



## *The Grid Leak*

### *April/May/June — 2020*

#### ***From The President.....Bill Werzner***

What can I say as an intro for our second quarter “Grid Leak”? How about something that has had a profound effect on how we live our lives day to day called COVID-19 that came down on us so suddenly. True, we have experienced flu virus epidemics before that have been terrible, swine flu in 2009 comes to mind. This one, however, is uniquely different in that it is extremely virulent, and can be transmitted by infected individuals who show no outward symptoms. This has impacted our club’s future activities in ways that may extend well into the summer months. With quarantines and self isolation being our main defense along with hand washing and sanitizers, monthly meetings are on hold until further notice. With that said, I encourage you all to abide by recommendations our disease fighting experts have promulgated, so hunker down, avoid crowds, and practice good hygiene until this pandemic ends – which it eventually will! Then we can again return to our favorite pastime activities, but in the meantime keep safe and stay well, our club needs you above all, to return alive, and in good health!

When you read our schedule now through June, **consider the event dates as tentative and subject to change.** Our March meeting at Bayland was suspended as the county ordered the facility closed through the end of the month. This closure will extend through April, and possibly beyond as flu cases continue to increase in the Houston area. Watch our web site for news and future meeting times and locations. News blasts will also be sent out to keep everyone informed as we learn more. Another factor to consider is this being an election year and everyone from dog catcher to president running for office, county officials requested that Bayland Park Community Center meetings be put on hold during October and November. With political parties, candidates, and elected officials running for office; along with Bayland being an early voting site, it will be one very busy place this fall. With that said, let’s put our worries aside and enjoy the springtime weather. Some good news, our orange trees are in bloom, the sweet smell of their blossoms is wafting through the window; remember, you can’t catch COVID-19 from a vintage radio.

Bill W.

**Editor’s Note:** Through an abundance of caution, this Grid Leak will be delivered by email to all members who have provided an electronic address. For those without an email portal, your Grid Leak will be delivered by US mail. As of today, the Local, State and Federal governmental agencies have made it clear that we should minimize our outside activities in ways to avoid discretionary interactions with others. Therefore, the mailed GLs will have no, or, minimal outside contact with the printing and mailing process. However, please wash your hands appropriately after opening the GL envelop....don’t know who has touched it after leaving my hands.

**DON’T LET THIS BE YOUR LAST GRID LEAK** HVRA annual dues (\$20) should be renewed by January 31st. This GL is being sent out during a 4 month grace period. If you haven’t renewed your membership by May 31st, your name will be removed from the active list and your bid number re-assigned, as necessary. I have added a renewal form as an email attachment...or included in your mailed envelop for your convenience and please return it to HVRA’s P.O. Box. If your records differ from mine and you see an error, please contact me or Ric Slater before the end of May.

**HVRA Event Schedule: April thru June, 2020**

**Check our web site often for unexpected schedule changes, or special announcements.**

**Remember,** Board of Directors' meetings are open to all HVRA members. This is where you can share ideas, suggestions, or express concerns with our officers. Board of Directors' meetings are usually held on the 2nd Tuesday each month at Bayland Community Center Library Room, 6400 Bissonet St. Houston, TX, 6:30 to 8:30 PM. Pizza is served.

General Membership meetings are usually held on the 4th Saturday each month, except for May, November and December when special arrangements may be made to avoid holiday conflicts. These General Membership meetings are held at Bayland Community Center, 6400 Bissonet St. Houston, Texas 8:30 to 11 AM. Although these meeting are for the benefit of members in good standing, HVRA encourages guests to attend and acquaint themselves with HVRA's activities. Members can participate in announced contests, presentations and auctions during these meetings. Coffee, juice, donuts and snacks are available.

**APRIL**

**14<sup>th</sup>** Tuesday, Board of Directors' Meeting 6:30 PM. (May be cancelled or by electronic means due to quarantine).

**25<sup>th</sup>** Saturday, General Meeting (UNLESS CANCELLED DUE TO CORONA VIRUS QUARANTINE – WATCH WEB SITE FOR ANY CHANGES IN MEETING STATUS) Program and Auction

**MAY**

**NO BOARD OF DIRECTORS' MEETING AT BAYLAND** due to two week scheduled shut down.

**16<sup>th</sup>** Saturday, Annual Alvin, Texas Swap Meet at Mike Payne's "Electro Junk Inc."

**30<sup>th</sup>** Saturday, General Meeting 8:30 – 11 AM (UNLESS CANCELLED DUE TO CORONA VIRUS QUARANTINE WATCH WEB SITE FOR ANY CHANGES IN MEETING STATUS) Program and Auction **(PLEASE NOTE THIS IS THE 5th SATURDAY IN MAY).**

**JUNE**

**9<sup>th</sup>** Tuesday, Board of Directors' Meeting 6:30 PM, pending Corona Virus Quarantine, meeting may be cancelled or held by electronic means.

**20<sup>th</sup>** Saturday, General Meeting 8:30 – 11 AM (WATCH WEB SITE FOR ANY CHANGES IN MEETING STATUS) Program and Auction **(PLEASE NOTE THIS IS THE 3rd SATURDAY IN JUNE).**

**JULY**

Mark your calendar for the TEXAS CITY MEGA AUCTION, currently planned for Saturday, July 11th. See more

**HVRA Officers**

<b>President:</b>	Bill Werzner	713-820-1778	<a href="mailto:werz1943@gmail.com">werz1943@gmail.com</a>
<b>Vice President:</b>	Lewis Brittain	281-493-0737	<a href="mailto:brittfaml@juno.com">brittfaml@juno.com</a>
<b>Treasurer:</b>	Richard T. Slater	832-977-6111	<a href="mailto:ricslater17502020@gmail.com">ricslater17502020@gmail.com</a>
<b>Secretary:</b>	Mike Monsour AC0TX,	832-829-2227	<a href="mailto:msircg@gmail.com">msircg@gmail.com</a>
<b>Historian:</b>	Steven Pena	281-785-8380	<a href="mailto:ilovethinking@hotmail.com">ilovethinking@hotmail.com</a>
<b>At Large # 1:</b>	Reid Shipp, WA5ARI	281-943-9877	
<b>At Large # 2:</b>	Tom Taylor	281-229-2970	<a href="mailto:ihcrally@yahoo.com">ihcrally@yahoo.com</a>
<b>Grid Leak Editor:</b>	Jerry Sirkin	281-844-4124	<a href="mailto:gsirkin@aol.com">gsirkin@aol.com</a>
<b>Webmaster:</b>	Steve Scheel	281-687-5771	<a href="mailto:targeteye1@gmail.com">targeteye1@gmail.com</a>

**1st Qtr, 2020**

**A BIG WELCOME BACK TO OLD MEMBERS:**

**Randy James, Ft. Worth; Steve McKinney, Willis; Scott Roha, Plano**

**LET'S GIVE A WARM WELCOME TO NEW MEMBERS:**

.....  
 Randy Anderson, Houston  
 Steven Best, The Woodlands  
 David Brown, Seabrook  
 David Cox, Tulsa, OK  
 Enrique deLeon, League City  
 .....

.....  
 Robert Frisbie, Katy  
 Maury Guzick, Sargent  
 Harty Logan, Houston  
 Ron Moreau, New Caney  
 Richard Motes, Grapeland  
 Sergio Muniz, San Antonio  
 .....

.....  
 Walter Price, Houston  
 Vollie Redd, Deer Park  
 G. E. Stover, Normangee  
 Mark Thompson, Houston  
 James Weaver, Houston  
 .....

## Mike Payne's Alvin, TX Annual Swap Meet & Tail Gate Auction

Mark your calendars for Saturday morning, May 16. Mike will again open the gates to Electro Junk Inc. around 8 AM to his large parking lot for those who will be swapping and selling. Swappers and sellers will have first dibs for parking spots inside the event area as has been the policy in previous events. This is an informal gathering and you can never tell what will show up in the trunks, tailgates, or on the many pallets of fine surplus electronics Mike will have for sale. To get there take Texas Highways 6, or 35 from Houston to Alvin. In Alvin take N. Gordon St. south through downtown, turn right on W. House St., go four streets and turn left on Hill St. Continue two blocks south to 307 W. Dumble St. and you are there (can't miss it)!

## TEXAS CITY HAMFEST and HVRA 2020 MEGA AUCTION

DOYLE CONVENTION CENTER in TEXAS CITY JULY 11, 2020 (Pending COVID-19 Developments)



According to Tidelands Amateur Radio Society's Public Contact Officer, Joe Wileman, with whom I spoke on 4/1, the annual Texas City Ham Fest scheduled for Saturday, July 11, will depend upon how the COVID - 19 pandemic develops in the coming weeks. Joe informed us that sometime between four and six weeks from now (today being April 1) we should know whether or not the event will go forward. They have a window of about 45 days to make their decision. We are all at the mercy of this virus and whether or not the Doyle Convention Center will remain open, and / or crowd size limitations will prevail. Watch our web site for news of this event that we will share with you as soon as a decision is made to hold the Ham Fest or cancel it. Please stay tuned.

**Website:** <http://www.tidelands.org>

This annual event will be held in the Doyle Convention Center, 2010 5<sup>th</sup> Ave. North, Texas City. HAMs, DX'ers, collectors, tinkerers, and curious individuals will be on hand enjoying the swapping and selling throughout the Center and parking lots. You will find just about anything electronic among the many tables, trunks, and tail gates. HVRA will have a table inside the air conditioned auditorium distributing newsletters and club brochures. If you like swap meets, don't miss this annual event. Plan to arrive around 7 AM or possibly earlier, to get a good place to park as the lot fills up fast. Food and drinks will be available inside. There is an admission charge of \$5.00 to enter the Hamfest area.

The HVRA Summer Mega Auction will start at 12 Noon in the adjoining Exhibit Room. All Mega Auction attendees not paying \$5.00 for the Hamfest must enter the Mega Auction room through the side hallway door, not through the Hamfest area. Set up of the Mega Auction will begin near 8AM; sellers may begin staging their items at 9AM. Please bring your items through the side hallway door, not through the Hamfest area. The HVRA Auction will begin at Noon. Selling and bidding at the Auction is free to all current HVRA members. Non HVRA members will need to pay \$2.00 for a one-day membership in order to sell and bid. **Everyone anticipating selling or bidding must register and receive a bid card** with a bidder (seller's) number. All items presented for auction must be labeled with an HVRA seller's form and contain the seller's number, lot number and a brief description. **No items (bought, sold or passed) will be allowed to be picked up until the conclusion of the auction, approximately at 4PM, when the check-out process begins.** At check-out, all sellers will pay HVRA a 15% commission on each successful sale. Payments can be made by cash, check or credit card.

Folks, this should be a great auction. Watch our web site ([www.HVRA.org](http://www.HVRA.org)) for photos and details as the manifest grows until the time of auction. Now is the time to round up those items that may be languishing in your attic or garage, take some photos, list them, and forward them to Bill Werzner at [werz1943@gmail.com](mailto:werz1943@gmail.com). If you have any questions, please contact me at Bill Werzner (713-820-1778).

## 2020 POST HOLIDAY PARTY

No, we're not calling this annual club event a post holiday party in order to be politically correct. During the month of December it is almost impossible to reserve a hotel facility to celebrate Christmas and New Years. Most organizations book reservations years in advance, many people plan family gatherings, take trips, or go on vacation during that time. Therefore, we decided years ago to celebrate after the holidays for those reasons and the results have been positive by all measure. On Saturday evening, January 11, we gathered for our annual celebration at the Hobby Airport Double Tree by Hilton Hotel, and what a fun event it was. With over fifty guests in attendance, our donation auction was excellent, and door prizes totaling over \$300.00 were given to lucky ticket holders. The hotel's traditional Southern Comfort buffet was superb, and rest assured, no one left hungry. Many thanks go to Ms. Laticia Evans, the hotel's event planner who oversaw preparations as she has done for us in previous years. Congratulations Ms Evans and to your staff for another excellent job hosting our party, we look forward to doing it again next year!

Our volunteer members pitched in to make sure everything ran smoothly from logging in advanced attendees' registrations for an accurate head count, our treasurer and assistant who collected ticket sales, and donation auction payments. Our club's Historian provided the sound system and the nostalgic music played during dinner. Whenever there was a need for assistance the auction handlers were there. Also many thanks to those who procured the very nice prizes that were awarded during the drawings. Overall, this was a great event to kick off the New Year. Do we hear a motion to do it again in 2021?



## 2020 ANNUAL CONVENTION REPORT by Jerry Sirkin

Our 2020 Annual Convention and Auction was a 2-1/2 day event this year and, as in past years, held at the Marriott North Hotel. We had a great turn-out as members bid on approximately 550 lots, split just about equally over the Friday and Saturday auctions. Our records indicate that 92 members were actively selling and/or buying lots they brought to the convention or from the 8 estates that were presented for sale. The net to HVRA was just over \$2,800.00 profit. A big thanks goes out to Bill Werzner and Jim Sargent for their auctioneering over the two days and keeping the schedule on track. As in past years, our auctions take a lot of muscle and time contributed by Reid Shipp, Mike Slovan, Jimmie Stewart, Gilbert Hedge, John Schmitt and Pat Zapalac getting those lots across the auction table and handed over to various handlers including Konrad Werzner, Abedallah Soliman, Steven Pena, John Derry, David Herlinger, Erik Stahl, John Given, Harty Logan, and if I omitted anyone's name, I apologize. During all of these auction proceedings and for two days.....without a break, Ron Soyland, Ric Slater and Steve Scheel sat behind the auctioneers recording all bids and passes and completing the bid slips and check-outs so that all attendees would have their purchases and passed lots properly placed in the pick-up room with the accurate information necessary for their final exit. And a big thanks to Lewis Brittain, Gail Sirkin and Lois Janssen for all of their extra efforts throughout the event. Great job by all.

We were treated to two superb presentations during this convention. Bill Werzner, with the assistance and participation from Jeff Heller, gave an attention grabbing Tech-talk about the History of the Man...George Westinghouse and his contributions to the development of railroads, electricity and communications. During our Awards Banquet, 51 attendees were entertained by Dan Gallo from 97.1 FM radio and his stories about his experiences in that industry.

This Convention was extended into Sunday morning with a swap meet held from 7AM til noon. This was the first time HVRA and the Marriott were able to coordinate a Sunday swap meet and it was attended very well considering the short notice to members.

On the following page, you will read Tom Taylor's report on the Old Equipment Contest. Tom deserves a big applause for coordinating that event and overcoming technical difficulties that challenged his excellent Awards Banquet presentation.

## 2020 ANNUAL CONVENTION OLD EQUIPMENT CONTEST REPORT by Tom Taylor

This year's exhibitors contest brought opportunity to win one of the new blue and white ribbons depicting the extraordinary efforts at a greater distance. In addition, we introduced something unique in white for the Westinghouse KDKA convention theme award which could have been attained regardless of additional recognition. Although participation was a bit short of customary this year, there were again some rare treats including many from our northern friends.

Best Restoration	RCA 14X	Mr. G. E. Stover
Best Vintage Eqmt	SNR Excelsior	Mr. Jeff Heller
Artifact and Collections	Transmitting Tubes	Mr. Reid Shipp
Exhibitor's Choice	Home Built Radios	Mr. Ed Mustoe
Best of Show	Home Built Radios	Mr. Ed Mustoe
Best of Show Runner Up	Cowboy Radios	Mr. Jeff Heller
People's Choice	Mr. Mustoe	
Convention Theme	Westinghouse	Mr. Ed Janssen

### **2021 OLD EQUIPMENT CONTEST**

**As your rookie chairperson,** I have renewed my quest for stuffing the room with what I know exists in your "eyes only" collections. Further, the Exhibitor's card placed with your display has already been changed to facilitate your selection of one of three categories, Best Restoration, Vintage Equipment or Artifacts and Collections for you to be considered. This I hope helps you bring home more of the color not awarded this year. Lastly, I am considering how I might facilitate your goals of landing one of the wooden award plaques now in limited supply and unlikely to be seen again once stocks are depleted.

#### **As a reminder I offer these steps:**

- ~ Identify a worthy project, one that fits your time and maybe a bit greater than your current abilities.
- ~ Start photo and note taking documentation of your restoration steps. If you think that wasn't necessary, just look what won in years past.
- ~ Gather materials from historical periodicals ~ there is a web site of Radio magazines
- ~ Develop text on its unique merits relative to other products of the period
- ~ Visualize and draft your display to be placed on the table
- ~ Geterdone

#### **CATEGORIES**

1. Wireless/Spark Equipment
2. Crystal Receivers and Related Crystal Equipment
3. 1920s Battery Receivers
4. Cathedrals, Tombstones and Consoles (wood)
5. Table Receivers, Tube (wood)
6. Table Receivers, Tube (non-wood)
7. Transistor or other Portable Radios
8. "Modern" Electronics, 1970's to the present Electronic Equipment and Electronica {Examples include vintage computers, "modern" radio equipment and recent unique electronic and computing items}
9. Phonographs, Speakers, Reproducers, Microphones
10. Miscellaneous Vintage Electrical Equipment (Examples include Telephones, Telegraph, Scientific Test Equipment, Electrical Devices and Television)
11. Kit Radios and Equipment (At Least 10 Yrs. Old)
12. Hi-Fidelity Equipment
13. Amateur Radio Equipment (At Least 10 Yrs. Old)
14. Military Electrical and Electronic Equipment
15. Replicas and Vintage Style Creations
16. Foreign Radios
17. **Special Convention Theme: Atwater Kent and all items carrying the manufacturer's name**
18. Components, including Vacuum Tubes
19. Open Display

## 2021 ANNUAL CONVENTION UPDATE by Lewis Brittain

Efforts are underway to investigate a Convention location and enter into a Contract designed to provide HVRA with a facility that will allow for event space, price and planning for an Annual Convention suitable to our needs. At this time, we are, again, negotiating with the Marriott North to construct such a contract. The Board members have agreed to hold the 2021 Convention during the 2nd weekend of February (2/12—2/15). The Manufacturer to be recognized for this Convention will be Atwater Kent. More information will follow on our website or in the July Grid Leak. So now you have the date and Tom has provided the Contest categories. Keep your fingers crossed that it will be safe to meet.

## PHOTOS FROM OUR 2020 CONVENTION



# Happy Anniversary to Vintage Sounds

**Vintage Sounds** was founded 35 years ago on February 1<sup>st</sup>, 1985 by three chemists and a career antique dealer. The



chemists, Bob Botto, then working for Exxon Research and Engineering, Dick Neavel also with Exxon Research and Engineering and Bill Werzner at Shell Development, originally met through the American Chemical Society. In 1985 Bob was a new phonograph collector having recently joined the Houston Vintage Radio Association. Dick was a long time phonograph and record collector. Bill was a founding member of the Houston Vintage Radio Association in 1978. One night Bob stopped in at one of their meetings in the basement of the Houston Science Museum. We all know what happened from there!

In early 1985 Ken Wood was selling phonographs and records in the Trade Mart on Beltway 8 at Hammerly. Kathy and I visited the Mart one Saturday and the woman watching the shop announced that Ken was going out of business and moving inventory back to Nacogdoches. The manager of the Trade Mart, Chris, wanted a business like his in the Mart. We needed to provide repair services for phonographs. We approached Bill Werzner to consign radios and repair, and Dick Neavel for records: Vintage Sounds was born.

At first we set up in Ken's old booth but soon the neighbors complained about the noise (we played records and radios constantly) and we were invited to move to a nice booth near the side loading dock. Dick made us the blue and gold "Vintage Sounds" sign that still hangs in our shop.

Kathy eventually took over as manager of the business. Her filing cabinet mind was designed to store faces, customers and repair information. She still recognizes customers from the 1980's who occasionally come in.

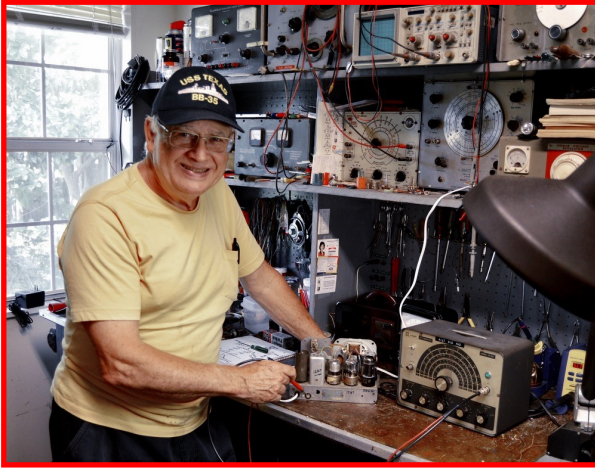
Vintage Sounds was in Trade Mart until the building was sold in 2000. The shop then moved to the Hart Antique & Design Center on Fondren. When that folded in 2006, Vintage Sounds moved to The Marketplace Antiques at 1910 Old Katy Freeway, where it is today.

Dick Neavel retired from ExxonMobil and moved to Austin to be near his family. He has since passed away. Bill Werzner, Bob, and Mark White (who joined us as "junior radio repairman" in the 1980's) work with Kathy. Kathy and Bob are normally at the store on Friday and Saturday. Mark works the store on Sunday. Rick is still doing our spring phonograph repairs. In addition we have several repair specialists, Ron Smith and Rick Saint for telephones and Logan Harty for special projects. Jovette Jolicoeur maintains our website: [vintagesoundshouston.com](http://vintagesoundshouston.com). And, we have a Facebook page. It is typically more current than the website. Visit us at Vintage Sounds Houston. Customers often allow us to brag on their finished projects.

During our 35 years Vintage Sounds has restored hundreds of phonographs, radios, telephones, and music boxes. We have sold tubes and parts for projects others have in mind. Our mission is preserving the past for the present and future. We try to maintain to the widest range of vintage music machines, radios, telephones and recordings available. Visitors from out of state and foreign countries seem amazed at us and wish they had a venue like ours where they are!

# At the bench The Troubleshooter by Bill Werzner

## The # 45 Triode Power Output Tube



In the last quarter "GL" I presented the detailed characteristics (curves) of the first commercially available #71 triode vacuum tube that could operate with a filament powered by AC current. With the advent of sound motion pictures in the late 1920's there was a push to develop more powerful audio amplifiers. This carried over into radios too as large console radios with powerful speakers became popular. The power output tube commonly used in radios was the 171A commonly referred to as the popular "71" that was developed also by Westinghouse in 1925, but not introduced until 1926. With the emphasis on increasing output power – in large part thanks to sound motion pictures, Westinghouse again came through in 1928 with a tube called "the big daddy" – the UX250 that became known as the # 50! I will leave that one for the next quarter for now and jump ahead one year to 1929 with the introduction of the 245 tube.

This tube was a power triode output tube developed by Westinghouse that operated with a lower plate voltage of 250 volts with a 2.5 volt, 1.5 amp filament, and capable of producing 0.8 watts output. It remained popular well into the 1930s and saw wide usage in radios, amplifiers, and juke boxes of that era. In reality, the 45 tube was an intermediate between the 210 and 71A. When wired in push pull, a pair of 45s could deliver almost 2 watts of power. Some of the more expensive console radios had four 45s wired in a parallel / push pull arrangement to produce around 4 watts of power.

**TUNG-SOL**

**TRIODE POWER AMPLIFIER**

COATED FILAMENT  
2.5 VOLTS 1.5 AMPERES  
AC OR DC

GLASS BULB

MEDIUM 4 PIN BASE

4D  
BOTTOM VIEW

THE TUNG-SOL 45 IS A FILAMENT TYPE TRIODE POWER AMPLIFIER DESIGNED FOR SERVICE IN THE OUTPUT STAGE OF AUDIO AMPLIFIERS WHERE HIGH OUTPUT AND LOW HARMONIC DISTORTION ARE DESIRED.

OPERATING CONDITIONS AND CHARACTERISTICS

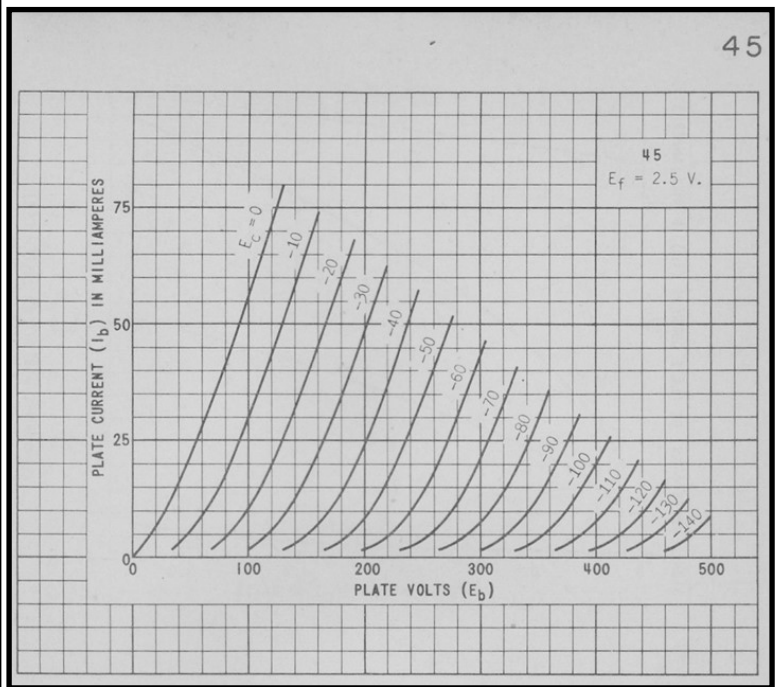
CLASS A <sub>1</sub> AMPLIFIER			
PLATE VOLTAGE	180	250	275 <sup>MAX.</sup> VOLTS
GRID VOLTAGE <sup>g</sup>	-31.5	-50	-56 VOLTS
GRID CIRCUIT RESISTANCE <sup>MAX.</sup>			
SELF BIAS	1	1	1 MEGOHM
FIXED BIAS	0.1	0.1	0.1 MEGOHM
PLATE CURRENT	31	34	36 MA.
PLATE RESISTANCE	1650	1610	1700 OHMS
TRANSCONDUCTANCE	2125	2175	2050 μMHOS
AMPLIFICATION FACTOR	3.5	3.5	3.5
LOAD RESISTANCE	2700	3900	4600 OHMS
POWER OUTPUT	0.825	1.6	2.0 WATTS

PUSH-PULL CLASS AB <sub>2</sub> AMPLIFIER <sup>T</sup>			
	FIXED BIAS	SELF BIAS	
PLATE VOLTAGE	275 <sup>MAX.</sup>	275 <sup>MAX.</sup>	VOLTS
GRID VOLTAGE <sup>g</sup>	-68		VOLTS
SELF BIAS RESISTOR		775	OHMS
ZERO-SIG. PLATE CURRENT	28	36	MA.
MAX.-SIG. PLATE CURRENT	138	90	MA.
LOAD RESISTANCE PLATE TO PLATE	3200	5060	OHMS
TOTAL HARMONIC DISTORTION	5	5	PER CENT
AVERAGE POWER INPUT GRID TO GRID	656	460	MILLIWATTS
POWER OUTPUT	18	12	WATTS

(CONTINUED NEXT PAGE)

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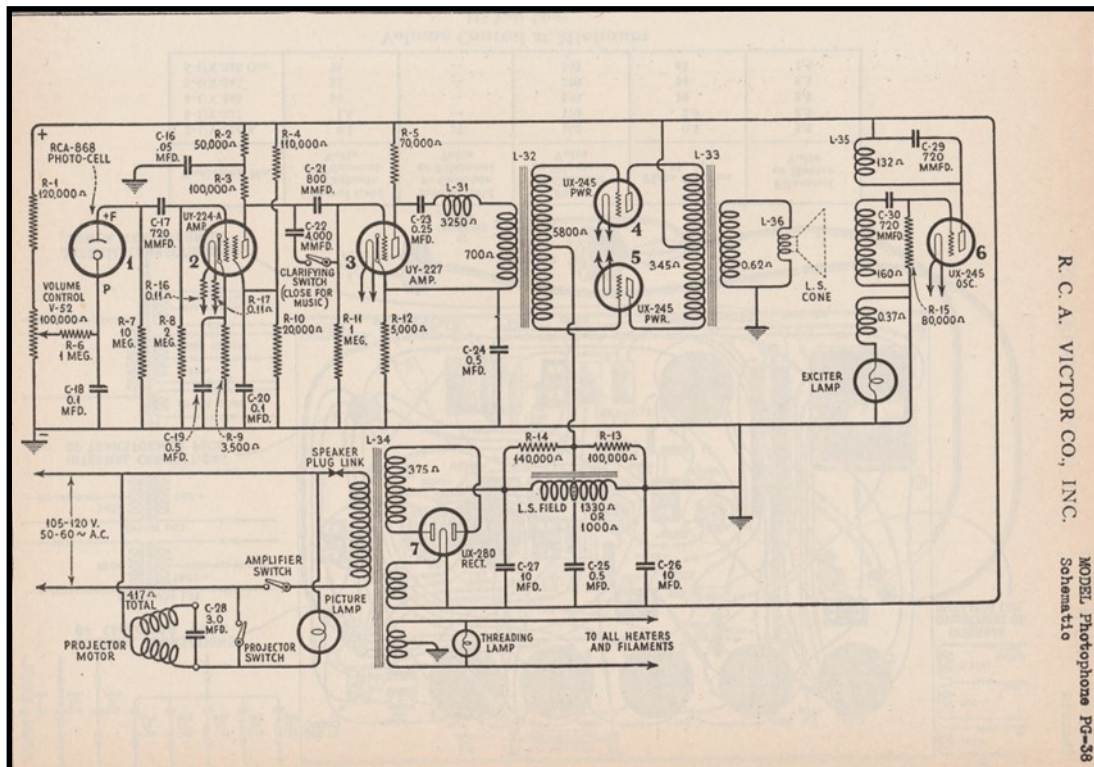
**NOW, LETS TURN TO PAGE 9 TO  
SEE THE APPLICATION .**



## The #45 Tube in an Amplifier Circuit

(continued from Werzner page 8)

My previous Trouble Shooter article dealt with the #71A tube and this one with the 245, better known as #45 power output tube. Both articles dealt with tube physics, but nothing showing how they function in an amplifier circuit. This simple diagram of an early 1930's movie projector amplifier provides a good explanation for those who are just getting started in this hobby. As an intro, notice how the power supply was designed using an inverted pi type filtering network (unusual for that time) with the dynamic speaker field / choke coil connecting the power transformer center tap (B-) to ground. Also note the filter capacitors C-26 and C-27 have the positive leads tied together and their negative leads straddle the field coil. This amplifier also uses an optical sound pickup via the RCA photo-cell which at that time was pretty much state of the art for sound motion pictures. The exciter lamp supplied visible light for the sound track. Well, now back to the power amplifier: two #245 tubes are wired in push pull so this amplifier could produce about two watts of audio output to the speaker. Since the output tubes used the same filament voltage as the other tubes, all the filaments were wired in parallel. Notice how the filament winding at the power transformer L-34 has a center tap to ground, this provides an electron source ( from B - ) for the filaments of the #245 tubes (including the one used as an oscillator for the exciter lamp circuit). The #224 and #227 tubes have cathodes connected to chassis ground to supply electron emission so a tapped filament supply is not necessary for those tubes. Negative grid bias for the output tubes is supplied via resistors R-13 & 14 that connect to the audio transformer L - 32 center tap. Many radios of that era will have single ended power output circuit using one power output tube, often a single #71A as found in the popular RCA Radiola 17 and 18 that some refer to as "coffin radios" because of their long rectangular cabinet design. The chart below shows the voltages one would find in this amplifier for trouble shooting. Compare this circuit diagram with one for an AC Radiola 17 or 18 and compare the output stages to see how they are similar and somewhat different. Also notice how the #45 tube eliminated the need for an extra power transformer winding. This was no doubt a big plus in cost reduction for radio manufacturing at the onset of the great depression.



*Bill has been a long time contributor to our Troubleshooter page and has published many diagnostic and repair articles designed to teach and educate other collectors in the art and skills of radio restoration. Please refer to Bill's past columns in earlier Grid Leaks.*

Radiotron No.	Control Grid to Cathode or Filament Volts	Screen Grid to Cathode or Filament Volts	Plate to Cathode or Filament Volts	Plate Current M. A.	Filament or Heater Volts
2-UY-224-A	0.1	28	150	0.5	2.3
3-UY-227	1.5	—	110	2.0	2.5
4-UX-245	35	—	240	30	2.5
5-UX-245	35	—	240	30	2.5
6-UX-245 Osc.	75	—	240	25	2.5

**Volume Control at Minimum  
115 Volt Line**

## Recent Radio Rehab Records.....R<sup>4</sup>

by Tom Taylor

Tom has been fixing, repairing and restoring radios, TVs and communication equipment for several decades. Below are four “work arounds” and “quick fixes “ that he has incorporated into his repairs.

- ◆ A Philco 90 console presents progressive loss of volume over less than 30 seconds until there is not even a background hum. Observed that sound was momentarily restored in some instances when switching the Tone rotary switch from one position to the others. Repaired by replacing three tone capacitors that bypass to ground the audio output transformer primary.
- ◆ A defective BFO in a Breting 14AX shortwave radio was repaired when a component on the associated variable capacitor was wired correctly. A fixed capacitor serving in the Hartley oscillator circuit was wrongly connected to the rotor of a BFO variable capacitor which is grounded at its mounting rather than to the stator.
- ◆ A resumption of AM reception took place upon cleaning of the band-switch built of point contacts that do not provide a wiping action upon closure. Tarnish would build up with no mechanical means of keeping the surface free of this resistive condition.
- ◆ Resistive bridging and even arcing takes place with older phenolic insulators. Board issues in a 60s SBE transceiver were confirmed when unwelcomed resistance was found between adjacent conductors. Arcing between adjacent conductors was corrected on a Knight R100A board by cutting the trace and bridging the area with a wire. Low and no high voltage in a Philco TV from the late 50s was traced to discolored flyback terminal mounts. The replacement material was used to fabricate the terminal connections thereby restoring the ~ 5,000 VDC.

## MORE CONVENTION PHOTOS

I don't know, Zap

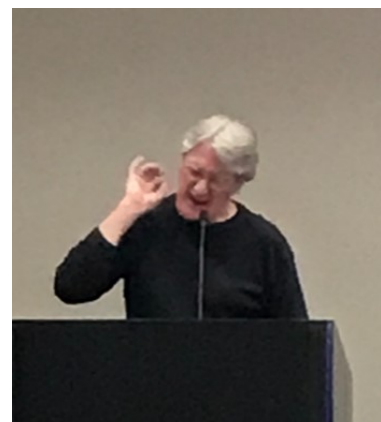
I wouldn't touch that!  
Just keep it away from  
me

It must be “Miller Time”



“Last bid. Are ya done? Sold”

Additional Convention Banquet Photos



BILL WERZNER EMCEE'D A GREAT EVENING AND DAN GALLO ENTERTAINED WITH STORIES FROM HIS PAST RADIO EXPERIENCES.

BANQUET GUEST SPEAKER AWARD

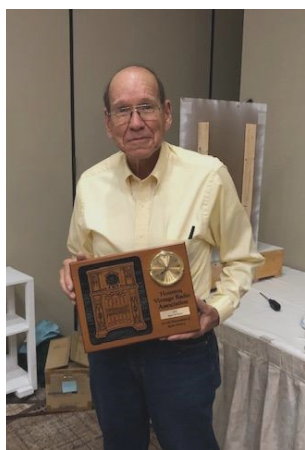


TOM TAYLOR PRESENTING CONTEST AWARDS

OLD EQUIPMENT CONTEST MAJOR WINNERS

- Ed Mustoe
  - Reid Shipp
  - G. E. Stover
  - Jeff Heller

Not Pictured: Ed Janssen



## FEBRUARY 29th GENERAL MEMBERSHIP MEETING

Back in late 2019, Reid Shipp, our Program Director, looked into his crystal ball and said to the Board members .....Ya know, maybe since we will be coming off of a big Convention, we should have as our February General Meeting program a “Bring a Collection Contest”..... They have been popular in the past.

Well, that’s what we did and boy did the membership turn out some good collections. We had seven participants (about 1/4 of the meeting attendees). The collections were so interesting and well presented that it was the consensus that all collections were the winner. So here are some photos from that event showing: **David Herlinger**—Steam Engine Pressure Indicators; **Ron Soyland**—Vacuum Tube duds (he also makes a great variety that do work well); **Stephen Truch**—Pocket Watches; **Eric Stahl**—3d Stereo Cameras; **Jimmie Stewart**—Computer Circuit Board Collection From the 70s to Present Day; **Mike Slovan**—1940s Coleman Lanterns; **Reid Shipp** Computer Processors Old and New.



## 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 33<sup>rd</sup> year in business. Open Friday, Saturday, & 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 [www.vintagesoundshouston.com](http://www.vintagesoundshouston.com)

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

**Sargent Auction Service:** [www.sargentauction.com](http://www.sargentauction.com), [Jims@sargentauction.com](mailto: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.  
[www.tomgranger@mac.com](http://www.tomgranger@mac.com)

**Moving Sale:** Extensive collection of test equipment, using tubes and semiconductors. Old computers from 1960s to 2000. All types of parts, vintage communication receivers and transmitters, metal cabinets, and more. Sale to begin about October 10th. Email Jimmie Stewart for a list at [jimmietex@netzero.net](mailto:jimmietex@netzero.net).

Mike at the cash box.

Sometimes things just don't go as planned. HVRA member Mike Slovan had to break open the club's cash box with a big screwdriver at the conclusion of the Saturday auction. No one called the law, as HVRA Treasurer Richard Slater instructed Mike to take extreme measures in order to gain access to the cash inside. You see, the "high quality" combination on the box simply locked up and there was no other choice as people waited anxiously in line to pay or be paid! Good job Mike, you might think about becoming a "last chance" lock smith, I would stay away from safe cracking though if I were you, years ago a young guy in my home town went to prison for doing that.



## Other Radio Related Activities

**Texas Broadcast Museum:** This museum is located at 416 E. Main Street in Kilgore, TX, phone 903-984-8115. There are hundreds of pieces of vintage paraphernalia related to radio and TV broadcasting. Admission is \$6.00 (\$5.00 for seniors and military vets).

**Edington Family Museum of Atwater-Kent Radios:** Jimmy Edington, long-time collector and original HVRA member, has re-purposed a beautifully restored hotel to display his outstanding collection of Atwater-Kent radios and related products. It is located in Silsbee, TX, about 80 miles east of Houston. See his website, [www.atwaterkentsrus.com](http://www.atwaterkentsrus.com). If you would like to visit, please contact Jimmy in advance, 337-476-4328 or [atwaterkentsrus@gmail.com](mailto:atwaterkentsrus@gmail.com)

## Local Sources for Radio and Electronic Parts

**EPO (Electronic Parts Outlet)**, 3753 Fondren Rd., Houston 77063 (713) 784 – 0140  
**ACE Electronics**, 3210 Antoine Dr., Houston 77092 (713) 688-8114

## HELP NEEDED FOR RADIO REPAIR IN COLLEGE STATION

Jackson Coppermoll is an avid collector in College Station and contacted me to see if someone in our organization could help him with his repair and restoration projects. Jackson uses his father's email, but can be reached at 979-574-7964. Here are the parts he is looking for on his current Philco console 630X project: Tuning shaft, K32 speaker. Thanks for helping him out. Jerry

## More Radio Clubs

**Oklahoma Vintage Radio Collectors** President: Jim Collings, PO Box 50625, Midwest City, OK [jcradio@cox.net](mailto:jcradio@cox.net); \$15 annual dues. Monthly meetings, annual show.

**Antique Radio Club of Illinois**, [www.clubinfo@vintage-radio.org](http://www.clubinfo@vintage-radio.org)

**Collins Radio Association (CRA)**. David Knepper, PO Box 34, Sidman, PA 15955. No dues. [www.collinsra.com](http://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, Pub: The Michigan Antique Radio Chronicle, quarterly. Dues: \$20. [membership@michiganantiqueradio.org](mailto:membership@michiganantiqueradio.org). Annual Extravaganza and other quarterly meets. [www.michiganantiqueradio.org](http://www.michiganantiqueradio.org)

**New Mexico Radio Collectors Club (NMRCC)**. Monthly newsletter and members meeting (with flea market, auction and theme program). Dues: \$20. For more information contact John Anthes, [jpanthes@comcast.net](mailto:jpanthes@comcast.net) Club website: <http://newmexicoradiocollectorsclub.com>

**Texas Antique Radio Club**, Doug Wright, Canyon Lake, TX. [wrightdouglas70@yahoo.com](mailto:wrightdouglas70@yahoo.com)

**Vintage Radio and Phonograph Society (VRPS), Dallas / Ft. Worth, TX**. George Potter [vrps@sbcglobal.net](mailto:vrps@sbcglobal.net), website: [www.vrps.org](http://www.vrps.org)

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