



The Grid Leak

October/November/December 2018

**HVRA Annual Convention Manufacturer Theme: The Founding of
Radio Corporation of America (RCA) 1919**



Famous Model 40X-56 New
York Worlds Fair Radio



From The President

Bill Werzner,
HVRA President

At the bench



With the proverbial dog days of summer slowly drawing to an end, the last quarter of the year 2018 is upon us. The fall season is a time when we like to sit back and reminisce about the past and think about the new year that lies just over the horizon. From my perspective, I feel we had a very successful year so far with the club activities that began with our February convention, May swap meet in Alvin, TX, and what appears to have been one of the best, if not the best, summer mega auctions ever. With estates continuing to bolster our horde of auction items it looks like we will be retaining our rented storage unit on South Gessner well into next year and this translates into another great auction next February. It seems like every time we haul out a truck load to auction, another load arrives to fill the void. Yes, we are all getting older and more of us are realizing that we need to downsize and disperse some of those items that we will never have time to restore so others can assume that challenge. This leads me to one of my oft repeated concerns; we must bring new and younger people into this hobby. We cannot sit back, content with our laurels, and expect this to happen automatically. Nor can we simply “kick the can down the road” delaying action for another day, another time. We must get out there and let the public know we exist and try to get others, especially younger people, interested in what we do and what our goals are for the future. This challenge extends to all our members, not just those members on the Board of Directors who often share the heaviest burden. We need all of you to step forward with your ideas and volunteer some time in promoting HVRA whenever and wherever possible. As we have stated before, our monthly Board of Directors’ Meetings are open to all members to participate, just let me or another officer know a few days ahead if you plan to attend one of our Tuesday evening meetings. And while I’m at it, should threatening weather conditions arise for one of those dates, please call me that day after 1:00 PM and I will let you know if there has been a cancellation.

Getting the message out, here are some of my suggestions of things to participate in during this fall quarter where we will need volunteers in meeting the public: On November 9 & 10, we will again participate in Vintage Houston’s annual two day Hobby Airport Museum extravaganza both Friday evening and all day Saturday. We will need at least two, but three volunteers would be better, to man our booth on both of those days. On December 8th we will need three volunteers aboard the Battleship Texas to interact with the public at a table where we will demonstrate some vintage WW II era equipment. At both events there will be families and young people, many of whom have probably never seen a radio that uses vacuum tubes. Now is the time to consider lending a hand and promoting HVRA at these events. Electronic Parts Outlet on Fondren also have lectures and demonstrations in their store on occasion. Tom Taylor and Lance Borden did just that a couple of months ago with crystal radios before a very enthusiastic crowd of customers! On November 16 & 17, VRPS will hold their yearly convention in Plano just north of Dallas. A number of attendees are members of both HVRA and VRPS so here we will again be promoting our February convention.

As 2018 draws to a close, I want to wish you all - as they appear in order: A great Thanksgiving, Happy Hanukkah, Merry Christmas, Kwanzaa, Happy New Year, and whatever else I may have missed on the calendar! Oh! And happy Halloween to all the spooks out there – oops, missed that one. **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, ricslater1750@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: Tom Taylor, ihcrally@juno.com, 281-229-2970

Grid Leak Editor: Jeff Heller, 281-702-6920 hellerj1@comcast.net

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

HVRA Event Schedule: April through July 2018

Check 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.

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

October 27 (Saturday) 2018 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30 sharp. Bayland Community Center, 6400 Bissonnet St Houston, TX Program: *Our annual Home Brew Amplifier contest—Make a presentation on any kind of home brew amplifier (RF, Audio, IF etc.)*

November 9 & 10 (Friday and Saturday) 2018 [Annual Vintage Houston Extravaganza](#), 1940 Air Terminal Museum, 8325 Travelair Road, Houston, located near Hobby Airport and just east of Telephone Road. (More details in the Grid Lead below.)

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

November 16-18 (Friday thru Sunday) 2018 [VRPS Annual Convention](#) Plano, Texas. See the VRPS website, vrps.org for more detail

November: Due to the Thanksgiving holiday, there is no [Monthly Members Meeting](#).

December 8 (Saturday) 2018 Yuletide on the Battleship Texas, La Porte, Texas, 10:00 am to 5:00 pm.

December 11 (Tuesday) 2018 [Combined Monthly Members Meeting and Board of Directors Meeting](#) We are going to do something different as we usually cannot have General Membership meetings in November and December due to holidays. This year we will hold a Members meeting in conjunction with our Board meeting on Tuesday evening December 11. 6:00 pm to 8:30 pm, Bayland Community Center, 6400 Bissonnet St Houston, TX 77074. *Pizza will be served for a dollar a slice!! Program: Part I "Lead Acid Storage Batteries"—their chemistry, how they work and their role in early radios. Presented by Shell Chemical retiree Bill Werzner*

January 8 (Tuesday) 2019 [Monthly Board of Directors Meeting](#) @ 6:30 pm - 8:30 pm Bayland Community Center, 6400 Bissonnet St Houston, TX As always, all members are welcome to attend. Pizza Served!

January 12 (Saturday) 2019 [Annual Post Holiday Party](#), Double Tree Hotel, 8181 Airport Blvd., Houston, TX (near Hobby Airport) (see more details in this issue of the Grid Leak)

January 28 (Saturday) 2019 [Monthly Members Meeting](#) Set-up starts at 8:00 am and the meeting starts at 8:30 sharp. Bayland Community Center, 6400 Bissonnet St Houston, TX Program: Part II “Death in the 1970’s Sealed for Lead Acid Batteries and How it Happened” by Bill Werzner.

February 8 & 9 (Friday and Saturday) 2019 [Annual HVRA Convention and Auction](#), See more details in this issue of the Grid Leak

HVRA News and Happenings

NOTICE ON PAYING HVRA MEMBERSHIP DUES AND GRID LEAK INFORMATION

HVRA recently altered its dues payment process. Dues are now due in February of each calendar year. This is a change from having dues required at various time during the year based on when you paid them the previous year. Anyone who paid their dues prior to, or at the recent annual convention do not have to renew their membership until February 2019. For everyone else who owes their membership prior to June 30, 2018, you can still send in your \$20 registration. Our mailing address HVRA Treasurer, PO Box 31276, Houston, TX 77231-1276. DO NOT PAY ATTENTION TO THE “EXPIRATION DATE” THAT MAY APPEAR ON YOUR MAILING LABEL AS THEY ARE NO LONGER ACCURATE AND WE ARE WORKING TO REVISE THAT LABEL. Note that we will no longer mail Grid Leaks to persons without current membership status.

HVRA TEXAS CITY MEGA AUCTION JULY 7, 2018 RECAP and OBSERVATIONS: BY JERRY SIRKIN (HVRA VP)

Well if you’re like me, after 40+ years of collecting vintage radios, there’s always another good deal somewhere. That feeling was shared among 60 registered participants for our 2018 Annual Mega Auction. We had 35 HVRA registered members present and an additional 35 one day membership registrants, mostly from the adjoining TARS Hamfest. Beginning at noon, HVRA President Bill Werzner began the auction and, with the assistance of Tom Taylor, by about 5pm, approximately 325 successfully sold lots crossed the auction table. According to the latest treasurer’s report, total sales of \$5200 netted HVRA \$1655. Of this total gross amount, \$879 were spent by the non-HVRA one-day registrants and on behalf of all HVRA members, we thank them for their participation. Deals??, yes there were some good ones: from the Fenton Wood estate, participants purchased a Hammarlund HQ 215 amateur receiver for \$340, a Drake linear amplifier and a Drake power supply for \$340, a Collins speaker for \$100 and a TenTec Scout receiver with power supply and band modules for \$100. Another 60+ items from this estate sold for prices ranging from \$1 to \$75 and included Collins crystals, heathkit receivers, power supplies and test equipment; Dentron and Knight and General Radio were among some of the other brands sold below \$55. The Walter Troyer estate also recycled some vintage test equipment, radios and rare finds that sold for much less than \$75. These two estates accounted for over \$900 in HVRA commissions. Members sold ham equipment, vintage radios and consoles and test equipment at very reasonable prices.

Bill Werzner and a handful of volunteers arrived before 7:30 am and efficiently unloaded Bills packed van and my packed SUV and staged estate lots for final sorting and display before the auction began. At the risk of omitting someone’s name, if you helped, please stand up and take a bow. You did an awesome job getting everything organized so that the handlers could move the lots across the auction table and position them in numerical order for pick up after the 5pm checkout. Kudos to the handlers that found room for these pickup items. I stayed until after 6pm and I did not hear of any lost or misplaced lots. There is nothing easy about this

auction process and all participants should be proud of their efforts. A special thanks goes to our Treasurer, Ric Slater; he was in charge of the pre-auction registrations and responsible for inputting all auction lots into the computer as Bill read each description and awarded the successful bid. All of the volunteers at the auction table performed their tasks with great dedication to details; this process and the post auction collections and payouts proceeded with very few gremlins popping up.



Jerry Sirkin (left) loads his van for the mega auction. Bill Werzner's rented van (right) is packed of mega auction items.



President Werzner (left) calls for bids while some of the auction crew (right) works hard to make the auction a success



And yes, I did get my deals.....another AK 40 with tubes (fully ganged) and an old battery Grimes radio. Many participants voiced their appreciation for the Boards' efforts regarding keeping estate junk and multiple boxes of non-descript parts out of this auction. Those will go at another event. HVRA oversees disposing of several estates submitted by families of deceased collectors, but we only brought to the auction approximately 175 items with the hope that individual members would have adequate time to auction their own collectables in a competitive environment. Hope everyone had a good time. If you had any problems or have suggestions, please contact Bill or me.

Annual Election of Officers

The annual election of officers was held at our general membership meeting on September 22, 2018. The results were:

President: Bill Werzner	Reelected through September 2020
Treasurer: Ric Slater	Reelected through September 2020
Historian: Steve Pena	Reelected through September 2020
At-Large Position I: Reid Shipp	Reelected through September 2020
A-Large Position II: Tom Taylor	Elected through September 2019 (replacing Jeff Heller)

We are **always** looking for a few good volunteers who are willing to accept nominations as club officers. Don't hesitate to ask the President about positions and their responsibilities as changes can occur when an officer resigns or needs assistance. **Our Grid Leak Editor is looking to train someone to be a back-up publisher as this is a position that can be a lot of fun and others in the club can do or share the editing work.** If interested, contact Jeff Heller at hellerj1@comcast.net or 281-702-6920. Jerry Sirkin needs helpers at our Annual Convention as well, so you should contact him to learn about assistance you can provide (see his Convention article later in this issue of the Grid Leak).

Mark Your Calendars For Upcoming Special Events

1. We will be participating in the annual **Vintage Houston** event in the Hobby Airport Museum on Friday evening and Saturday during the day, November 8th & 9th. We will be setting up our displays and items for sale early Friday afternoon. We are asking for volunteers to man our booth at the air museum both days, possibly in shifts during the events, and then assist in tearing down at 5 PM Saturday when the event concludes. There will be no general club meeting at Bayland in November due to the Thanksgiving Holiday weekend, so strike that date from your calendar.
2. The VRPS (the Dallas vintage radio club) will hold their annual convention the following weekend Nov. 16 – 18 at Comfort Inn & Suites, 700 Central Parkway East, Plano, Texas 75074. Watch the VRPS web site for details.
3. If things go as planned, we may have a table set up on board the Battleship USS Texas at the San Jacinto Battleground State Park in La Porte on Saturday Dec. 8. This annual event attracts hundreds of families and can provide an excellent opportunity for us to interact with the public and demonstrate WW II era radios and electronics. HAM station NA5DV may also be on hand transmitting from the HAM shack down on the second deck. That is always a popular spot where visitors stop and learn about HAM radio. In the ship's post office nearby, Bill Werzner will be dressed as a sailor operating a telegraph sending the kids' letters to the North Pole via telegraph. If you're looking for something to do come on over for a tour and bring the family. The third deck and engine room should also be reopened for tours by then.
4. On December 11 (Tuesday evening) we will convene our December General Meeting at the Bayland Park Community Center starting at 6:00 PM for auction set up and meeting starting at 6:30. We plan to have

pizza on hand at dollar a slice, so don't worry about missing dinner on the 11th. Our meeting will conclude at 8:30 PM and the center closes at 9:00.

5. The next important event will be our annual Post Holiday Party Saturday, January 12 at the Hobby Airport Double Tree by Hilton, 8181 Airport Boulevard, Houston. The "Southern Comfort" Dinner Buffet will be served with cocktails starting at 6:00 and dinner and program at 6:45 PM. Price is \$25.00 for adults and \$10.00 for children under 12. This is the same rosemary baked chicken and beef tenderloin dinner that so many raved about several years ago. Where else can one go for a buffet like that one for only \$25.00? A cash bar will be open across the corridor from our banquet room. Following dinner, we will have our traditional fun auction and prize drawings. We have reservations for fifty and can expand that number if necessary so let's have a good turnout and celebrate during an evening of fun. Plan to bring one radio related item and one household item to donate during the auction, but NO JUNK PLEASE!

HVRA Post Holiday Party January 12, 2019

Please mail this reservation along with check made payable to HVRA, P.O. Box 31276, Houston, Texas 77231-1276. Reservation deadline January 7, 2019. Adults \$25.00, Child under 12 \$10.00

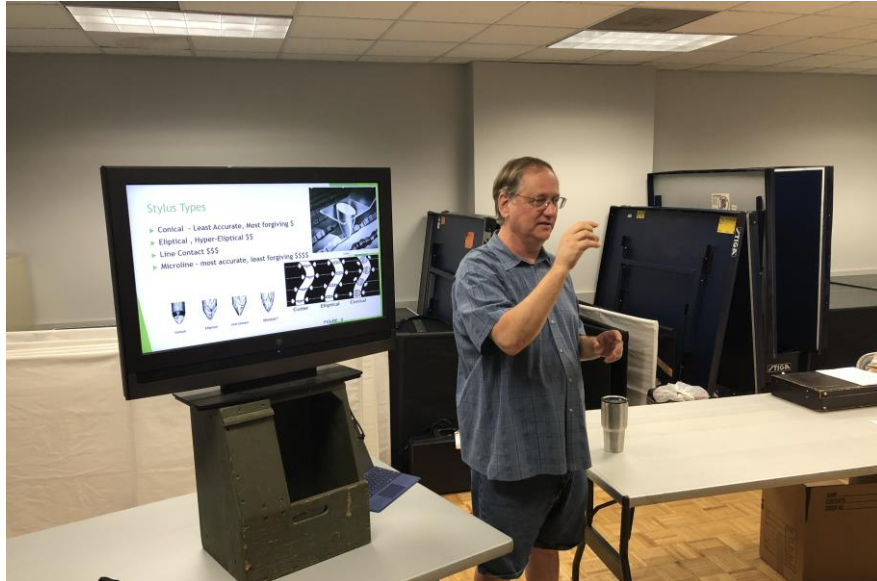
Member 's Name _____	Number of Adults _____
Address _____	Number of Children _____
_____	Number of Guests _____



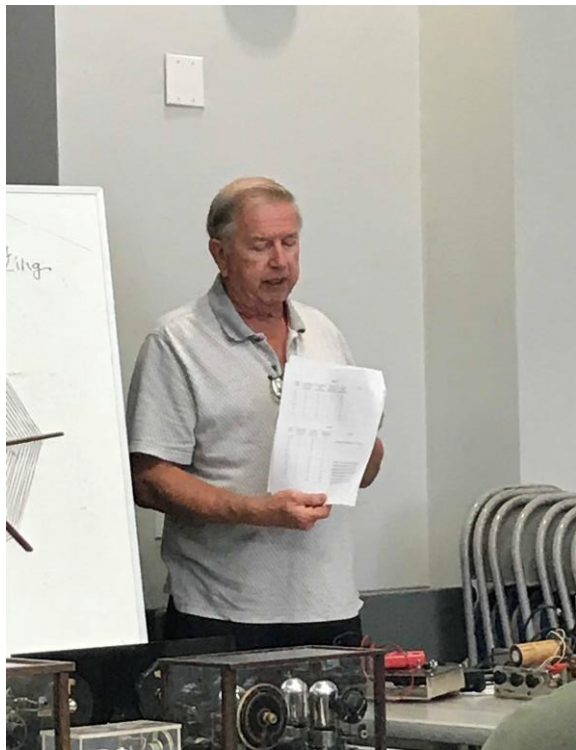
Saturday Meeting Programs

Do you know that we usually put on a program at our Saturday monthly meetings? Don't miss out on some terrific opportunities provided by fellow HVRA members. Our upcoming programs are listed in the HVRA event schedule above and include a home brew amplifier presentations and two sessions on lead acid batteries.

Would you like to provide a presentation at an upcoming meeting? We would welcome your contribution. Just tell Bill Werzner, Reid Shipp or any HVRA Board member of your proposed presentation and we will work with you to get it scheduled.



Steve Scheel gave a terrific presentation on tonearms and cartridges at our September meeting



Jimmie Stewart (left) and Ron Soyland (right) show off their home-brew creations at the July membership meeting

Welcome New Members!

Please welcome our new members: Jim P. Allen; James Bartholomew, Darrell Brooks, Norman Grueniech, Douglas Kamien and Cody Sewell. Keep your tubes lit and watch your B+.

HVRA Members Help Houston's Electronic Parts Outlet (EPO) Put on a Green Radio Demonstration

HVRA members Lance Borden and Tom Taylor were recently invited to Houston's EPO store to offer a presentation on Saturday July 21, 2018. The topic of the presentation and demonstration was "Green Radios". Lance and Tom demonstrated to 35 attendees various aspects of building a "green radio" featuring some of Lance's kits which are well-known to many HVRA members. Lance's kits have also been the subject of two recent articles in *CQ* magazine. Chris Macha is the owner and manager of EPO. In addition to being an HVRA member, he arranges for interesting presentations at his store from time to time on Saturday mornings. He also has some vintage radios on display and for sale that you might want to check out. Pictures of the Green Radio event are presented below.

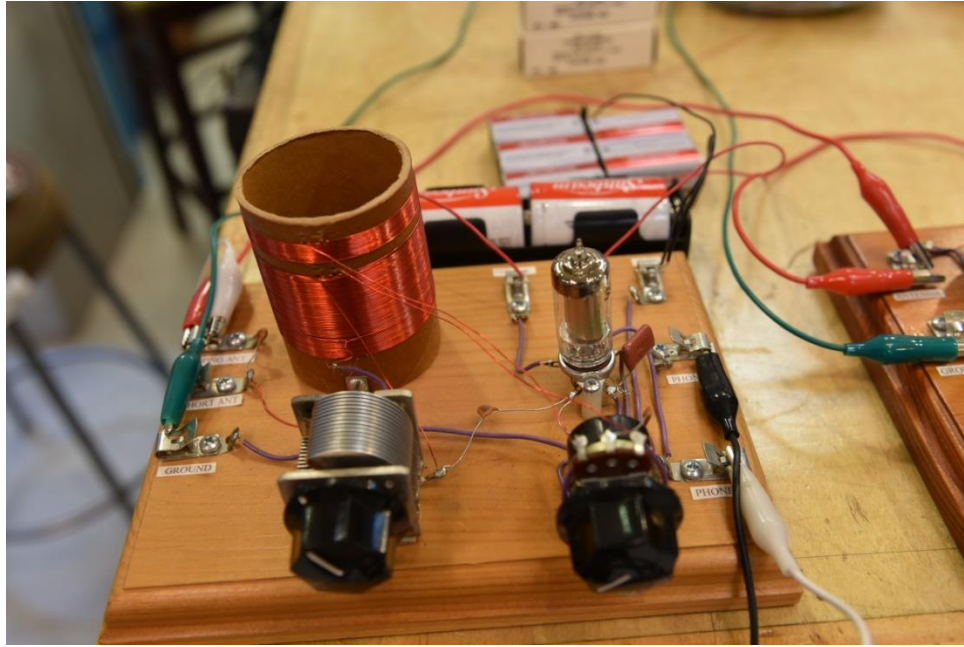


The Green Radio Demonstration at Electronic Parts Outlet (EPO) (Zamacha LLC.) on Fondren Road, Houston July 21. L to R : store manager/owner Chris Macha, HVRA's Lance Borden & Tom Taylor, and manager/co-owner Rick Zamarripa. Lance is the owner of Borden Radio Company where Green Radio kits are produced. See website at www.xtalman.com.



Above: Lance Borden draws a circuit diagram for store manager Chris Macha with examples of working crystal radios in the foreground to be shown during their program. Below: A display showing some of the radio kits used in the presentation. A small amplifier and speaker were used so the crowd could hear the crystal radios





Some of Lance's radios do not exactly work for free. Here is a close up of one of his one tube radios that are quite powerful. The tube is a 354, two D cells light the filament, and five 9 volt batteries in series provide the 45 volts B+ to power the tube.

If you have not visited EPO, or perhaps you have been too busy for a return visit, you're missing out big time. Store manager Chris Macha is an active HVRA member and his store is truly amazing. Do you need some dial lamps, hardware items, capacitors, resistors, transformers, coils, transistors, diodes, vacuum tubes, or how about some 4 uF 40,000 Volt capacitors (guaranteed to stop the hum in that old AK, also might harness a



lightning bolt)? Need some new test equipment: oscilloscope, signal generator, voltmeter, test leads for your old Simpson etc. For hardware this place rivals Home Depot for nuts, bolts, screws, brackets, washers, and springs. If you know someone who enters science fairs there is everything from petri dishes to dropping bottles and much more too numerous to mention! If you are into eclectic items, how about a cotton candy machine, a vintage telephone switchboard, Lance's crystal radio kits, or fuzzy puppies you don't have to feed or take to the vet. In addition to being a Mecca of electronics, the staff at EPO are super friendly and helpful

when you come looking for that oddball hard to find part or component. Watch their web site as they may be presenting some basic electronics classes there in the coming months. EPO is located at 3753 Fondren Road, in Southwest Houston, TX, 77063. Phone (713) 784-0140, web site www.epohouston.com. Open Monday thru Saturday, but closed on Sunday.

HVRA Technical and Restoration Articles

The Trouble Shooter by Bill Werzner

Ron Soyland's Radio Dial Reproduction

Several months ago, HVRA member Ron Soyland gave a presentation during our monthly general meeting showing how he reproduced deteriorated radio dials using his computer and might I add, "talent on loan from G.." It was fascinating to watch via a visual presentation how this was achieved and Ron demonstrated restoration of several badly faded and eroded radio dials. Well, he certainly impressed me with his work and a month or so later I had a family heirloom radio to restore for a customer that was in terrible shape both inside and out. The wood cabinet had been refinished when I got it, but the electronic restoration in this typical what I call a "barn set" had me working overtime. I finally got the set restored, except for the badly deteriorated dial. Then I gave Ron the dial I removed from the radio. Can you restore this thing I asked? Ron replied, "No problem". A few days later it arrived in my mailbox along with the original. As you can see in the photo Ron's reproduction appears to have two color shades in the background, but that photo was taken with my cell phone and somehow two-color zones showed up in the photo. The lighter shade is the real color and it is uniform. Ron had no original to copy from. He reproduced that dial based on the original bleached and deteriorated dial in the photo. Kudos Ron, for a beautiful job well done! Bill Werzner



Disaster in the Catacombs! by Ron Soyland

Long ago, in the mid 20's, RCA came up with this "brilliant" idea on how to make very reliable and protected wiring for their radios. The idea was to have a module that would contain all the necessary parts for a superhet radio, so they wouldn't have to wire the individual parts into each model of set.

This was accomplished by having a module called a catacombs. (that is the real word they used!) Inside this module were all the components and wiring for a basic superhet receiver, mainly the I. F. transformers and audio transformers, and a few capacitors. The only external parts needed being front end tuning components and the speaker. And batteries of course.

The idea was quite nice, the catacombs being hopefully interchangeable between many models of sets. However, the first design (six tubes) didn't have enough gain so they came up with a second version with eight tubes. They all used UV199 tubes. (The tubes with the very short nub pins on the base)

Right off the bat they had trouble with the catacombs, first in the production line. The catacombs were cast in liquid pine rosin to hold all the components solidly and to keep moisture out. The rosin was heated to high temperature and poured into the catacombs as the final step. Apparently, there was enough expansion of the parts in the heating to cause problems because they had a large number of failed catacombs after the casting. Even with the high number of fails, requiring the catacombs to be heated up and drained so they could be repaired, thousands of them were eventually made and sold in radios. They finally gave up on them because of numerous early fails after the radios were sold. Service shops refused to melt out the rosin to repair the sets.

There are about a dozen Radiola models that use catacombs that you may come across. In my experience with them, NOT ONE has been fully intact. However, the degree of failure can be modest to severe. So we find a nice old ultra collectible Radiola 26 portable that is in pristine condition and figure it should be a cinch to restore! Not likely!

The first thing to do is connect all power supply pins together and then take an ohmmeter and read between these pins and each pin of the catacomb tube sockets. They will be filaments, grids, and plates. Every pin must have continuity to one of the power supply pins. Find an open pin and most of the time there is an open in the catacombs.

There are two main places where the opens happen. The most common is the second detector grid leak resistor. This is a junky carbon coated piece of glass tubing. They always go open! If the radio has a catacombs you WILL have to do a repair on the grid leak resistor! The second place where opens are common is in the transformers. There are two audio transformers in the catacombs and one or more windings may be open.

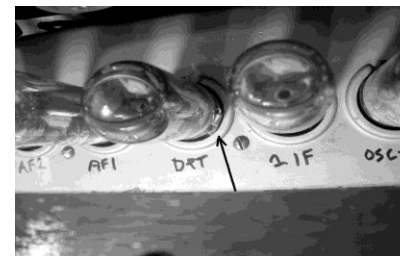
There are two or more I. F. transformers. These transformers are strangely different from I. F. transformers in later model radios. They have iron cores and windings similar to audio transformers! The cores are thinner and the windings smaller but they are basically wound in the same way. This works because the I. F. in these radios is 50khz so core losses are not totally out of line. But the fine wire used to wind the coils is subject to the same stresses that happen in the audio transformers, and many times the transformers open up.

What if you are very lucky and find that the only open in the catacombs is the grid leak resistor? Do you want to go to all the trouble of melting the rosin out of the can just to replace one resistor? What if there is a sneaky way to avoid this and get the radio to working? Note that this will only be practical on a set that has all the rest of the catacombs intact. All the transformers must be good.

There is one caveat in doing this. When you measure the grid pin on the detector, you do not really know if it is the resistor or the transformer winding that is open! If the transformer winding is open, then the trick you are about to see will not work. I would think it unlikely that the only winding open would be that single one.

Fortunately, it is not difficult to make the modification so you don't have much to lose. What we don't have if the grid leak resistor is open is a DC return for the detector grid. The capacitor is likely still good and will couple the signal from the transformer onto the grid. But without a DC return the grid will develop enough voltage to cut off and the radio will periodically go dead.

Therefore, we will add a grid leak resistor OUTSIDE the catacombs! What? How? Some people are really sneaky! Ha! What we will do is take very fine wire, like a strand from a piece of hookup wire, and wind it around the grid pin and the filament pin of the detector tube! If the wires are fine enough, they will fit easily between the tube base and the plastic housing of the tube socket! We will then take a 3 to 5 megohm resistor and connect it to the wires right at the base of the tube! This can be done quite easily!



Be sure the tube pins are well cleaned and shiny. You will be using the two pins to the right side of the alignment stud looking from the bottom. Use a piece of #22 teflon insulated hookup wire for the strands. The unique characteristic of Teflon insulated wire is the strands are silver plated to prevent oxidation of the wire from chemicals evolved from the Teflon. This will make the modification last for years. Separate a few three-inch pieces of strand and carefully wrap the end around the pin two or three times. Then twist the end firmly to hold it tightly to the pin. Extend the free end up along the base of the tube to where the base meets the glass.

Use a 3.3 meg or so (not critical) quarter watt resistor for the grid leak. Hold the resistor right at the junction of the glass and the base and wrap one of the pin wires around each side of the resistor lead and solder it. Clip the wires to make them neat and compact. Use some mylar tape to hold the resistor firmly to the side of the tube. Done! The tube will easily slip into the socket.

Assuming the last I. F. transformer itself is good, which is likely if all the other transformers in the catacombs are good, the radio should now work fine. Of course, the modified tube must be kept in the correct socket or the radio will not work.

HQ-180: A Big Noise Problem Means Drain the Swamp by Tom Taylor



About the time of the Chevrolet 409/427 engine, when The Shiffons and The Beach Boys played on your car dial and NASA's Mercury program enthralled the public, there was an 18-tube receiver by Hammarlund known as the HQ-180 which could be bought for \$443 less tax or shipping. Does someone know what a Chevrolet Impala cost at that time? Around \$2000. While not the Mil Spec pedigree, this receiver can still command \$300+ in good condition and 5/5 reviews by its users. At 45 pounds, it's a true boat anchor; but with triple conversion general coverage circuitry, it is considered a prized SWL receiver and a classic radio contest contender worth capture. Receiving a sick one for repair does not by itself cause fear. But that can change when full restoration of sound brings troubled audio swamped by heavy static. The static reminds you of a bad IF can. Suddenly the associated parts count and those 40 or so adjustments lined up inside can bring on anxiety in the heart of any technician. For the purpose of explanation and hopefully as some guideposts for other restorers, a summary of ills found during a recent HQ-180 confrontation is provided here.

This HQ-180's voice was somewhat restored with the removal of one shorted and two weak tubes. This however unveiled a good deal of audible noise from the speaker where signals should have been found. For some reason that noise became so dominate during troubleshooting that all but the strongest BCB stations were being overwhelmed. To locate the source of noise, tubes were pulled and replaced one at a time on the way from the last detector (the one driving an audio string) back towards the RF stages until the noise could no longer be interrupted. My new home for the next few months was therefore around the first detector (AKA mixer). (See schematic below.) These delays were driven by far easier radio requests, house and truck needs and I admit it, fear.

Since the noise source was just ahead of the last removed tube, attention turned to everything after the first mixer V3 and specifically around V17, a 6BA6 gate to enable the 455 KHz IF string as a part of one of the three conversions. After systematically lifting one end of parts in the area to find them good and probing tube socket pins with and without the tube in place, the scope displayed all manner of signal twitching going on at its screen grid pin while the tube lay nearby on the bench. When both R and C at that point where found good I stared at a tube socket buried in space critical point to point subminiature tube socket layout and reluctantly decided to change it out for an exact replacement NOS ceramic rescued from antique stock. However, I should have looked close at it, or found an ultrasound cleaner or even considered some manner of socket preparation because I had a similar outcome once that socket was installed. After reluctantly performing the same diagnostics as before, I concluded the replacement socket was also troubled: lightning strikes twice in radio repair. A NEW Chinese

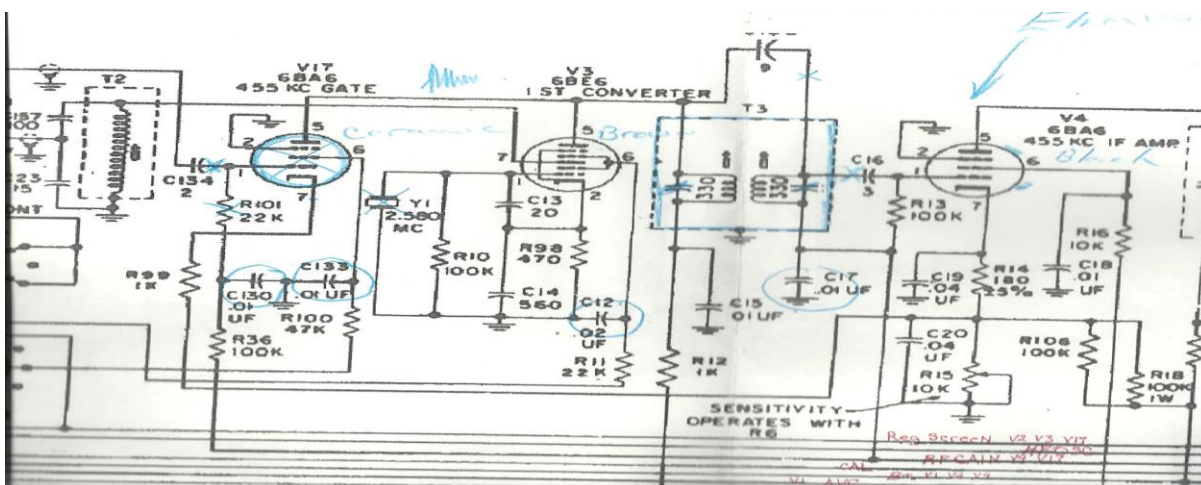
ceramic socket was then provided by a club member and that problem was at last history. Keep in mind that when so many amplifier stages follow a problem area, it doesn't take much of an issue to become very big at the speaker. For that reason, the scope gain had to be near max when the screen grid condition showed itself.

Draining the swamp, however, had now allowed me to hear BCB stations and more clearly a second contributor of noise as well as a peculiar distortion on SSB was noticed when moving the front panel switch from USB to LSB. Lifting and measuring components and then isolating inputs to the next area just downstream brought attentions to an IF can T3 with no less than 9 leads tied to it.

Following a few episodes of double checking and days of hesitation I decided to perform an "IFcanectomy" knowing full well that there were about 27 other cans just like it in this 6 band triple conversion circuit. Sure enough, both capacitor insulators in this can had metal deposition with nearly 60% coverage. Those insulators were removed, mounted in glass and shown about during one of our general meetings. The can was then reassembled, remounted and external caps of the same value as those removed were installed across both windings along with the original 9 leads.

Alignment of the can and those remaining in the 455 string brought up signals without noise but with the suspicion that someone had tried alignment of that area. Faced with that condition, the lack of gain and the sound fidelity suggesting bandwidth shifting, I had to align the right side of that radio involving most of those IF cans serving all 3 IF frequencies one of which was 60KHz. Have you a 60KHz generator you consider stable enough to do that task? That is not 600KHz you read. My Wavetek model 164 was in no way stable enough for the task nor was a Tenma toy model 72-7210 while the 8 tube URM-25D was an absolute rock on that frequency as long as you had power for it. Oh, and that SSB distortion was caused by a bad 6BV8 that had passed an earlier Hickock 600 test which included leakage checks. You find those escapees in desperation during a one for one replacement. Suspicions about AM audio quality was further dispatched by replacing the audio stage encapsulated circuit with its discrete component counterparts and a most suspicious looking cathode bypass electrolytic. As Columbo says, "one more thing". That Slot Frequency control for signal notching in the upper right of the front panel was put on target with an adjustment of L3.

Although the end result appeared to measure up to written claims for this radio, I for one would hesitate to buy one of these fine receivers unless its sound brought back memories. The owner of this set however was extremely happy to start hearing the radio perform closer to potential. He said he ogled one of these for years while a teenager but never could afford that \$400+ price tag back in the day on a paper-route income. The figure included here shows the circuit area that got so much attention.



Solder Bits (short articles and repair notes—contributions welcome!)

Submitted by Tom Taylor:

Problem: All too frequently we have a loctal or 7/9 pin miniature tube that seems to act up and might even test erratically while resident in a socket seemingly finding a sweet spot when repositioned that makes it work better.

Explanation: Metals used for the pins of those tubes accommodate corrosion that do not conduct a potential much less appreciable current. In reasonable lighting you can see the issue or discoloration on suspect pins and it takes only one paraffin/tar coating or a corroded pin to produce our symptom.

Remedy: You simply remove that corrosion using either an Emory cloth or your favorite fiberglass, brass or stainless steel (SS) brush. The best long term choice is a fiberglass brush when we do not know for sure what plating is used over the base metal of each tube pin. Since tube pins must readily accept solder, the pin base metal may be brass or tin both of which favor *brass* brushes over SS according to charts. Keep in mind that the act of brushing can imbed minute particulates that seed galvanic corrosion IF the materials have electro-voltaic potentials that are far apart. See also Advisory Circular AC43.13, Mil-DTL-8834G Table VII, Mil-STD-1311 for Electron Tube Test Methods and finally Mil-PRF-1N the General Specification for Electron Tubes.

In the table below the speed of corrosion increases as two metals become further apart.

Platinum
Gold
Graphite
Silver
Silver Solder
Titanium
Hastelloy C ⁴⁾
Monel
Stainless Steel (passive)
Nickel (passive)
Nickel-copper alloys
Bronzes
Copper
Brasses
Nickel (active)
Lead-Tin Alloys
Lead
Tin
Soft-solder
Hastelloy A ⁴⁾
Stainless Steel 316 ¹⁾
Stainless Steel 430 ²⁾
Stainless Steel 410 ³⁾
Cast Iron
Low-carbon Steel
Cadmium
Aluminum Alloys
Aluminum
Zinc
Magnesium Alloys
Magnesium

HVRA 2019 Annual Convention
By Jerry Sirkin HVRA Vice President and Convention Chairman

We are beginning to post detailed Convention information on the HVRA.org website. Please check frequently for new updates or contact me at 281-844-4124 (gsirkin@aol.com)

Registration Form is attached to this Grid Leak and can be found on the HVRA website (HVRA.org).

NOTE: Mailing address has changed to my home, from our HVRA P.O. BOX

Location: Houston Marriott North (Greenspoint Area) Dates: February 8th and 9th

For all HVRA guestroom reservations confirmed prior to January 25 2019, discounted rates will be \$94.00/night (including free Wi-Fi) for Thursday – Sat, Feb. 7th – 9th, check out no later than Sun. AM, Feb. 10th. Reservations can be made by calling 1-800-228-9290 or through the HVRA web link (see HVRA.org for the Marriott web link). HVRA has blocked out 65 standard guest rooms (5 for Thursday, 35 for Friday, 25 for Saturday). We will try to have the Marriott work with us to extend the discount cut-off date and increase the number of discounted rooms per night as availability allows; please make reservations early. If your desired room type is not available or if you have any problems making reservations, please contact me. The Marriott is also discounting their buffet breakfast to \$15.00 (including tip and gratuity) for Fri. – Sun. Coupons will be given to all HVRA members attending the Convention and their family guests (you do not need to be an overnight guest to receive this discounted breakfast).

Manufacturer and Theme for this Convention: RCA. I am planning a Friday presentation addressing the 1919 founding of RCA and hope to have an RCA Tech Session (any volunteers?)

Convention Events will include: Contest Room, Three Auction Sessions, Swap Meet, Raffles, RCA Tech Session and Presentation, Cash Concessions, Awards Banquet Dinner with Guest Speaker Steve Smith (news anchor and director at Houston's KPRC-TV – Ch. 2 and KHOU-TV – Ch.11). Please see future Grid Leak and website articles for complete details.

OLD EQUIPMENT CONTEST: Complete contest categories and rules will be posted on our website and published in future mail-outs. Please see Tom Taylor's article below for additional details.

We need your help with packing, labeling and transporting estate items, setting up convention displays, recording during the auctions (yes, you can still bid), assistance as an auction handler.

HVRA 2019 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: _____

All Bidders and Sellers Must Register and Be Active HVRA Members

Feb. 8 – 9, 2019 Houston Marriott North	NUMBER	AMOUNT
Advance Registration: ** \$15 (Postmarked by 1/27/2019)		\$
On-Site Registration: ** \$20		\$
**Annual Membership \$20: (2/1/2019 – 1/31/2020) New		\$
Renewal		\$
Awards Banquet Dinner: Sat. Feb. 9 @ 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. 7th		\$
Grand Totals	\$

- ****Only One Registration Required Per Family (One Bidder Number)**
- **HVRA Commissions: Individual Sellers at 15%; Estates Sales Commissions Pending Pre-Convention Agreements**
- **Buyers and Sellers Settlements at Conclusion of Each Day’s Auction Activities (Numerical Order)**

Fri. evening & Sat. lunch cash concessions? Yes___ Number: _____ No: _____ Unsure: ___

ADVANCE REGISTRATION: CHECKS, PAYABLE TO HOUSTON VINTAGE RADIO ASSOCIATION (HVRA) or CASH MUST BE POSTED BY JANUARY 27, 2019 to: Jerry Sirkin 17614 Fairway Oaks Drive Spring, Texas 77379. ON-SITE: AFTER JAN 27, 2019, BRING REGISTRATION FORM AND CHECK/CASH TO CONVENTION. Thank you.

HVRA USE ONLY:

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

REGISTRATION (BIDDER) NUMBER: _____

Here Ye Here Ye Listen (Read) Fellow Members

by Tom Taylor, Contest Chairman

It's time to seize the moment. At last year's convention there were three exhibitor categories that had no contest entry at all leaving at least six ribbons with no recipient. Indeed, with 19 categories (such as we will have again in 2019), we had only 35 contestants last year leaving several ribbons the club took back home. Unlike the Texas Lottery or Publisher's Clearing House, it has become pretty easy to become a winner at our convention. Nuff said!!

To help motivate your participation in 2019, your Board of Directors have approved granting of a raffle drawing ticket to **EACH** exhibitor for an award of a separate, contestant **ONLY**, raffle prize beyond the traditional contest awards of ribbons and plaques. That's right, for this raffle you will only be competing with the other exhibitors so the odds of a win are even bigger when you exhibit something, anything. With this early notice we hope you will look in your closets and storage rooms for your coveted items and put some pretty on one of them for others to enjoy. If you are a new contestant you get still another try at our best New Contestant award. Don't forget, some documentation or description of your exhibit will always help you to win a First Place or better yet, one of our special awards such as Best Restoration. And it doesn't have to work (except as a tie-breaker in our judging)! You have about 4 months so get 'er done..... **We will be publishing the Contest Categories and Rules on our website later in October.**

Five judging criteria used last year will be used again this year and they are listed below for your consideration. Exhibits are compared with one another and from an experienced perspective of past exhibits to arrive at a numeric value which is then added up for the FINAL summation. Subjectivity can't exist when determining our winners. As always, we try to select judges that have a diverse wealth of experience and their numeric scores are FINAL. Feel free to contact me with your questions (ihcrally@yahoo.com).

1. New Contestant:
2. Rare, Unique, Unusual:
3. Condition/Quality:
4. Documentation or Description Authenticity Presentation:
5. Showmanship and Contestants Effort

Our convention featured manufacturer is RCA, coinciding with the 100th year anniversary of the founding of RCA. So get your special RCA exhibits ready as well.

On The Lighter Side of Radio



RADIOISMS By Mike Grimes, K5MLG

- If you do a “smoke test,” it probably will.
- If the lead is too short, cutting again will not help.
- A dim bulb does not use an isolation transformer.
- Assume it played well sometime during its lifetime.
- A wireless set is not.
- A dry cell is not.
- Catalins are not from Catalonia.
- If the power cord is missing, it will not play.
- Fixin’ is not restorin’.
- Stratosphere is the price you cannot afford.
- If all else fails, give it a polite “whack.”
- Satisfaction is the playn’.
- Resistance is not futile: $=E/I$
- Inside a triode no one can hear you screen.
- High *mu* is not a cat voice.

Mike Grimes is a member of VRPS and HVRA and frequently attends our Annual Convention. Thanks Mike, for submitting these “truisms” of radio! We invite others with articles about the lighter side of radio to submit a contribution to the Grid Leak.



More Radio Clubs

Oklahoma Vintage Radio Collectors President: Jim Collings, PO Box 50625, Midwest City, OK jcradio@cox.net
\$15 annual dues. 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). Monthly newsletter and members meeting (with flea market, auction and theme program). Dues: \$20. For more information contact John Anthes, jpanthes@comcast.net Club website: <http://newmexicoradiocollectorsclub.com>

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

WJOE Radio, LLC Radio parts and accessories www.wjoe.com

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 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.vintagesounds.com

Borden Radio Company website:<http://www.xtalman.com> Antique Radio Schematic Service included in website. 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

Other Radio Related Activities

Texas Broadcast Museum: www.txmbc.org 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 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 If you would like to visit, please contact Jimmy in advance, 337-476-4328 or atwaterkentsrus@gmail.com



Are you missing out on some of our great programs held at our general member's meeting each month??

The Grid Leak

October/November/December 2018

Website – www.hvra.org

From The HVRA President

Upcoming Club events calendar and club news

Member Technical and Troubleshooting Articles on dial reproductions, RCA

“Catacombs”, restoring an HQ-180 and some interesting “Radiosims”

Be sure to check the article inside about the Club’s new membership renewal deadlines.

Ignore any expiration date shown on your mailing label! We have a new membership renewal policy.