

# SOUND WAVES

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## VRPS Summer 2018



### *From the President*

This is normally the time of year I would say "summer is upon us, and it will be getting hot"...well, this year I can say summer is upon us, and it came long before spring had sprung! Wow, I do not remember the temps being so high so early in the year. That just tells me it is time to go north ..., but I gotta wait another two months to do that. As is my habit, I would encourage each of you to attend a radio event/ convention somewhere this summer. In August, my wife and I will, as usual, be heading to the Chicago area to attend the Antique Radio Club of Illinois (ARCI) Ra-

diofest. If you have never been, this would be a good place to visit. Auction, large outdoor flea market, significant display of historical radio artifacts, display contest area, numerous related presentations, banquet...well, as you can see they have it all. Sort of reminds me a little of our own annual VRPS convention. Not one to pass up the opportunity to promote these special events, our own convention is well regarded among the radio community. Plans are progressing nicely for this year's November classic. More information regarding the convention is elsewhere in this issue.

*[See page 5 for Contest Categories. Other info on webpage at [www.VRPS.org](http://www.VRPS.org) ]*

Occasionally, but not often enough, I mention that we are averaging between 30 and 40 members at our monthly meetings. If you are local...or even somewhat local, and you are not attending our monthly activity/meeting, you are really missing something that is guaranteed to enhance your love of this hobby. Larry Lindsey continues to do an awesome job of pulling together talented speakers, inside and outside of the VRPS, to present interesting topics that, as collectors, we need and want to know about. If you are not in the habit of making this a regular event on your personal calendar, please consider it a must attend. Look for Bill McKeown's meeting write-up elsewhere in this issue to find out what you missed in the April and June meetings. One more thing before closing -- I try to send out an email reminder to the masses a few days before each monthly event. If you are not receiving that notice, the simple answer is that I do not have your email...or at least the correct version of it. To remedy this, please send me an email at [bsargent@swbell.net](mailto:bsargent@swbell.net)

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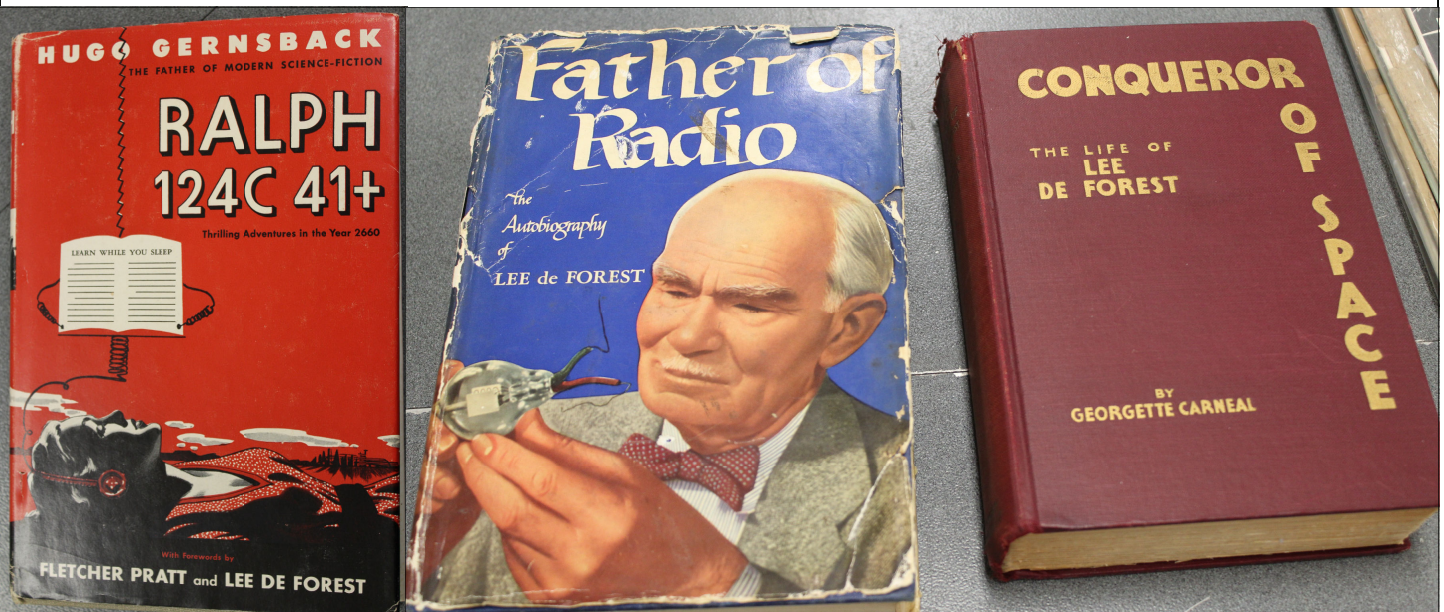
Sadly, I need to report that John Cowart, a longtime member from the Texarkana area, passed away recently after a long battle with cancer. When he was still able, he could always be found working as a set-handler at our convention auctions.

Until next time, good hunting, and I will see you at a radio event coming somewhere soon.

---Jim

## Notes from the April 21, 2018 Meeting

Randy James conducted our meeting, starting with a reminder that our May event was to be our annual spring swap meet. He called for each of us to announce all around our names and towns of residence. Larry Lindsey presented certificates to three past winners of the Smartest Man (or woman) In The Room (SMITR) puzzle. Eric



Kirst was present and received his certificate for knowing that the Phillips screw was introduced in 1939. The new puzzle question was "what device in this room produces radio waves"? Mark Blackwood knew the answer – cell phones. Randy introduced George Potter as our program presenter on the topic "Rare radio books from 1905 and later". George displayed many books, fliers, catalogs and publications, brought from his extensive collection. One by one he showed and discussed each item and its place in the history of radio. He had examples of early theory books, parts catalogs, Signal Corps training books, history books and periodicals such as published by Hugo Gernsback, e.g. Radio-Craft and Radio-News. George expressed everyone's amazement at Gernsback's prolific publishing and authorship, including the magazines "Modern Electrics" and "Amazing Stories". He published He personally wrote many of the technical articles for his publications. He was perhaps the first author of science-fiction (Sci-fi) stories. He published his book "Route 124C 41+" (One to Forsee for One) in 1925 (5000 were printed). A second-edition was printed in 1950 with a Forward by Lee de Forest. (There are re-prints of this book available). In the '80's AWA published a small article about the book. George showed a 3 volume set of the Edison "Menlo park Reminiscences". One of them talks about the origin of the screw-base for light bulbs. (There are both paperback and hardbound copies of this set available.) Other books George showed were: "Lee de Forest - Father of Radio; "Texas Signs On" – with information about WFAA's first broadcast and WRR starting out as a police and

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fire department communication system; "Syntony and Spark" – about de Forest; "Electricity in Everyday Life"; and 1958 CQ – in which there is a picture of our member Mike Grimes at 14 years of age.

George inspired us to keep an eye out for radio-related books and magazines in antique malls, book stores, etc.

Author's Note: The advertisements in the old magazines are especially interesting for collectors of early (20's and '30s radios), with ads for parts that you can recognize in the early home-brews or factory-built sets of your collections.

BILL MCKEOWN



## Notes from the June 16, 2018 Meeting

Jim Sargent conducted our meeting, as always calling for each of us to announce our names and towns of residence. He reminded us of the Repair Session coming up on July 21, convening around 8 AM and lasting until around 3 PM. Bring your problem sets, but round up a schematic and tubes ahead of time, if you can. A tube tester should be available at the session. Jim has attended some impressive conventions and meetings of other radio collectors groups in the USA, and he encouraged us to go to them if we get the opportunity. Some conventions and swap meets are even larger than our own – the Illinois ones, in particular. Jim introduced our program organizer Larry Lindsey, who presents award certificates to winners of the Smartest Man (or woman) In The Room (SMITR) puzzles. For this meeting, the puzzle was "who predicted that the whole earth would become a huge brain and there would be radios that fit in your pocket". Dave Seymour knew that Tesla made those predictions. Larry introduced Mike Grimes and Dave Seymour as our program co-presenters on the topic "Chemicals".

Mike started by informing us that the scope of the presentation would be confined to chemicals and materials used for cleaning and finishing of chassis and components (excluding wood cabinet refinishing). He said "first-of-all, be safe". Some materials are a fire hazard, others may be toxic to skin or when inhaled. Mike's slide presentation included, for each topic, lists of materials by generic or brand name and guidelines as to their uses and processes. His first topic was "Cleaning Materials". Although there was a long list of cleaning agents, it turns out that mineral spirits are a favorite for several reasons. It is easily obtained as a thinner for paints, has little odor and toxicity, leaves no residue and is effective for removal of dirt and grease from a chassis and its parts. It has little or no effect on the paints used on transformers or other chassis parts (but watch for any solvency of the paint). Do not use any chlorine-based cleaners (e.g. scouring powders or Clorox) because chlorine is corrosive to metal parts. CLR (trade

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name for calcium, lime and rust remover) is a good choice for chassis cleaning. Evapo-Rust is a very effective rust removal product. Deoxit D5 is good for silver contacts. A really thin oil coating helps protect a cleaned-up chassis from new corrosion – power steering fluid is a useful very-light oil that is inexpensive on a per-ounce basis. Bakelite parts will be dulled by ammonia or any ammonia-based product such as Windex.

Mike talked at length about cabinet composition and the properties of Bakelite. Black and brown Bakelite are made



with wood fillers. Black is produced by adding carbon. Plaskon and Catalin are special types of Bakelite that are formulated to allow staining, making white cabinets and allowing some light to penetrate through. The various Bakelite products are resistant to solvents, unlike more modern injection-molded objects. However, they are sensitive to alkaline cleaners, such as ammonia and Windex, which will strip off the thin outer layer that provides the glossy finish. Dave talked about a product called "Amish Milk" (available at antique stores) useful for restoring a shine to Bakelite. Plastic radio finishes can be polished with 0000 stainless steel wool or with car polish. White Bakelite tends to turn yellow over time, but can be bleached back to white using hydrogen peroxide. MAAS (a metal polish) and NOVUS (a plastic polish) were also on the list of useful polishes. Brass escutcheon plates can be colored using ketchup or a no. 2 pencil (see Author's Notes). Shellac is a good "freshener" for wood, but is susceptible to water damage (like the many circles on old radios and furniture from people setting their cold, sweaty, drinking-glasses on them). Dave showed how he patches speaker cones and makes new ones using Elmer's "hobby glue" and card-stock heavy paper. That particular glue is ideal because it remains flexible and tough. During and after the regular program, Dave demonstrated making a new speaker cone. He used formulas to calculate the dimensions for the layout of the shape to cut from the cone material, providing the proper outside size, cone angle and hole for the voice coil. Mike discussed dealing with coils that have windings with loose turns. Clear nail polish makes a good "coil dope" to hold down loose turns of wire. You can make your own coil dope by dissolving Styrofoam in acetone. If new wire must be used, the best way to strip it is to use very fine sandpaper or emery paper, e.g. no. 500. (Fold a small strip over the wire to strip two sides at once).

Dave discussed the use of peanut oil to melt out the tar in the potted assemblies (capacitors, transformers, etc.) found in many early sets. The peanut oil is heated up with the object immersed in it. DO NOT immerse it later, when the oil is already hot, as moisture in the object may instantly turn to steam and blow oil out of your container. This process needs to be carried out outdoors in an area free of flammable material, so the best source of heat is a single-element electric hotplate (Available for about 10 dollars at Wal-Mart). Attach a wire to lift the object before putting it in the oil. Heat the oil until the oil and tar drain out when the wire is lifted. The tar will dissolve in the oil, and the oil can be re-used, even though it has been turned black by the tar.

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Author's Notes: For minor cabinet touch-up, the multi-color pack of Sharpies works well (these are simply colored lacquer applicators). The product "Wipe-on-Poly" is also a good "freshener" and is water-resistant and tough. The soft wax from Gouda cheese is useful for temporarily sticking down turns of wire (or lock washers) or to hold a screw to the end of a screwdriver. Keep the "whole ball of wax" handy. Gun blue can "age" brass to any color of brown – all the way to black. Thin with water to slow the action, so you can stop it when the color is right. Good for escutcheon plates, dials, etc.

Bill McKeown.

## 2018 Convention Contest Categories

1. Crystal Receivers Pre 1940
2. Battery Receivers Pre 1928
3. AC Table Receivers Pre WWII
4. AC/DC Tube Radios Pre 1960
5. Transistor Radios Pre 1965
6. Phonographs and Related Accessories Pre 1928
7. Speakers and Microphones Pre 1960
8. Tube Type Ham Radio or Military Equipment (Includes Any Telegraph Items)
9. Novelty Radios-Tube or Transistor
10. Radio Related Ads, Ephemera, and Accessories
11. Television Receivers Pre 1970
12. Test Equipment Pre 1950
13. Table Top Art Deco Radios (Including Catalin, Chrome Front, or Others)
14. Vacuum Tubes
15. Homebrew/Kit Radios
16. Contest Theme- ZENITH (Includes Any Zenith Items)
17. Auto Radios-Pre 1960
18. Open Category (Radio Related Items Not Belonging in Other Categories)



### Sargent Auction Service Upcoming Auctions

- July 28th Garland, Texas Sale includes vintage radios, toys, ham radio, test equipment, and more.
- August 4th, Fort Smith, Arkansas The second and final sale from the Dale Davenport estate. This sale will be on-site and will not include internet bidding. Sale includes radios, parts, tubes, and sooooo much more that we were not able to pack on a truck for the first sale. Everything must go. Bring trucks and trailers. There are sure to be bargains.

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## The Mysterious Microphone Radio Component

by Mike McCarty

At the VRPS Spring Auction in 2018 I purchased a fixed tuned radio made to look like a microphone, with the call letters KVWO and the frequency 1370 KC embossed on it. Well, actually, I bought a box-o-parts, as the radio was disassembled, and several wires disconnected. Several days later, I spent some time looking up the history of the radio station, and found that it operated on an Indian reservation in Cheyenne, Wyoming, and found it's entry in a contemporary magazine devoted to radio stations. It was part of the Mutual Intermountain Network, and had the epithet "Covering Wyoming's Capital and the Tri-State Area with the Greatest Power - 1,000 Watts". The format was country and western music in the late 1950s. Interesting stuff.

However, back to the disassembled radio. The tube line up was the standard (for the day) 12BE6, 12BA6, 12AV6, 50C5, and 35W4. Thankfully, each unsoldered wire (several!) was tagged, as was the original connection point. It had been mostly recapped, excepting the line filter and B+ filter caps. I reformed the filter caps adequately, and replaced the line cord and line filter. I hooked it up to my

Variac and Dim Bulb, set up the signal generator to 1370 KC, and when I turned it on all looked normal, but there was no reception. Turning the volume control to maximum and touching the "hot" terminal gave a loud buzz, so I figured a problem with the converter or IF amplifier.

I injected 455 KC into the grid of the converter, and still no reception. A quick check of the oscillator grid showed about -10 VDC, which indicated that the oscillator was running. That negative voltage is derived by the grid rectifying its own signal. Looking at the voltage on the plate of the converter showed normal, so I proceeded to the IF amplifier tube.

The plate of the IF amplifier had 0 VDC on it. That's a big clue! Looks like I've got an open primary in the second IF transformer. Lessee, where is the second IF transformer? Hmm. No second IF transformer, and no chassis hole! A quick look under the chassis showed a Mystery Component connected from the plate of the IF amplifier tube to B+. It had the appearance of a golf ball without the dimples, dull white, and about 3/4 inch in diameter. What on Earth could that be?

There is a 220 pF 10% RMC ceramic capacitor from the plate of the IF amplifier to a detector plate on the 12AV6. I guessed that this was a form of coupling called "impedance coupling". The usual form of impedance coupling is resistance-capacitance (R/C) coupling, in which a large-ish resistor is used for a plate load, and a large-ish capacitor is used to couple to the next circuit. The exact meaning of "large-ish" depends on the frequencies used, but the idea is that the signal is de-coupled from B+ by the resistor, and is coupled to the next stage by the capacitor, which also blocks the B+. This is the form normally encountered between the first audio amplifier and the output tube, with a 220 K to 470 K ohms resistor and a 0.01 uF capacitor forming the coupling circuit.

In this case, I wasn't sure just what the plate load

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component was, since I'd never seen one like it! I had an idea, however, that it might be an inductance, resulting in L/C coupling. The IF signal would be developed across the plate load inductance, and coupled by the capacitor. The low resistance of the inductor results in low power wastage, and the high inductance results in large signal. I measured the resistance of the mystery component, and found that it was greater than 2 Meg ohms. Well, that explains the lack of voltage on the plate of the IF amp!

I unsoldered the mystery component from the IF amp, and examined it closely. The case had a myriad of cracks in it, and since it was bad anyway, I decided to prise it open. What I found inside was a spherical ball of badly corroded enameled copper wire. My guess was correct; this was an inductor, and a relatively low Q one. I decided to try to convert from L/C coupling to R/C coupling, and put a 470 K ohm resistor in the plate circuit. The result was disappointing, as the plate had just a few tenths of a volt on it. After trying a few resistors in parallel, just tapping them across the big one I installed, I settled on 4.7 K ohms as being a reasonable value to get some plate voltage. A quick computation showed I needed a 2 Watt resistor, which I had on hand. I installed it, and got some reception!

After running a while, the resistor was getting pretty warm, and I don't like adding more heat stress to the plastic case; the heaters are bad enough. I decided to try another route.

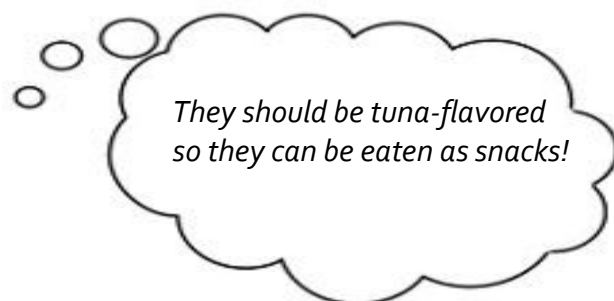
When I have encountered some RF or IF transformers with one bad winding, I've sometimes converted from transformer coupling to impedance coupling, with one impedance being the good winding, and the other being a resistor with a capacitor as the coupling element. In this case, I thought to replace the inductance with the primary of a spare IF transformer. That should give more gain and better selectivity than the original circuit, and less heat than my resistor substitute. I didn't have one on hand, but a good friend had one that he gave me when we next met.[\*]

Using high voltage high temperature tape, I insulated one side of the transformer shield, and a bit of each side attached to it. I then bent over the primary lugs on the transformer and soldered them directly to the socket pins on the IF amplifier, with the shield lying parallel to the chassis and separated slightly from the sockets. Turned it on, set the signal generator to 455 KC, and tried to tune up. I was able to get resonance with ease, and the radio now has good sensitivity at 1370 KC.

Case Solved!

Now I just need to look up Mr. Peabody's telephone number and arrange for a little trip in the Wayback Machine to Cheyenne, Wyoming, in the late 1950's to listen to a little country and western music!

[\*] Thanks Mike Grimes!



Registrar's Assistant, Red Guy, making sure we have enough supplies for the 2018 Convention

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# **SOUND WAVES**

## **MONTHLY MEETING PROGRAMS 2018**

NOTE: Programs will be held at various locations in Irving, Texas. Make note of the location as they may change from time to time. Senter East, 228 Chamberlain St.; or Garden and Arts, 906 S Senter Rd. Maps are located on the WEB site, [www.VRPS.org](http://www.VRPS.org) EVENTS page. Programs start at 2pm. unless otherwise noted. Call us on the cell tellie if you get lost: 972-898-7251 or 972-742-8085.

- **JULY 21 -- ANNUAL REPAIR SESSION -- SENTER EAST -- 8 AM**
- **AUGUST 18 -- MIKE McCARTY -- THE USE OF THE OSCILLOSCOPE -- SENTER EAST -- 2 PM**
- **SEPTEMBER 15 - TAIL GATE-TRADE DAY -- SENTER EAST -- 8 AM**
- **OCTOBER 20 - SHOW AND TELL- SENTER EAST -- 2 PM**
- **NOVEMBER 16, 17,18 - ANNUAL CONVENTION; PLANO, TX**

Programs are subject to change, contingent on scheduling conflicts. As always, your suggestions for programs/ content are welcome. If the programs do not fit your needs and you want something different, let me know. I need volunteers to organize other programs, so consider presenting a program yourself. Call anytime or send an email:

**Larry Lindsey email: [pipilindsey@tx.rr.com](mailto:pipilindsey@tx.rr.com) telephone: 817-312-8761..**