

SOUND WAVES

Vintage Radio and Phonograph Society, Inc.

APRIL 2009

From the President.....

Jim Sargent

Here we are well into 2009 and, while I have been busy on many fronts, my thoughts seem to very easily wander back to collecting and to antique radios in general. Maybe that is because as I write this column in early March, I have just completed a fairly large auction of 700+ lots of radios and related items and am preparing for the annual Spring auction in Grapevine. Perhaps you will notice photos elsewhere in this issue of the Grapevine sale. Also, as I beckon back to the fact that this is 2009, I realize that this is another 5 year milestone in the history of the VRPS. Formed in 1974, our not so small band of collectors and historians is now 35 years old. How neat is that!! I remember back to my early days in collecting and joining what I thought was the only group of collectors, the Antique Wireless Association, in 1975. It was not easy to find other like minded folks in Arkansas although Tom Burgess and I continued to hear each others foot steps as we searched the same haunts for old radios in the mid-70's. I finally heard of and joined the merry group of folks at the Southwest



Vintage Radio and Phonograph Society in 1976 and made my first convention at the Red Roof Inn in Irving the next year. Funny, I also met Tom Burgess for the first time at that convention. Tom has been a good friend ever since, and I don't think either of us has missed any of the conventions that followed.

One of the things that I distinctly remember about that first convention was the warm welcome I received from other attendees. I was a newcomer and Ken Diebel and others made my wife and me feel very warm and welcomed. Ken is gone now, but his spirit of welcoming newcomers is still alive and well. Sometimes we do a better job of being on our toes than other times, so I remind each of you, as I remind myself, we must be vigilant of new faces in our crowd and make them feel welcome. I received a nice letter from Jim Rankin (Austin), a first time convention attendee in 2008. He expressed his appreciation to us for the way he and his

wife were welcomed by the "convention regulars". On the flip side, a few new folks have slipped past our radar in the past few months. Let's strive to make this a welcoming organization that folks will want to join and be glad they are a member. Elsewhere in this issue you will find a list of recent new members. Please seek them out and welcome them to our group.

As I close, many of you continue to inquire as to the status of our new home in Granbury. Frankly, I am getting quite cozy living in a 33 foot travel trailer and don't ever want to leave. I hope you catch the cynical tone in my words. The truth is that, at the typing of this column, the paint throughout the house is drying...or still being applied. I have hung exactly one light fixture (gotta wait for the ceiling paint to be finished). After we lay the flooring, get the plumber back in to connect the fixtures, the A/C man to install and connect the units, and have the electric company dig a trench to the house...well, I think you get the picture. It may actually be a home someday, but it surely cannot come soon enough. Given that, I suspect the next time I write this column, I will do so from the comfort of our new home.

One quick reminder, I try (don't always succeed) to send out an email just prior to every event (meeting, auction, swapmeet, etc). If you have email and are not getting these reminders at least once a month, then the obvious reason is I do not have your current correct email address in my directory. Send it to me at bsargent@swbell.net and I will add you to the list.

Final thought- Bad economies do not last, good friends do, so until next time, good hunting!



This Federal crystal radio with original box was one of the gems sold at the Spring Auction.

Notes from the January 17, 2009 Meeting

Bill McKeown

President Jim Sargent opened our well-attended meeting, held at our old location at Irving's Senter East meeting facility. Jim was able to reserve it for our group for all of this year. He announced that he would be conducting, on February 28, a good-sized auction of some large consignments as well as some items to be surplused from his own holdings. Jim reminded us that the Houston club would be having a show/sale in two weeks. A number of VRPS members regularly attend their affairs, as they do ours.

Our program director, Mike Grimes, told everyone to start thinking about what to bring to a "free-for-all" show-and-tell for the February meeting and also items for the specialized topic of "Batteries" and related items for the April meeting. Mike introduced the day meeting program. The program consisted of a presentation intended to explain the function of each and every part of a typical AA5 radio. The program was given in two parts, the first (presented by myself, the author) covering the RF and IF components up to the Detector. The second part, presented by Cleo Cherryholmes, covered the Detector, Audio stages and the power supply components. The "typical AA5" radio chosen is the SENTINEL Model 329 (Rider's Vol. 20). Most of its features are common to about 90% of radios made in the late 50's to the days of the transistor radios. Starting with the loop antenna and ending with the power supply and filament string, each part was identified as to its name and function. There was some discussion about each part as to what happens if the part is bad, what to replace it with, how to test it to see if it's bad, how critical is the value (e.g. resistance, capacitance), and what effect will occur if the part is off value, etc, etc. In the time available, it became difficult to complete the original mission of the program, which was simply to identify each part and its function. Troubleshooting tips were much in demand. It was noted that terminology can vary widely, even for the same part. For example, the AA5 first stage (the 12BE6, in this case) can be called a "mixer", a "mixer/oscillator", a "first detector", a "converter" or an "OSC-MOD" (for Oscillator/Modulator) – the designation on the Rider's schematic diagram. There were many questions from the group and a lot of input from experienced restorers. During the discussion of the oscillator circuits, the author mentioned a good method of determining whether or not the oscillator is running. The oscillator grid should have a substantial negative voltage if it's running. (Mike McCarty reminded us that the meter

may actually stop the oscillator from running, if the meter doesn't have low enough input capacitance. An old VTVM, with its usual one (or more) megohm probe resistor, is not likely to stop it from oscillating. Some of the new digital meters are more likely to be a problem, but placing about a ½ megohm resistor between the probe and test point, at the probe end, will avoid this problem.) Naturally, the question of IF alignment came up. But that is a subject that deserves its own special time, and Cleo Cherryholmes is planning to cover it in a near-future presentation.

During Cleo's presentation, he discussed the diodes in the 12AT6 Detector/First Audio (aka "second detector") and the development of the Automatic Volume Control (AVC) voltage, used by the RF/IF stages discussed earlier. A question came up about there being two diodes in the 12AT6, and it was pointed out that some circuit designs used one of the two as a separate AVC detector. This was used in sets featuring so-called "delayed AVC" to provide a better (slower) response at low frequencies to improve fidelity. Cleo put a strong emphasis on the function of the capacitor that couples the audio signal from the plate of the First Audio (the 12AT6, in this case) to the grid of the Audio Output tube (50B5). It needs to block all DC and should always be replaced, unless it is (rarely) a mica capacitor. Otherwise it will create a positive bias on the grid of the 50B5, making it draw more current, shortening its life and causing distorted sound. (Here is a good place to point out that the molded Bakelite capacitors with the trade name "Micamold" are really paper/foil capacitors molded into Bakelite. The trade name is misleading, and they are often bad.) Cleo discussed two "mystery" parts, which are two capacitors that do not have an obvious function. One is the capacitor from the plate of the audio output tube to its cathode (or sometimes to the other side of the output transformer primary). Although the radio will play without it, the sound can be harsh and have too much treble response, depending on the speaker size and the output transformer characteristics. The capacitor bypasses the higher audio frequencies. Its value varies and was chosen during the radio design process to create a more pleasant sounding radio. The other mystery capacitor is connected across the AC power when the power switch is on. The radio will play without it, too, but will be sensitive to all sorts of noise from interference coming in on the power cord. Cleo pointed out that more complex radios still work with the same basic

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principles, circuits and parts as the example that we discussed, but they become more complicated when they are multi-band, with all the additional coils and switching. As an example, he showed the schematic diagram for a very complex high-end set – the Zenith 11S474.

NEW MEMBERS FOR 2009

Sanjay Date

Kenneth Donihoo

Joe Hargis

Ray Inman

Evan Jawolski

Larry Nelson

Gary Ochwat

WELCOME BACK to Henry Harmony after a long absence!

The VRPS would like to extend a big *WELCOME!* to the newest members of our club. We hope you will participate in and enjoy the various activities we offer. Don't hesitate to ask any of the Directors any questions you might have regarding club activities.

PHOTOS FROM THE FEBRUARY 2009 MEETING



Evan Jawolski brought this early combination projector-phonograph in hopes of obtaining information about it.



After the meeting, members get a closer look at the items.



Cleo Cherryholmes built this replica of a wireless telegraph system advertised in the 1906 issue of Scientific American as the first radio sold to the public.



A few of the various items displayed at the meeting.

2009 MONTHLY MEETING PROGRAMS

NOTE: Programs will be held at the Senter East Building; Irving, Texas, unless otherwise noted. Located in Senter Park, the actual address is 228 Chamberlain St. The park is bounded by S. Shady Grove, Senter Road, S. Delaware, and Chamberlain St. Refer to the WEB site if you get confused. Programs start at 2pm. unless otherwise noted. Don't forget about the Swap Meet held before each of the monthly meetings- 12:00 until the start of the meeting. Call us on the cell *tellie* if you get lost: 972-898-7251 or 972-742-8085.

APRIL 18

Batteries have always played an important role for radio. Early receivers were completely dependent on batteries. This month we will review the functionality of the battery, how they work, and how they were replaced. A short video will introduce the program. If you have an interesting battery or battery eliminator, please bring it to show.

MAY 16

Spring Swap Meet. 8am ? (Many members begin arriving at dawn to get the bargains!) to 12 noon.

JUNE 20

Our program presentation will be "the **Alignment Procedure of Superheterodyne Receivers**" by Cleo Cherryholmes. An actual demonstration will be performed along with discussion of the necessary equipment and the process. Although some manufacturers' variations in circuitry look different, the basic process can still be followed. A few examples will be covered as well. General discussion will follow.

JULY 18

Annual Repair Session. 8am to 12 noon. Bring your problem sets for our "experts" to help with repairs. There will not be a regular meeting after the repair session.

AUGUST 15

Summer Swap Meet. 8am to 12 noon.

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 me anytime or send me an email.

Mike Grimes 972-898-7251 (cell) k5mlg@verizon.net (email)

Would you like to get that old radio or phonograph working but you lack the time or expertise? Contact Jim Sargent at (972) 742-8085 (email) js843a@att.com, **Mike Grimes** (972) 898-7251 (e-mail) k5mlg@verizon.net, or **Randy James** (817) 292-7435 (e-mail) randy-jeannine@sbcglobal.net and we will put you in contact with someone who can fix you up!

NOTES FROM THE BENCH

by Cleo Cherryholmes

THOSE SIMPLE NON-TECHNICAL RADIO REPAIRS!

When a radio arrives on the bench and the owner states – “Nothing really wrong –it works OK – and sounds great – just cannot change stations” – get ready.

Then comes – “All that is wrong is the little string is broken”, and if you are unlucky enough to then hear – “See I just pulled it out so you could see what was wrong – it just needs a new string” – and then a section of the cord, the dial pointer and the tension spring is placed in your hand. You may be in for a real challenge.

If the owner is not a friend or relative you might feel like somewhat tactfully stating your true feelings – “you Q!XZV, it would have been a lot easier to fix if you had only left the broken cord where it was”.

Many dial cords are relatively easy to replace with the path of the cord fairly easy to determine with a little analysis. Others are somewhat more complex with several pulleys and twists and turns to be figured out. Then there are the few real puzzlers which almost defy the imagination. Sometimes the service information on a set will provide the dial string layout and there have been reference books published with instructions for hundreds of sets. Far too often the information on the particular set needed is omitted. But a “Radio Repair Man” can handle any situation – right?

Some suggestions would be as follows:

- 1) Use dial cord for replacement. It is a two layer design with a stranded inner and woven outer material. This design minimizes stretching, resists wear and provides drive friction needed.
- 2) Make sure the diameter of the replace-



ment cord is as close as possible to the original. There were at least three sizes used.

- 3) Try to determine the number of turns the original cord was wound around the tuning shaft (the drive shaft attached to the tuning knob). Look at the loops in the old cord – a good guide is 2 turns. Don't be misled into thinking more is better. Extra turns, particularly on tuning shafts with a reduced diameter where the cord is wound, cannot be made to work properly.
- 4) Tie one end of the dial cord to the dial drum (usually attached to the tuning condenser) and pull the loose end of the cord around pulleys/guides/shafts back to the dial drum. Hold in position as tightly as possible and make one final check.

Run the tuning from one end to the other to make sure an additional turn or partial turn of cord is not needed at the dial drum. Attach the spring making sure there is as much tension as possible!

- 5) Everything works great? No? The dial won't move or goes only a little way through it's travel and the cord slips on the tuning shaft. Not unusual. New cords need a little help sometimes and that comes in the form of a non-slip product (alcohol/resin) available at radio supply outlets. Here again a word of caution - a little goes a long way. Placing a small drop of the material on the spot where the cord makes two or three turns around the tuning shaft can cause big problems. The tuning system may go half way through its cycle and lock up — it can be backed up but will not go on across the dial. If you look you will find the cord at the tuning shaft has piled up on top of itself. Wipe as much of the resin off as you can (maybe several wipes) .

Hopefully your tuning system will now work like it did when your radio came from the factory!!!!

Notes from the February 21, 2009 Meeting

Bill McKeown

President Jim Sargent reminded us of the upcoming spring auction, to be held on Mar 21 and also his auction of consigned and estate radio/phonograph collector's items, held on February 28th. The auction was held partly on and partly off the internet, offering people anywhere the opportunity to bid on items. As of this writing, the website is still open – at icollectors.com. You can see some of items that were sold. Jim also reminded us to think about items to bring to the April 21 meeting – batteries and related.

Our program director, Mike Grimes, introduced our “free-for-all” show-and-tell, noting that there were several tables packed with many intriguing things to see, and so we started from the left and worked across the tables.

John Butz-Fiscina started off, showing his antique bowl decorated with radio themes – picked up in a Hamilton, Ontario, Canada antique mall. He also showed a Northern Electric (Canadian) radio with short wave and some advertising matchbooks with the ROCK-OLA name (maybe salesman's giveaways). He also showed a Rogers-Majestic with a special cord arrangement and a 3-tube portable radio with wired-in headphone. He was especially proud of a set of 4 ceramic tiles (like from a wall) that he was able to locate and rescue when a place he had lived in was re-modeled. The tiles depict a cathedral radio theme.

Gary Reeves showed and played his Columbia “Elite” Graphonola from 1909, saying that they made only 500 of them, with a selling price of \$100.00. He then played an amusing old record titled “I Wish There Was a Wireless to Heaven” (so I could talk to my dear old mother again.....).

Jim Connor showed his magic-eye tube tester that he built when he had no radio to test them in. It features a bias control can be turned to change the eye from open to closed. He also displayed various eye tubes, including 9-pin miniature versions used in foreign radios. He also mentioned other uses for them, such as VU indicators for reel-to-reel tape recorders. (Capacitor testers and signal monitoring test equipment also come to mind.)

*One member showed a Weston pre-1945 over-current sensor, a delayed trip Zenith “Space-Command” first remote control, and a manual on “C” systems from Collins.

Ron Daniels showed two Zenith radios, one a 5R216 and

the other a 5S319. He described the steps he took and items he had purchased in order to restore them to their beautiful condition – commenting that the cost can be high, but the entertainment value is worth it.

Mike Grimes showed us an unusual, commercial-looking DARB tube-battery set. It has no tuning knob or dial and has only 3 pre-sets that can be tuned with a screwdriver through access holes. This “Holiday Radio” could have been a beach rental radio? (Jim Sargent has a red colored version of it). Mike talked about the 1951 law that created the CONELRAD alert system that put the two marks at 640 and 1240 on AM radio dials from '57 through '63. Hams were required to monitor for alerts, and special receivers were made that either made a loud buzz or operated a relay for activating an alarm - whenever the AVC voltage went away. Mike showed a Morrow 3-tube CM-3 radio made for the purpose.

Richard Klarr showed a Philco 53-707 clock radio that appears to be ready for a lamp on top – there is a hole in its top. (Cliff Huff said that he has one with the lamp.) It is a two-band radio with a “special services” 1700 to 3400 Kc as well as the standard broadcast band. The clock is plugged into the radio chassis. Rich also showed a G.E. portable that uses a 2.2 volt wet cell battery driving a synchronous vibrator. The chassis is an aluminum die-cast design, making the radio very rugged. These radios will not run without a battery installed, but they can be converted. (Our late club member Max Evans used a small, modern 2 volt gel cell).

Mike McCarty showed Mary Caruth's MARCO brand “Champ” wooden radio. (Randy James thought it might be Canadian.) The radio has many very unusual features, such as being a 6-tube battery set with a 3-gang tuning condenser, double-tuned RF stage, push-pull output, superheterodyne that works from either 6 or 2 volts. It has a high impedance speaker with a steel wire driving the apex of the cone and a center-tapped coil for the push-pull drive. There are no values identified on the capacitors. The tube lineup is 3 no. 30's, a 1B5, a 1A6 and a no. 34.

*We were shown an Arvin radio having very stylish arrow-shaped knobs.

Cleo Cherryholmes told us about the first radio parts

store founded by Hugo Gernsbach in 1900. Many years later, Radio-TV News published an article about the first radio sold to the public. It was advertised in Scientific American for January 1906 as a “wireless telegraph system”. Cleo’s replica of that radio system was on display. (He said that one of the originals is in the Henry Ford Museum.) Since there were no radio stations at that early time, the system included both the transmitter and the receiver. The transmitter is a simple spark-gap type dipole (reminds one of Heinrich Hertz’s setup). The receiver is a similar arrangement with a “coherer” type detector. The detector was the biggest challenge for Cleo – getting the right material for his self-made detector to work properly. With luck, this setup works across the room. (Mike Grimes said that a spark igniter such as found in barbeque and cigarette lighters has been made to serve as the source of high voltage for a simple spark transmitter.)

George Potter displayed and discussed a number of pieces of very early de Forest wireless apparatus. He said that de Forest bought most of his parts from the Electro-importing Company, including rheostats and other parts. George has two spherical Audions with the original brass tags. De Forest made a number of “Radio-junior” sets. The RJ-9 was an open-back L-shaped affair. The RJ-6, 7 and 9 were tuners. George said “there are a lot of replica parts out there”. He also showed 3 makes of tubular “audiotrons”. He lamented the fact that de Forest and Marconi wasted so much time in litigation over patent rights that radio technology was held back for a time. If the two had gotten together, de Forest’s vacuum tube detectors would have greatly improved the performance of Marconi’s products.

Jim Sargent showed us a rare example of a Crosley SIX (spelled out) versus the Roman numeral designation VI. Otherwise the two radios are very nearly identical.

Pat Jankowiak showed a collection of tubes of widely varying application. A prized item is his very early, very large (about 5 inches diameter) photocell tube for a flying-spot scanner. He showed a Transmit/Receive radar switch for 8 to 9 GHz, a larger 3 GHz device, an RCA 196D voltage regulator tube that is adjustable via a diaphragm, a 1 GHz planar diode, an early digital readout display tube and a 30 second time delay relay. Also shown were two mercury vapor rectifiers, an 875A and a graphite anode no. 673 rated at 15Kv and 1.75 amps (that’s over 26 kilowatts!). Pat has a

bulk quantity of Western Electric 717A tubes, a UHF pentode ca. 1945. A scientific specialty item is his hollow-cathode tube used to produce light for spectrometer calibration. His 150 Kv, 50 ma X-ray-machine rectifier tube is impressive.

Ed Janssen showed two vintage timers – a Philco-brand clock timer and a pneumatically controlled radio timer in the form of an owl.

*One member displayed his home-brew ham transmitter, based on a type 801 tube in a Hartley oscillator configuration. It is complete with 160, 80 and 40 meter coils and uses an adjustable link for tuning. It is good for 20 watts - 40 watts at 600 volts.

*Another member showed a book “TV and Radio Repairing” by Markus. He said it is written in language and terminology that is easy to understand, and it mentions the use of a “gimic” as a capacitor (used in oscillator circuits, for example). He also showed a Japanese-produced “Clariton” tube tester which is very simple and tests only the tube’s filament continuity.

Cliff Huff showed and demonstrated a very unusual “Satety Fan”. It is a vertical cylindrical-shaped affair with the blades rotating safely inside – painted green. It was made by the Vertical Fan Co., Pittsburg, PA. Cliff says it doesn’t blow much air but it “will blow a match out”.

Eric Kirst showed us a telegraph item, soliciting help identifying it. The crowd consensus was that it’s a repeater, rather than a sounder.

Randy James showed his beautifully restored, brightly colored “Empress Chalet” birdhouse radio by Empire. It is a slug-tuned AA5.

Evan Jawolski displayed an old combination projector-phonograph made by Electro-Acoustic Products Co. in the 1930’s. An uncle’s friend had it. There was speculation from the crowd that it was used for lectures, with a film strip and sound accompaniment. (If so, wouldn’t it be great to have a record and a film strip for it?)

After the meeting officially ended, there were many groups hovering over and discussing the “feast” of interesting items.

*Apologies for omission of participant’s name not known, noted, or remembered by author at time of writing.

SPRING AUCTION 2009



A view of some of the varied items waiting to be auctioned.



This beautiful Echophone cathedral went home with a lucky bidder.



Mike Grimes and Cleo Cherryholmes checking out a book being auctioned off.

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