIMH Exhibit



Below: Representation of radio store with actual price tags of the time. NIMH 2019



Below: Tribute to Donna Acerra's dad with some of his ham equipment and QSL cards represented included a fully equipped station not shown here.



Remaining Meetings

[Nov 12-](#) Decade- 1980's Radios 7:30

[Dec 10-](#) X-mas Party at Stove N' Tap

Upcoming Regional Events

Following are some excellent programs and a reason to have multiple club memberships in our region's clubs! Paste links into your browser to load. Some of what follows and even more hamfest events can be viewed via this website: [n2lvi delaware valley area](http://n2lvi.delawarevalleyarea.com) [hamfests](#)

National Museum of Industrial History, Bethlehem, Pa. "100 Years of Radio" Exhibit **Extended through Sunday, Dec 1, 2019.** Coincides with the 100th anniversary of RCA. There is a lot more to see there as well! Where: 602 E. Second St., Beth., PA 18015. 610.694.6644. nmih.org

NJARC Fall Swap meet **Saturday, 11.02.19, 8AM to 12PM, vendor setup 7:15** Cost: \$5 buyer donation; Vendors \$25 per table (non-members \$30). Vendor setup 7:15 AM, Walk-around auction starts at @ 11AM. Expert antique radio repair available. Family oriented environment. Where: Parsippany PAL, 33 Baldwin Rd, Parsippany, NJ 07054, USA. [http://www.njarc.org/directions.html#](http://www.njarc.org/directions.html#swapmeets)

http://www.njarc.org/images/NJARC_Fall_2019_flyer.pdf

NJARC Fall Repair Clinic **Saturday, 11.16.19, 10AM to 4PM, More TBA.** Email: president@njarc.org or (914) 589-3751. Check <http://www.njarc.org>

Veterans Day: Radio's Major Role in Winning WWII at NMIH Sunday, 11.10.19, 2 - 3PM (World War 2, the most significant event of the 20th century, was the first world-wide conflict where the use of technology played an overwhelming factor in victory. Mike Lobus, a self-proclaimed "old timer in electronics", will be sharing the fascinating story of radio technology during WW2. Tracing its foundations back to the turn of the century, radio in the war effort was a culmination of many factors. Come learn more and see a display of WW2 period authentic military radio equipment! This event is free with museum admission. Admission is free for veterans on November 9th and 10th. Where: 602 E. Second St., Bethlehem, PA 18015. NMIH phone # is 610.694.6644. <http://nmih.org/event/veterans-day-radios-major-role-in-winning-wwii/>

FCC Speeds Digital-Only AM Proposal Forward As Part Of Revitalization Effort 10.29.19 from *Inside Radio*

A champion of AM revitalization for the past six years, Ajit Pai has used his authority to advance several ideas percolating inside the Federal Communications Commission since becoming the head of the agency in 2017. The latest lifeline proposal, however, hails from the ranks of radio and it has quickly won support from a large number of broadcasters. If approved by the FCC, it would allow owners to power down analog AM transmitters and leave just a digital-only signal as their replacement.

The proposal under consideration at the FCC wouldn't force any AM to remain a hybrid of analog and digital – or make the leap to an all-digital signal. "Because all-digital broadcasting would be on a voluntary basis, AM operators would be the ones deciding if transitioning is right for them," Pai wrote in a blog post. He said the Commission will be looking in the coming months for more information about such things as the interference potential of all-digital stations as well as addressing what the technical standards for all-digital AM stations should be. Specifics of the FCC proposal will be released in the coming days. But Pai said he views what is being teed up as a way the Commission can do more to give AM stations as much "flexibility" as they can in order to compete in the digital age. He will bring the formal Notice of Proposed Rulemaking to a vote at the Commission's November 19 meeting.

The proposal was first submitted to the FCC for consideration last March by Bryan Broadcasting. Ben Downs, VP/GM of Bryan Broadcasting, told Inside Radio he's encouraged to see Pai move it forward. "The FM translator rules were what most of us in small and medium sized markets needed to continue to compete. Properly engineered, these translators will provide service that covers our communities. But the spectrum is just too full for translators to help in the major markets," Down said in an email. "This will be an opportunity for an AM station that

is competitively challenged to compete with music again."

While many ideas languish at the FCC, failing to ever gain industry support, the all-digital AM outline has quickly gained traction both inside the agency and among pivotal industry players including the National Association of Broadcasters. "We agree with Bryan that all-digital AM service will allow broadcasters to provide substantially improved sound quality," the NAB reiterated in a letter to the Commission last week. Digital radio developer Xperi, and several small and mid-sized radio groups also said all-digital AM should be explored. The California and Missouri state broadcast associations also went on record asking the FCC to advance the proposal.

The FCC last year granted one-year experimental authority to conduct tests on all-digital using Hubbard Radio's adult alternative "The Gamut" WWFD Frederick, MD (820). That included testing to see how the switch to an all-digital signal impacts WWFD's coverage area. Nine all-digital AM tests were conducted between 2012 and 2014, spanning a variety of station types and geographic locations. "These experiments validated the successful performance of all-digital AM radio service," the NAB noted in its letter to the FCC. David Layer, the NAB's VP of Advanced Engineering, has said the goal is to eventually switch over all stations to HD-only broadcasts when digital receiver penetration is high enough. But

most broadcasters agree that day still lies in radio's future.

"All-digital (MA-3 mode) won't be the answer for every AM station," said Downs. "But it will be perfect for some stations that want to compete with a music format. And since every HD car radio ever sold is capable of receiving these signals, there are now 60 million radios owned by potential listeners. And that can't hurt.

In addition, Pai also said Monday that the Commission will begin examining the 1992 rules that put limits on the amount of simulcasting commonly-owned radio stations in a market can air. Pai said they'll look at whether the rules should be modified or eliminated outright. He said since the rules were adopted nearly three decades ago, the number of commercial radio stations has rapidly grown, and many stations are now simulcasting on mobile apps and websites. "With so much more competition and program diversity, we are seeking comment on whether the rule is necessary and whether it should be modified or eliminated," said Pai.



Above: Bozo is a happy clown when spinning at 78 RPM, playing a child's tune over and over.

beginnerZ

Must Have These Tools

On October 8th, Lewie Newhard began a two part series on the All American Five (AA5) circuit, prefaced by what tools are indispensable for the analysis and repair of radios. Pre-UL tested equipment requires use of an isolation transformer to isolate you from the largely unlimited power source you plug into. A Variac is recommended to bring power up slowly in a set when first tested enabling observation of symptoms, such as heat and smoke so power can still be cut off before destroying original components. The classic Simpson 1000 ohms/volt multimeter, and why this meter is a must was discussed. Most of these tools are readily available at swap meets and are the most durable and accurate tools used back in the day. Start your first AA5 project with a simpler circuit such as an Emerson or Fada, since they were built for the New York region which did not require especially sensitive sets with simpler circuit and few parts.



Above: Lewie runs the table on what tools are most desired and should be acquired by the beginner or even old salt. **Next Page:** The plug-in digital watt meter shows power drawn from an AC outlet over time to test a newly repaired set.



We are fortunate to have recorded a video of this presentation which will be posted to our website along with the subsequent AA5 circuit review session. For now, view via: <https://www.youtube.com/watch?v=6KooO3DJa6u4>



Above: Due to sensitivity differences (Ohms/Volt) in meters, the Simpson 260 will often yield a truer result for older sets than the newer digital meters.

Below: Ted explains the virtues of the RCA Senior VoltOhmyst since he worked on the development of many of these sturdy and accurate products while working for RCA.



Trail Blazers to Radionics

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Radio Corporation

We have shared some bios from this book in the past. Here are several more brilliant subjects from all over the world that greatly influenced the development of electronic technology.

PHILO T. FARNSWORTH • 1906- American

Farnsworth began to study radio and to think about television while still going to high school. Since those early days, research and experimentation in his chosen field have brought this young scientist from a position as electrician in a round-house to that of one of America's recognized inventors of television apparatus. He realized the limitations of early mechanical scanning systems, and was determined to do the job by some electronic method. In August, 1934, Farnsworth demonstrated his new television camera, using electronic scanning, at the *Franklin Institute*. A outstanding feature of this camera is a tube called the "image dissector" which was invented by Farnsworth. Lenses are used to collect the light radiated from a scene to be photographed and the image is brought to focus on a photo-electric plate or "photo-cathode" in the "image dissector." Employing this method, an electron image is produced at the photo-cathode by the optical image upon which the camera is focused. After the "electron image" is formed it is drawn from the cathode to an anode located in the same tube.

Next the "electron image" is moved bodily, backward and forward, past a small aperture at a speed of 15,750 times per second. While this motion is taking place, the image is also pulled up and down vertically 60 times per second. The result is a 525 line "electron image" with a repetition speed of 30 frames per second. Each tiny element (367,500 in number) that goes to make up the picture or image delivers its own signal impulse since the electrons composing it enter the aperture and strike the "electron multiplier." The purpose of this "electron multiplier" is to increase the number of electrons making up the original tiny picture element, therefore, improving sensitivity so that outdoor scenes and motion picture film can be reproduced. The output from the electron multiplier is the passed through a suitable amplifier and used to modulate the high frequency carrier wave sent out from the television station. Farnsworth, by his fundamental contribution to television has established himself among the pioneers in the art.

CHESTER H. THORDARSON • 1868- Iceland Thordarson, world famous inventor and manufacturer of transformers began his questioning of natural phenomena when a very small boy. It was early spring in Iceland, young Thordarson and his sister were driving home a flock of sheep, when suddenly streamers of light floated across the sky, The two youngsters watched the aurora borealis. Then the questioning

mind of the young lad took possession, as he asked, "What makes them?" "Why do they dance like that?" A few years later the family came to Wisconsin. When eighteen, he went to Chicago to attend public school and at twenty started to work. Electricity, fascinated him, and he read whatever he could get his hands on that dealt with the subject. His first position was with a company manufacturing lamps, dynamos, and other electrical equipment. Just seven years later Thordarson started a business of his own making electrical apparatus. One group of customers whose needs he solicited was the leading universities in the country. In 1904, he built for Purdue University the first million volt 25 cycle transformer. It was displayed at the St. Louis World's Fair and later used for experimental work at the University. Eleven years later he constructed another million volt transformer to be displayed at Panama-Pacific International Exposition. Thordarson has to his credit patents on long distance radio transmitting apparatus, ignition coils for automobiles, and transformer constructions. Here is another pioneer whose questioning of Nature has brought answers that place him among the greatest living "Trail Blazers to Radionics."

Capacity for Capacitor Sales at DVHRC Meetings

Capacitors are available for sale at membership meetings at Telford. If you would like to advance your order for pickup, Greg will supply

you with either a spreadsheet which will calculate your order amount or in plain pdf format to manually enter your order. If you get it to Greg he'll have your order ready at most membership meetings. Simply contact him at: gdottor@yahoo.com

How to Track Your Collection

The Oscillator would like to do a story on how we maintain an inventory of our collectibles or even not so collectible antique electronic equipment. There are many reasons to have a list other than in your "steel trap mind" such as insurance purposes, information for heirs, description for radio types and groupings, market valuations, tracking of sales and swap meets for ins and outs, ability to share interactively with colleagues or online museums, maintaining images, etc. Software exists and is easier to use than spreadsheets or manual card catalogs. One of these is:



<https://www.collectingcatalog.com/features>

The editor would be interested in the types of information you'd accumulate and how you are doing it currently. Let him know at: gdottor@yahoo.com



Was kind of windy up there on the tower. They say the storms of November remember but they still made me change out that blasted red light.