



The Grid Leak

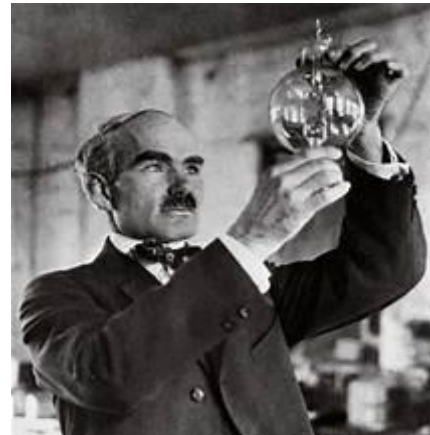
January/February/March 2018

HVRA Celebrates its 40th Annual Convention February 9 and 10!

Our Theme: The Founders of Early Radio



**Edwin Armstrong, Inventor of Modern
Radio Circuits**



**Lee de Forest, Audion tube patent
holder and pioneer movie developer**



**Guglielmo Marconi, Nobel Prize winner
and considered to be the inventor of radio**



**David Sarnoff, Titan of the 20th Century
radio and television industry**

From The President

Bill Werzner,
HVRA President

At the bench



By the time this newsletter reaches your mail box the 2017 holiday season will have passed. Looking back, HVRA have finished our 39th year and will complete our 40th on November 16. Many of you, but not all, have heard how HVRA came to be and held our first organizational meeting that dark November evening in classroom 101 in the basement of the Houston Museum of Science and Natural History. Back then the museum was open until 9 PM and admission was free. I was transferred to Houston from the St. Louis area in the late summer of 1975 and discovered two others who had a common interest in vintage radios. It was in the fall of that year I met the late Bob Lucas and Victor Garcia who is still an active member. Other than those two individuals, I had no idea there were a number of others who had similar interests. In the Shell Research Laboratory where I was employed, a co-worker told me he was listening to his radio while driving to work, and heard an announcement that a radio club was planning to convene a meeting in the museum basement that evening. After work I found my way to the museum in Hermann Park and in the meeting room was my friend Bob Lucas along with twenty-one other men. Bob explained how he had tried to reach me via the Shell operator to inform me of the meeting, but could not remember how to spell my name so no connection was made. Somehow I was mistakenly under the impression that Bob was the catalyst, rather than one of the components, who as they say “lit the proverbial candle” and brought us together. At that time I was totally unaware that Frank Cooper, whom I had never met, was working hard to organize a club of vintage radio enthusiasts and thus became our Founding Father.

Frank began the meeting by introduced himself along with Fenton Wood, and Bob Lucas. Following some discussion and attendees introductions, an election of officers was held. Frank was elected president, Fenton Wood V.P., Casey Cutler Historian, and me as Secretary / Treasurer. After filling the blackboard several times with proposed names for the organization, the regional specific name of Houston Vintage Radio Association was chosen. Frank knew that in order for this newly found club to flourish, a treasury needed to be established. Frank asked, “Is there anyone here who knows how to auction things to sell”? Having attended numerous auctions in the past, I raised my hand – as the late Paul Harvey used to say at the conclusion of his newscasts, “now you know the rest of the story”. That is how I became HVRA’s resident auctioneer starting with about a half dozen items that members brought to the meeting to sell on November 16, 1978. Meanwhile, back home, my five year old son Art and his babysitter were probably watching “CHiPS” or “The Waltons” on TV. In the spring of 1980, HVRA held our first convention auction in the museum’s auditorium. Those T.V. programs along with “Welcome Back, Kotter”, “Petticoat Junction” and others are long gone, but HVRA is still alive, and well at 40, and counting!

Looking back over this last year, the sad news was the loss of three of our long time and dedicated members: Charles Sharpless, Arnie Sanchez, and Walter Troyer. Both Arnie’s and Walter’s collections will be sold during our convention auction in February along with at least one estate from a non-member. Combined, these estate collections will make for a very large auction with proceeds going to the surviving family members. Last May, Mike Payne’s annual spring tail gate and swap meet in Alvin, TX was fun and our July HAM Fest auction at the Doyle Convention Center in Texas City was fantastic! Hurricane Harvey in late August brought over four feet of

rain and many suffered serious losses due to flooding. Fortunately, our storage unit, filled with estate items, remained high and dry. In November, HVRA volunteers manned our booth during Vintage Houston's annual show inside the 1940 Hobby Airport Terminal Museum for a great two day event that attracted hundreds to our vintage radio exhibits. The year concluded with our fun Holiday / Christmas party at the Hobby Airport Doubletree Hotel Dec.15. From the beginning of the year, to the end, our volunteers have shouldered these events and brought them to successful conclusions. It is through their dedication and willingness to get involved that keeps HVRA alive and enabled us to surpass by far, the six month HVRA existence that one individual who refused to join, predicted in 1978. Kudos to you all and let's keep on truckin' as this year ends and another begins. Happy New Year to you all!

Bill Werzner, President, HVRA

HVRA Officers

President: Bill Werzner, 713-721-2242, werz1943@gmail.com

Vice President: Jerry Sirkin, 281-844-4124, gsirkin@aol.com

Treasurer: Richard T. Slater, 832-977-6111, riclater1750@gmail.com

Secretary: Mike Monsour, ACOTX, 832-829-2227 msircg@gmail.com

Historian: Steven Pena, penas@stthom.edu

At Large # 1: Reid Shipp, WA5ARI, 281-943-9877

At Large # 2 and Grid Leak Editor: Jeff Heller, 281-702-6920 hellerj1@comcast.net

Webmaster: Steve Scheel, 281-687-5771, targeteye1@gmail.com

HVRA Event Schedule: January through April 2018

Check with our web site www.hvra.org often for unexpected schedule changes, or special announcements. Remember, the Board of Directors' meetings are open to all members. This is where you can share ideas, suggestions, or express concerns with our officers.

January 9, (Tuesday) 2018 [Monthly Board of Directors Meeting](#) @ 6:30 pm - 8:30 pm Bayland Community Center, 6400 Bissonnet St Houston, TX 77074 As always, all members are welcome to attend. Pizza Served!

January 27, (Saturday) 2018 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30. Bayland Community Center, 6400 Bissonnet St Houston, TX 77074 (Presentation: Meters and Trouble shooting.)

February 9 and 10 (Friday and Saturday), 2018 [HVRA 40th Annual Convention](#) Houston Marriott North, 255 North Sam Houston Parkway E., Houston Please see the details in this issue of the Grid Leak

February 13, (Tuesday) 2018 [Monthly Board of Directors Meeting](#) @ 6:30 pm - 8:30 pm Bayland Community Center, 6400 Bissonnet St Houston, TX 77074 Pizza Served!

February 24, (Saturday) 2018 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30. Bayland Community Center, 6400 Bissonnet St Houston, TX 77074

March 13, (Tuesday) 2018 [Monthly Board of Directors Meeting](#) @ 6:30 pm - 8:30 pm Bayland Community Center, 6400 Bissonnet St Houston, TX 77074 Pizza Served!

March 24, (Saturday) 2018 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30. Bayland Community Center, 6400 Bissonnet St Houston, TX 77074

April 10, (Tuesday) 2018 [Monthly Board of Directors Meeting](#) @ 6:30 pm - 8:30 pm Bayland Community Center, 6400 Bissonnet St Houston, TX 77074 *Pizza Served!*

April 28, (Saturday) 2018 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30. Bayland Community Center, 6400 Bissonnet St Houston, TX 77074

HVRA News and Happenings

Vintage Houston Hobby Airport Event

Submitted by Steven Pena, HVRA Historian

Continuing a long-standing tradition, the HVRA supported the 2017 Houston Vintage Festival at Hobby Airport, November 10th and 11th. President Bill Werzner led a group of about a half dozen members in manning a table near the front door. Actually, it wasn't only the front door we were near for just adjacent to us was the bar, whose free adult beverages kept everyone in good cheer.

This was my first Vintage Houston, and I can joyfully report it won't be my last; for there is nothing quite like this enjoyable step back into the days of Pan Am Clippers, long gloves and leather travel bags. Our table featured some vintage radio treasures, supplied mostly by Bill. We handed out a bit of literature for the Club and the Convention, and I had some really interesting conversations with the eclectic group of people that came to our table. Many people wore "period" outfits that made that old Art-Deco building feel like a time warp. There was even a fashion show, complete with contest and a boogie-woogie dance presentation. While I'm sure many of our HVRA members can cut a rug with the best of them, we were a little too busy with the table to hit the dance floor. From a vintage fire truck to old airline memorabilia, it was all there, including food and drink. Even the small door fee was waived for those manning a table. Lots of vintage clothing was for sale, as were vintage radios and an assortment of other items. Actually, just the Hobby Museum itself is well worth seeing; it is right on the edge of the tarmac.

So plan now to come out next year and take in an event that is well worth the effort.



HVRA Holiday Party

Submitted By Jerry Sirkin, Vice President HVRA

HVRA held its annual Christmas Party on December 15th at the Hobby Airport Hilton Doubletree Hotel. Although the planned start time of 6:30 was delayed by Friday evening rush hour, Bill Werzner began his opening remarks to a group of 46 members, their families and guests just after 7PM. Bill was at the first meeting in November 1978 and he took this opportunity to introduce one of the three original HVRA founders, Frank Cooper, and an original member, Victor Garcia. Frank joined Bill at the podium and reflected on the early days of HVRA and then brought everyone back to the present by reporting on the loss of his wife earlier this year and his very severe property losses from Hurricane Harvey. In total, it appeared that about six other members, at this event, were also affected by the storm and its associated flooding. After the buffet dinner, Bill opened the auction of items donated by the attendees. We wish to thank everyone who brought an auction item and to those purchasers gifting HVRA over \$300 to help defray the cost of the Christmas Party. In addition to the auction income, we thank Vintage Sounds and all the HVRA members who contributed more than \$500 allowing us to offer the buffet dinner at a cost below the Hilton's contract price. Also, a big thanks to our Historian, Stephen Pena, for providing the sound system.



Bill and Reid



Frank Cooper

HVRA Members ready to bid!!



From the Webmaster : Stephen Scheel

If you are not getting the club' email blasts announcing upcoming meetings and the like, please send your correct email address to targeteye1@gmail.com. If you go to our website, you will also find a complete set of materials for our 40th annual convention including registration forms, downloadable auction forms, and pictures of many of the fine radios we plan to auction. Copies of past Grid Leaks can also be found on the website.

Annual 2018 Convention Contest Features “The Founders of Early Radio”

By: Jeff Heller, Contest Chairman: HVRA 40th Annual Convention

To coincide with the theme of our own beginning as a radio club, our contest will feature the **Legacy of Radio's Founding**. Our contest theme features the “**Four Giants**” who contributed to radio's founding and development both technically and commercially. These giants were **Guglielmo Marconi, Lee de Forest, Edwin Armstrong, and David Sarnoff**. A special category will allow Contestants to present any radio(s), papers, displays, advertisements and similar material, and anything else that celebrates the contributions of one or more of these “Four Giants” to the founding of radio as it came to dominate the 20th century. Use your creativity and your collection to show radio heritage related in any way to these Four Giants that our HVRA was created to help preserve. We will be awarding ribbons and a commemorative HVRA plaque for this special contest category. Any questions? Contact Jeff Heller, hellerj1@comcast.net



The Edington Family Museum of Atwater Kent Radios” is now available at www.atwaterkentsrus.com. Jimmy Edington is a long time antique radio collector specializing in the history of A. Atwater Kent and the history of the Atwater Kent Manufacturing Company. The Museum, located in Silsbee, Texas, about 80 miles east of Houston, is in a beautifully restored hotel where Jimmy has re-purposed the hallways and the individual rooms to house his collection in a well thought out chronological order of the development of AK radios, speakers and advertisements. Jimmy was an original member of HVRA when it was founded in November of 1978. Jimmy was also the second President of HVRA. Please contact Jimmy at: 337-476-4328 or atwaterkentsrus@gmail.com and make arrangements to visit “The Edington Family Museum”you will not be disappointed.

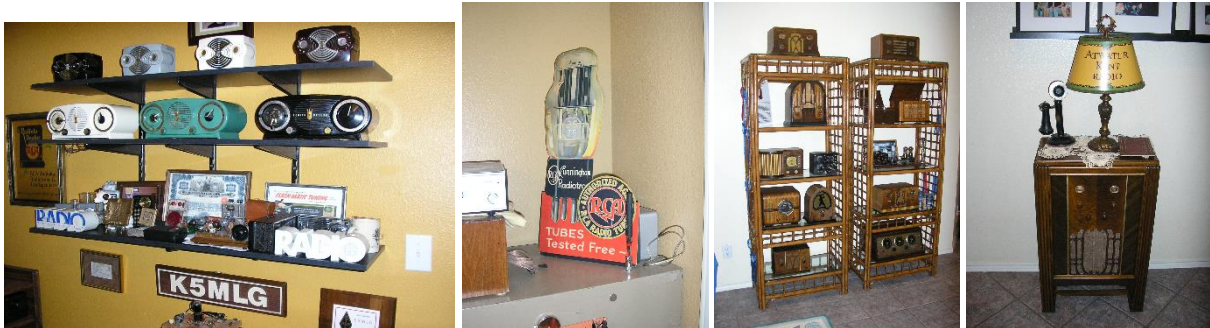
Radio Collector Spotlight

Featuring: Mike Grimes – K5MLG

By Gilbert Hedge



Mike was raised in East Texas where he graduated from high school and went on to receive a Bachelor of Science and a Masters in Chemistry and Physics. He taught high school physics for a couple of years, prior to joining Texas Instruments in Dallas, as an engineer. He is an active board member of Vintage Radio and Phonograph Society of Dallas and a member of Houston Vintage Radio Association here in Houston. He regularly attends our HVRA Convention each year here in Houston.



Mike's interest in radio started at a very early age, in East Texas, when he and a neighbor scrounged enough parts (wire, tin can, batteries, etc.) to make a telegraph set. Then his knowledge progressed enough that he started repairing radios. One day while buying some parts at a local TV repair shop, the proprietor asked him if he would like some old radios that had been left by customers. Mike ended up with a whole pick-up truck load of radios, which he used for spare parts.



Eventually he progressed to building a Heathkit radio and started listening to Short Wave stations. After receiving several QSL cards in the mail, the postman, seeing the cards, contacted him to see if he would be interested in Amateur radio. The postman mentored Mike and helped him get his novice license, build a HAM station and obtain his Amateur license K5MLG.



Over the next 30 years his interest in radios never waned, but because of the responsibilities of raising a family and a full time engineering career at Texas Instruments in Dallas, there just wasn't time to actively pursue his collecting interest as he really wanted to do.



After retiring in 2000, Mike had the time to pursue his interests in amateur radio, and collecting and restoring antique radios. He now also had time to attend the various club functions and network with the members of the radio clubs and even became a board member of VRPS. Mike started collecting anything he could find and afford. After some time it became apparent, for obvious reasons, he needed to redirect the theme of his collection. His interest was in Atwater Kent and Zenith, so he started focusing his collection on those AC radios from the 1930's and up. Over the past few years, Mike has downsized his collection considerably. But he continues to repair, restore and collect select radio items for himself and others.



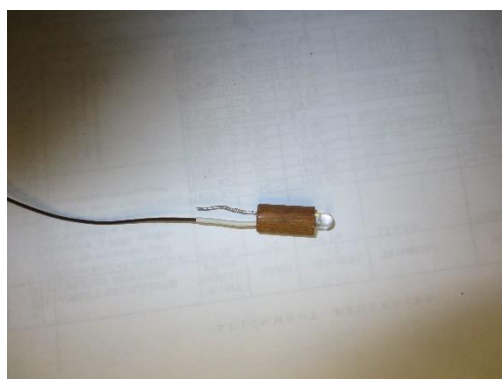
HVRA Technical and Restoration Articles

The Troubleshooter - Part 1

by Bill Werzner

Converting a Philco Dial Lamp Assembly to an LED

If you have ever been confronted with a deteriorated vintage radio dial lamp assembly you will understand where I'm coming from. This dial lamp problem was one I had to address in order to complete my restoration of a Philco tombstone model 610. The rubber insulating seat that secured the dial lamp in place had become so brittle with age that it cracked apart when I removed the lamp assembly to replace the badly deteriorated wiring. My first attempt was to refashion an insulated mount using heat shrink tubing and rubber electrical tape. Things looked good until I tried to install a replacement #47 bulb with bayonet base and the holding spring



Clear LED mounted in dowel rod. Note heat shrink covered soldered connection. Bare wire will be soldered to lamp housing (ground).



Completed LED dial lamp assembly mounted in reflector housing, powered up, and ready to install.

pushed over the center contact plate creating what would have been a short circuit between the plate and housing. Those original hard rubber seats were of a unique design that held the center contact plate in place to align with the lead button on the bottom of the dial lamp bulb. The coiled spring provided tension to push the plate against the center lead contact button for electrical contact. The specially designed rubber seat was to insulate the spring from contacting the center plate and shorting to the shell of the socket. A second attempt to reproduce an insulating "boot" also failed. Then I decided to try something new using a clear white LED for a dial light. I began by cutting a piece of 3/8" wood dowel rod about 7/8 inch long. Then I drilled a 1/4" diameter recession in one end about 1/8" deep. Two parallel holes for the wires (one 1/16 diameter to accommodate the insulation sleeve and the other 1/32" for the ground wire) were drilled down through the dowel rod from the LED recession seat. An insulated wire was tack soldered to one wire and covered with small diameter heat shrink for insulation. The dowel can be moved up and down to adjust the amount of illumination on the dial. I soldered a 500 Ohm 1/2 watt resistor in series with the insulated wire to a 6.3 volt filament source for power and the LED produced excellent illumination for the dial. In this instance, the wood dowel fit snugly inside the metal cylinder and did not require a glue bonding to hold it in position. If gluing is necessary, a small amount of glue can be applied through the two small side openings where the original lamp pins were located.

The Troubleshooter - Part 2

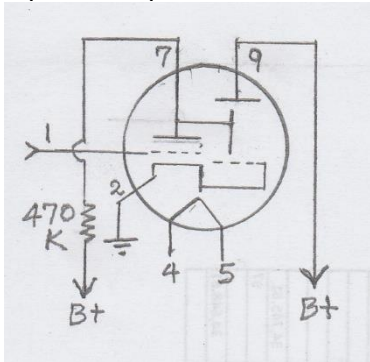
by Bill Werzner

Replacing A Tuning Indicator Tube (EM 85) With An EM 80

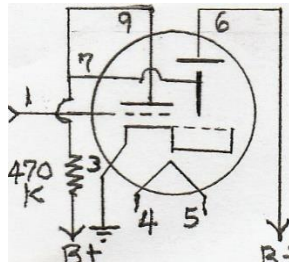
A few weeks ago I finished restoring a Grundig model 7085 AM FM stereo console that was manufactured in 1956/57. This radio required a good cleaning inside following my air compressor blasting away the heavy build up of dust. The switches and controls were oxidized due to age and a good spray down with DeoxIT got them working again. The tubes tested good, but a few capacitors had to be replaced – no surprise here! One remaining problem was the tuning indicator tube would not light up with that beautiful green color. A good EM 85 was almost impossible to find, and one that I did manage to locate on E Bay was way too expensive. A similar configured tube almost identical in size and appearance is the much more common and less expensive EM 80. I had a couple of new EM 80 tubes in stock and found a number of them were available in Russia from a supplier on E Bay. The Russians also supply a 6E5 C tuning indicator that has a bright green target and is said to be good for ten thousand hours. It requires an eight pin tube socket for mounting and I have installed several in Zenith radios replacing 6E5s with great success. If they can make a beautiful 6E5 C maybe their EM 80s are equally good, so I placed an order for a half dozen. When they arrive I will evaluate them and report back!



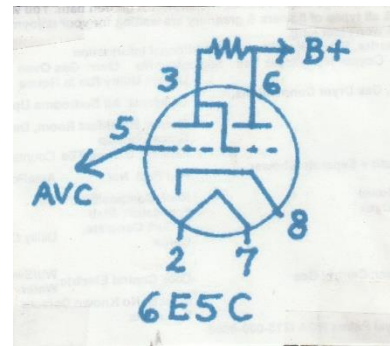
I rewired the EM 85's socket as shown below in a configuration to match the internal wiring of the EM 80. The tube lit up and responded beautifully when the radio was turned on.



EM 80 Tube Diagram



EM 85 Tube Diagram



Russian 6E5 Tube Diagram

Should you encounter one of the foreign radios with a bad EM 85, simply rewire the nine pin base as shown for the EM 80, and that beautiful green glow will once again brighten up the dial.

THE SODION TUBE: Scamming Around the De Forest Patents by Ron Soyland

Editor: Lee de Forest is one of the great four founders of radio. His Audion tube moved radio forward by leaps and bounds. Ron Soyland here describes one of the unfortunate offshoots of de Forest's success!

Back in the early days of radio there were many people that looked for a way to make money in the radio field. Most did it in an honest way, producing radios, or radio parts for sale, or even radio sales and repair. However, there always have been those people that will look for some way to scam their way to fortune! The sodion tube was likely one example!

Up until about 1925 de Forest had a quite rigid hold on the production of triode vacuum tubes via his patents. He vigorously sued anyone that was caught infringing on his rightful market, so many people tried to come up with some scheme to beat the patents. There are numerous examples, some valid ideas some total scams. The sodion tube was one such device, which was at least marginally a scam. However, science being as primitive as it was in that day and age, allowed Dr. Donle, the inventor, to get a patent on it!

The de Forest triode patent, which were actually two patents that were related, covered three element vacuum tubes that had a grid spaced between an electron emitter and a collector plate, and a second patent covering a three element tube with two plates spaced on opposite sides of an electron emitter. That second patent effectively covered the sodion tube! If only they were smart enough to know why! This set of patents substantially limited any of the practical implementations of the vacuum tube by others. So there had to be something fundamentally different about any new design of tube to make it viable for a patent. Something that could be slipped by the patent office engineers if it was not on the up-and-up.



In the sodion tube, this was the addition of sodium metal inside the envelope to provide a “conductive gas with special properties” that would enhance the operation of the tube. In spite of having an electrode arrangement that fundamentally violated de Forest’s patent, including his patent on the gas triode, the addition of sodium was deemed to be enough of a new implementation to allow Dr. Donle, the inventor, to get a separate patent.

However, the entire design was bogus due to a characteristic of the tube that was poorly understood at that time, and also difficult to measure with any equipment available at the time!

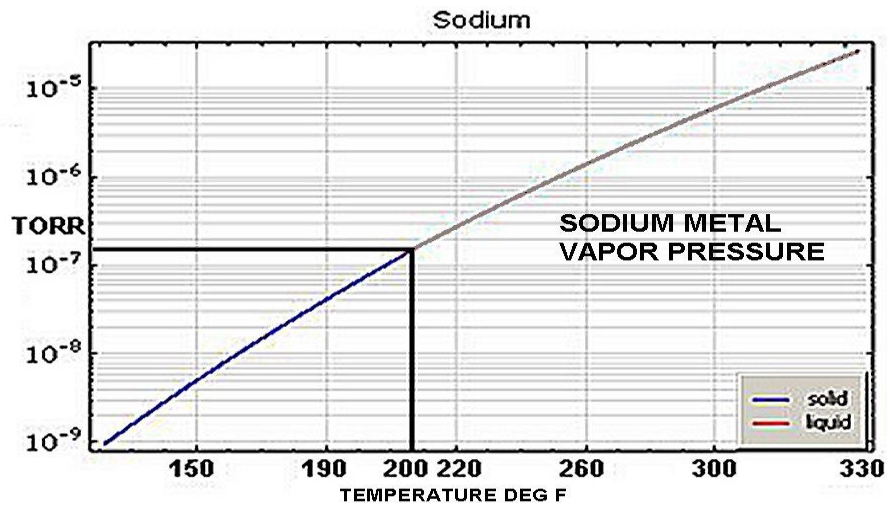
The first implementation of the sodion tube used a pool of liquid sodium metal as the plate. This was soon abandoned, as it was practically impossible to keep the sodium in the bottom half of the tube, thus leading to many failed tubes due to the sodium metal slug moving in the envelope during handling causing damage to the other electrodes.

The second implementation used a smaller quantity of sodium in the tube, a small drop of sodium about the size of a match head, contained in a small screen housing. This kept the metal contained so it couldn’t bounce all over the place. Big deal. That was only one problem with the tube!

To get sodium to melt, it was necessary to heat it to its melting point, which is approximately 200 degrees F. To accomplish this a heating wire was wound around the envelope of the tube. This was operated from the filament supply to heat the tube. The original S13 sodion with the large glob of sodium in the tube could actually heat enough to see the sodium slosh around in the tube. The later D21 types the sodium droplet in the screen housing was “there by definition” but there was no way to tell if it was ever melted or not. It was totally doubtful, since the heating element used very little power from the filament supply. Remember, back then all the radios were operated from batteries so any factor that caused these batteries to go dead faster was not appreciated! Indeed, the D21 gets only warm to the touch when it is operated, nowhere near the 200 F to melt sodium. So much for

any liquid sodium in the screen housing! But that actually was not of consequence! There was a much more serious problem with the design!

The gotcha for the whole scheme is what is called “vapor pressure” of the material at a given temperature. As a substance (any substance) is heated, its molecules vibrate more vigorously, finally vibrating so violently they break loose from the material and form a vapor in the surrounding space. Water boiling is an example. At atmospheric pressure water molecules vibrate so violently at 212 F that they fly off into the air forming a cloud of steam.



Sodium is no different. But the vapor pressure of sodium is vastly different from water! Indeed, sodium barely turns to a liquid at 200 F. Since it was not practical, due to limitations of battery power, to heat the sodium to very much past melting, the vapor pressure in the sodion tube would be approximately that of sodium at 200 F.

From a plot of temperature VS pressure for sodium we see that the vapor pressure is well below 10^{-6} torr, a very good vacuum! So the sodion would have a sodium molecule vapor pressure about 10,000 times less than that found in a good gas triode, such as a UX200A!

The sodion thus functioned as a high vacuum detector, the very few sodium ions present having negligible effect on the operation of the tube! The tube worked only mediocrally at that! The gain of the sodion was minimal due to the poor electrode arrangement, making it about equal to a crystal detector. If anything the sodion worked as a gas detector more from residual air in the tube than from the sodium ions themselves!

The sodion tube was thus able to scam its way past de Forest's patents, but due to the poor performance it was never popular. Only a few radio sets were ever produced using it. The UX200 gas triode was commonly available at the time and it had much better performance. So, Dr. Donle did not make any significant money with his tube!

Banded Capacitors

by Tom Taylor

The majority of unpolarized capacitors we normally find in our radio repair often have a band at one end that has on occasion been considered the negative end of that part. We should instead think of that end as the end with attachment to the internal shield of that capacitor, the foil wrap within the part that winds up in the outermost position. Its inherent shielding characteristic against nearby circuitry suggests it is best connected to a chassis ground or B minus if a screen or cathode bypass or connected with a 60 Hz interference in mind when serving as a plate coupling capacitor. Since 60 Hz is required within the chassis and found throughout on



filament leads, we consider it the ever present noise offender. That hum you can hear when touching the volume control leads or a grid cap is 60 Hz and you were the antenna. For the cathode bypass application there is a low value cathode resistor (typically less than 500 ohms) in parallel easily shunting noise to ground so capacitor orientation here is of little benefit. For the screen bypass capacitor we also have little concern because we can see nearly no amplification of noise off a screen grid.

Convention, however, is to place the capacitor banded end towards ground in these two instances thereby attaining the shield benefit we can. However, when considering orientation of the plate coupling capacitor we have more interest in this 60 Hz offender because the high impedance grid leak resistor in the following stage offers little shunting of that noise to ground at the most influential grid in the tube, the control grid. Considering the capacitive reactance at 60 Hz (similar to resistance) of that coupling capacitor is just above 265K ohm for a 0.01 uF coupling capacitor and 53K ohm for a 0.05 uF we find little advantage of protecting the plate side with a shielded capacitor end when it is facing the grid leak values in the range of 100K to 1 meg. There is enough 60 Hz loss across that element of a voltage divider that we are best served by shielding noise signal entry right at the higher value grid resistor. Convention has then placed the capacitor band towards the grid. For any of these three usages the capacitor will work fine if installed backwards with that band oriented towards the signal end, the plate, the screen and the cathode. Doing so simply increases the susceptibility (not certainty) that noise *might* be introduced. Lastly, we would not consider it unpolarized for that reason, it is unpolarized because there is no chemistry or construction within requiring observance of polarity. There is then no performance degradation or damage incurred when installed backwards. Remember that noise like a weed in the garden is anything we do not want.

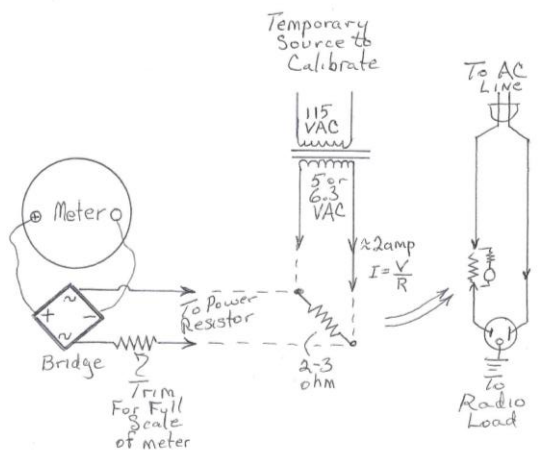
Building an AC voltmeter

Tom Taylor (text) and Reid Shipp (technical contributor)

If you have ever wanted to have an AC meter suitable for measuring AC line current for your repair projects, here is a way to attain one for your household work. Start with any low current or low voltage DC meter and locate a bridge rectifier suited for at least 200 volt and say 1 amp. 1.4 times an RMS line voltage of 120 AC volts suggests a peak rectifier voltage capability of at least 168 volts and you would be hard pressed to find one rated less than an amp, or for that matter one rated less than 200 volts. Prepare to wire that bridge to terminals on

the back side of the meter by first finding the meter polarity “+” sign stamped on the very end of a meter terminal screw or on the black plastic case. Using solder terminals for certain lasting connection on those meter posts, install the bridge rectifier to solder terminals matching polarity with that of the meter.

Let us say your plan is for this meter to take advantage of the existing scale which in this example is 0 – 50. We will add decimal points mentally or physically if bold enough to open that case to arrive at a 0 – 5 amp AC use. Locate a 5 or 6.3 VAC filament transformer capable of at least 2 amps and a power resistor for the chosen voltage which will result in 2 or more amperes, 2 or 3 ohm respectfully. Now take your meter/bridge combination and add a series resistor of say 1 K ohm to it with plans to touch the meter/bridge and resistor string across that



power resistor for just a **fraction** of a second. With the filament transformer off and its secondary leads attached to the power resistor, connect only one end of this meter/bridge and resistor string to the power resistor and provide voltage to the transformer to verify it is providing about 2 amp service to the power resistor. You will compute actual current knowing the measured transformer output and measured power resistor value. Let us say it is computed to be exactly 2.2 amps. Now quickly brush the other meter/bridge and resistor lead to the other end of the power resistor to see if you get positive meter movement towards that 2.2 amp

calibration objective. Reverse meter/bridge and resistor leads if it was a negative meter movement. You now lower the series resistor value if you have too little meter movement towards the 2.2 amp displayed meter objective and increase the resistor if you have too much meter movement. Change resistor values by factors of 10 to 20% until you start getting close where you have even smaller resistor changes.

At some point that series resistor will allow the meter to show 2.2 amps when the power resistor is dealing with that same current. You have then arrived at your destination for that voltage and those two resistors, power and series. Adding a capacitor across the meter/bridge leads will increase the displayed current to a degree while dropping the series resistor value provides a similar but larger affect. You then place that power resistor in one line of the incoming AC power being delivered to your power rheostat or radio ‘in service’ outlet leaving the parallel meter/bridge and series resistor in place across that power resistor for measurement of AC line current. The lower the power resistor value, the lower the loss you have across it on the way to your radio in service, so it was important to use low test voltages earlier to arrive at lower power resistor values for a given meter display current. Should you arrive at a point where the series resistor needs to be below about 75 ohms, you probably have a series resistor inside the meter housing that needs to be shorted or a parallel resistor that should be cut open. Either approach altered the inherent movement to provide the scale on the meter.

Solder Bits (all club members are welcome to submit short repair notes!)

Submitted by Tom Taylor: It is always a good idea to install a fuse in your radio to protect that transformer, particularly for a customer you would serve again under warranty. Don't want to drill a hole in the chassis nor spend a lot of money nor hang a bulky fuse blade connector under the chassis, then consider using a 3AG fuse clip or fuse receptacle including those fit for PCB mount. They are easy to solder to AND Bussmann, Littlefuse, Phoenix Contact and Keyston all make items worth considering most of which are available from Mouser or Digikey. Turns out these are also suited for replacement of those smaller corroded or crippled grid caps found atop many old tubes. Just access the underside of the chassis, cut about 3/4 inch out of the power cord hot side (small blade of wall power plug, often black wire), strip back the insulation and solder the two clips in place followed by inserting that 1.0 - 2.0 amp fuse. Please, for goodness sake, use wire ties, heat shrink, E6000 or short wires to be sure those metal ends are not free to roam!!

2018 ANNUAL CONVENTION RECOGNIZES HVRA's 40th ANNIVERSARY FEBRUARY 9 – 10, 2018

Can you believe it! HVRA has been an active Radio Association since late 1978. So please come and help us celebrate our 40th calendar year. The annual conventions have been an opportunity for members to show some of the best examples from their own collections, for getting together to exchange technical information, and for presenting an auction environment where sellers can reduce some of their inventory and where bidders get exposure to opportunities to see, evaluate and buy items to add to their collections.

Over the past five years, we have averaged approximately 100 members registered to sell and/or buy vintage radio items and associated test equipment during our two days of auctions. An additional 25 attendees made up of new members or observing guests usually evaluate their interests in present and future HVRA activities.

This is your convention. For almost a dozen years we have enjoyed the Marriott Hotel North convention space, overnight guest rooms and awards banquet activities. We have expanded our convention space by 33% with only a modest increase in costs. Please review the registration form and activity schedule and look at the HVRA website for a sample auction manifest. The two days of auction will include collectable and restorable radios, speakers, test equipment, tubes and more. Now we all know the saying "One Man's Junk I Another Man's Treasure". But let's be practical.....most of us can recognize "junk"....those unrestorable, unrepairable radios, wires, test equipment and trash parts that could bring a bid at our monthly meetings, swap meets or the Summer mega-auction.....but may not garner a minimum bid at this event. Lets leave the junk for another time. At this event, we will also be showing Estate items contracted to HVRA by relatives of deceased members. HVRA is making efforts to sort through these estates and auction the better items from the collections left behind from Fenton Wood, Arnie Sanchez, Carl Moore, Walter Troyer and Keith Bailey. Items from these estates, not of the quality for this event, will be auctioned at other HVRA events throughout the year.

This will be a big event and I encourage you to take advantage of the discounted overnight rooms (\$91). Guestroom discounts apply to reservations made prior to Jan. 26, 2018 (unless extended). Contact 281-875-4000 or 1-800-228-9290 (or Marriott Weblink - see HVRA.org). In addition, discounted breakfasts of \$15.00 per day will be available for all HVRA members and their guests.

The Convention Theme for 2018 is The Four Giants Who Were Instrumental In The Development Of Radio – Marconi, de Forest, Armstrong, Sarnoff. Please set aside time to attend the Friday Technical Session where Jeff Heller will present a discussion detailing this Theme.

We are making final plans to provide a special room for displaying 40 years of History of HVRA, including how be began, where we've been and where we're going. We can still use your help with ideas, photos, loan or donation of past HVRA items and, of course, volunteer time to oversee the room.

Look for updated information on website. For questions, please contact Jerry Sirkin (jsirkin@aol.com) 281-844-4124

CONVENTION AWARDS BANQUET

Saturday, February 10 6:30 – 9:00 PM

\$30.00 per person

Banquet Dinner, Announcements, Old Equipment Contest Winners

GUEST SPEAKER: DAN GALLO of COUNTRY LEGENDS FM 97.1

A.K.A "THE G-MAN"



Dan has been knocking around the Houston radio market since 1971, after nine years of getting his on-the-job training elsewhere, mostly out of state. He's been hosting the morning show, "The Gallo Go 'round", on Country Legends 97.1 for ten years, where his probationary period is about to conclude. Dan has five Texas-born kids, and two Texas-born grand-kids. Hobbies include classic cars, classic aircraft, and volunteering as a docent/guide on the Battleship Texas. He also has a keen interest in Houston history. Every Monday and Thursday at 7:15, Dan's Uncle Guido calls in to provide a little friendly harassment. Guido is a "colorful" character with a somewhat "checkered" past. There are just some questions he won't answer, a form of "Don't ask, don't tell". Tuesdays, Wednesdays, and Fridays at 7:15, it's "Uncle Dan's Story Time". Stories that, for the most part, are memorable. The rest....well, you'll forget them before they become a problem. (Edited from 97.1 FM Website)

**HOUSTON VINTAGE RADIO ASSOCIATION
2018 CONVENTION AGENDA**

Friday, February 9, 2018:

8am – 8pm: Registration and Check-in (Lobby)
8am - 2:45pm: Auctions #1 & #2 Check-in (Salon C)
10am - 8pm: Old Equipment Contest Check-in (Salon B)
8am - 3pm: Swap Meet
10am - 2pm: Technical Session

Beginning at 11am: MYTHS, LEGENDS AND THE REAL STORY ABOUT THE BIG FOUR
FOUNDERS OF MODERN RADIO – MARCONI, DEFOREST, ARMSTRONG, SARNOFF by Jeff Heller

3:30 PM: Auctions Begin (Salon D) \$5 Minimum Bid (No Junk Please)

3:30pm: Auction #1 – paper, tubes, test equipment, misc.
6:30pm: Auction #2 – plastic & small radios, speakers, test equipment, misc.
5pm – 7pm: Cash Concession (including sandwiches, snacks, drinks)

Saturday, February 10, 2018:

8am – 3pm: Registration and Check-in (Lobby)
8am - 10am: Swap Meet
8am - 9:30am: Old Equipment Contest Check-in (Salon B)
9:30am: Contest Judging Begins (Contest Room Closed)
8am - 10:45am: Auction #3 Check-in (Salon C)
11am-1pm: Cash Concession Lunch (Lobby)
11am: Auction Begins (Salon D) \$20 Minimum (No Junk Please)
11am - 5pm: Annual Meeting and Auction #3 Including wood and Bakelite radios,
Catalans, consoles, nice stuff.
6:30pm: Awards Banquet Guest Speaker: Dan Gallo from Country Legends FM radio
station 97.1

CONVENTION REGISTRATION and AUCTION RULES:

1. **All Auction Sellers and Bidders must be active HVRA members (\$20, per family).**
2. **All Sellers and Bidders (Buyers) must register and receive a registration number.**
HVRA Members: Registration = \$15 before 1/27/2018 or \$20 on-site (Only one registration per family or bidder required). HVRA Commission = 15%
Estate Sales: as per pre-auction negotiated terms
3. **Sellers and Buyers settlements** at conclusion of each day's auction activities (check-out will be in numerical order beginning with HVRA members).
4. Registration numbers will be issued based on date that HVRA receives completed registration form and payment.
5. All sold and passed lots must be removed from the pick-up room after the conclusion of each day's auction session. Unless prior arrangements are made, HVRA nor the Marriott are not responsible for items not removed from the Convention area by 11pm, Saturday.

For questions, please contact Jerry Sirkin (qsirkin@aol.com) 281-844-4124

HVRA 40th Annual Convention Auction Items

HVRA is pleased to announce that we have many fine radios that will be auctioned at our 40th annual convention. We also have many tubes and some excellent condition replica radios to auction. Please see our website, www.hvra.org, and this link will get you to the radio auction page: <http://hvra.org/index.php/2018-convention-auctions/> Here is just a taste of some great radios we will offer.



1924 Zenith 3R (Late Version) completely restored from the Gilbert Hedge collection.



1924 Zenith Super Portable completely restored and working from the Gilbert Hedge collection.



**Above: Radio clock (working)
Below: Philco Cathedral
From the Keith Bailey estate**



**Grebe MU1 Synchronphase Receiver
from the Walter Troyer estate**



Glass Radio from the Walter Troyer estate



Globe Chief Model 90 Keith Bailey Estate



Silvertone "Candy Cane" radios from the Keith Bailey estate



Atwater Kent battery set from the Keith Bailey estate



Radiola III Battery set from the Keith Bailey estate



Atwater Kent Model 44 with Speaker from the Keith Bailey estate

HVRA 2018 ANNUAL CONVENTION REGISTRATION and MEMBERSHIP FORM

(For Questions Please Contact Jerry Sirkin at 281-844-4124 or gsirkin@aol.com)

Last Name: _____ First Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: (____) _____ Ham Call: _____

E-mail: _____

Feb. 9 – 10, 2018 Houston Marriott North	NUMBER	AMOUNT
Member Advance Registration: ** \$15 (Postmarked by 1/27/2018)		\$
Member On-Site Registration: ** \$20		\$
Family Membership: \$20 - New		\$
\$20 – Annual Renewal		\$
Awards Banquet Dinner: Sat. Feb. 10 @ 6:30pm
Chicken Dinner: \$30 per Adult		\$
Child Plate (12 and under): \$15.00		\$
Vegetarian Dinner – \$30.00 per Adult		\$
Vegetarian Dinner - \$15.00 per Child		\$
Swap Meet: 1st Table Free ; Additional Tables - \$10 each; Any member needing a table(s) must contact Jerry prior to Feb. 9th		\$
Grand Totals	\$

- ****Only One Registration Required Per Family (One Bidder Number)**
- **All Bidders and Sellers Must Register and Be Active HVRA Members**
- **HVRA Commissions: Individual Sellers at 15%; Estates Sales at 15% or Greater Pending Pre-Convention Agreements**
- **Buyers and Sellers Settlements at Conclusion of Each Day’s Auction Activities (Numerical Order)**
- **Bidder Number is Based on Date that HVRA Receives Your Registration Form and Payment**

Friday & Saturday Cash Concessions by The Marriott including sandwiches, salads, fruit, cookies and drinks. Plan to Purchase the Cash Concession? Yes _____ Number: _____ No: _____ Unsure: _____

ADVANCE REGISTRATION: CHECKS (or CASH) MUST BE POSTED BY JANUARY 27, 2018 to:

HVRA P.O. BOX 31276 HOUSTON, TEXAS 77231-1276

ON-SITE: AFTER JAN 27, 2018, BRING REGISTRATION FORM AND CHECK/CASH TO CONVENTION

HVRA USE ONLY:

DATE RECEIVED: _____ **CHECK NUMBER:** _____ **CASH:** _____

REGISTRATION (BIDDER) NUMBER: _____

On The Lighter Side of Radio

The Grid Leak welcomes your submissions that highlight the lighter side of vintage radio, from cartoons to historical and vintage articles and related materials.

March 21, 1925

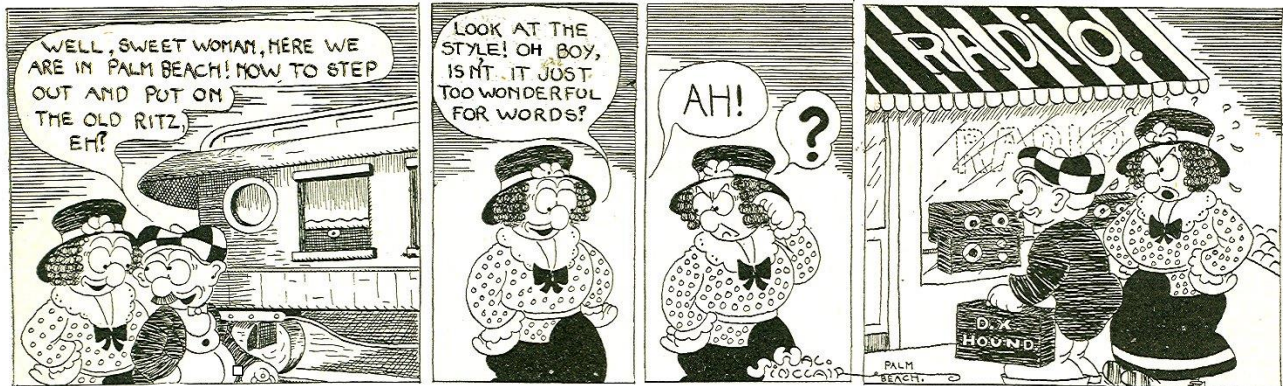
RADIO WORLD

19

MR. DX HOUND

*A Character Created
By RADIO WORLD Artist*

By HAL SINCLAIR



Cartoon Submitted by Ron Soyland



More Radio Clubs

Antique Radio Collectors Club of Ft. Smith, Arkansas (ARCC). Paul Tucker, 4700 N. "N" St., Fort Smith, AR 72904.

Dues: \$10. Monthly meetings, annual show.

Antique Radio Club of Illinois, www.clubinfo@vintage-radios.org

Collins Radio Association (CRA). David Knepper, PO Box 34, Sidman, PA 15955. No dues. www.collinsra.com

Louisiana & Gulf Coast Antique Radio Club. Phil Boydston, 750 Moore St., Baton Rouge, LA 70806.

Michigan Antique Radio Club (MARC). Don Colbert, MARC, membership@michiganantiqueradio.org. Pub: The Michigan Antique Radio Chronicle, quarterly. Dues: \$20. Annual Extravaganza and other quarterly meets. www.michiganantiqueradio.org.

New Mexico Radio Collectors Club (NMRCC). Charles Burch, 39 Chaco Loop, Sandia Park, NM 87047. Pub: *New Mexico Radio Collectors Club Newsletter*, quarterly. Dues: \$12. Annual Sale & Show and monthly meetings. <http://members.aol.com/NMRCC.org>

Texas Antique Radio Club, Ed Engelken, Schertz, TX (830)899-3864, www.EdEngel@gvtc.com

Vintage Radio and Phonograph Society (VRPS), Dallas / Ft. Worth, TX George Potter, vrps@sbcglobal.net, www.vrps.org

Texas Panhandle Vintage Radio Society (TPVRS). Contact: Elroy A. Heras, 4086 Business Park Dr., Amarillo, TX 79110

Local Sources for Radio and Electronic Parts

EPO (Electronic Parts Outlet), 3753 Fondren Rd., Houston 77063 (713) 784-0140 www.epohouston.com

ACE Electronics, 3210 Antoine Dr., Houston 77092 (713) 688-8114 www.ace4parts.com

Vintage Sounds, 10910 Old Katy Rd., 77043. Tubes, parts, records, etc. open Fri. Sat. & Sun.

Allen's Speaker Repair, 919 W. 19th St. Houston (713) 862-2747

NEW: WJOE Radio, LLC: Joe Coco, the webmaster for the New England Antique Radio Club, recently announced that he is offering HVRA members a 15% discount during the month of July on his extensive stock of capacitors, dial lamps, vintage cassette parts and other vintage electronic parts. Check out his products at www.wjoe.com and enter NEWJULY at the check-out. We anticipate offering a gift certificate from WJOE Radio at an upcoming HVRA meeting for a lucky attendee!

Buy, Sell, Trade, & Services Offered

Vintage Sounds Radio & Phonograph Sales & Repair including vintage auto radios, battery sets, foreign sets, etc. We also sell and service vintage telephones and telegraph equipment also parts, new & used tubes, transformers, schematics, books, phonograph parts & needles, records, etc. **Vintage Sounds** celebrating our 33rd year in business. Open Fri., Sat, & Sunday from 10 until 6 PM. Now located in The Market Place Antiques, 10910 Old Katy Road, in Houston (Located about two blocks west of the Athena Gun Club on the westbound I-10 feeder road). 10% member discount on radio items. (713) 468-4911

Borden Radio Company website:<http://www.xtalmann.com> Antique Radio Schematic Service included in web-site. Crystal radio kits for sale. (281) 620 – 6692

Sargent Auction Service: www.sargentauction.com | Jims@sargentauction.com Jim Sargent, WA5QBR, Auctioneer | TX license 16135 | 200 Thomas Road | Granbury TX 76049

Allen Speaker Service, Speaker re-coning and repair, 919 W. 19th St. Houston, (713) 862-2747.

Tom Granger Restorations, radio and phono cabinets. (281) 338 - 8277. wwwtomgranger@mac.com

Escutcheons For Sale **Tom Taylor** has an extensive collection of escutcheons for sale. Nearly a dozen each Philco and Zenith PLUS Air King, Airline, Columbia, Courier, Glorytone, Majestic, Pacific, RCA, Silvertone, Stewart Warner, Traveler, Westinghouse etc, several with the glass. Tom Taylor IHCRally@Yahoo.com

The Grid Leak

January/February/March 2018

Website – www.hvra.org

From The President

Upcoming Club events calendar and club news

Member Technical and Troubleshooting Articles

The Lighter Side of Vintage Radio

Annual Convention Report: HVRA Celebrates its 40th

Anniversary in 2018—See some of our auction items!