

SOUND WAVES

Published quarterly by The Vintage Radio & Phonograph Society, Inc. www.vrps.org

VRPS Fall 2018



From the President

Goodness, this summer was a hot one... and dry. But, as I look at the calendar, summer is moving quickly to autumn. I surely hope you have had the opportunity to attend a national or regional radio meet somewhere this year. I know that my wife and I really enjoyed being with like-minded collectors in the Chicago area in August when we participated in Radiofest, which is annually hosted by the Antique Radio Club of Illinois. When I see summer coming to a close, I know our annual convention cannot be too far away.

This year marks 44 years that VRPS has been promoting and encouraging the collection and perseveration of vintage radios, phonographs, and the various technologies as a whole. Each year your directors (their names are found elsewhere in this and each issue of the SoundWaves) spend a considerable amount of time making plans for this annual event. Those plans are intended to insure your time in November is going to be enjoyable, packed fully of fun, and yet, designed to enhance the whole collecting experience. If you are in the habit of sharing three days in November with other collectors, then no doubt you already know all of what I just wrote is true. However, if this is your first...or a first in a long time, now is the time to commit to be a part of this year's collecting spectacle.

Unfortunately, three of our long-time faithful attendees, each who traveled significant distance to attend each year, will not be joining us this year. Please join me in remembering John Cowart, Dick Enos, and Paul Winans. Each was a gentleman who loved the collecting hobby and willingly shared their knowledge at the drop of a hat. Their lamps have gone out. May they rest in peace, and that their families know they will be missed far outside the circle of their immediate family.

See you in November!

--Jim

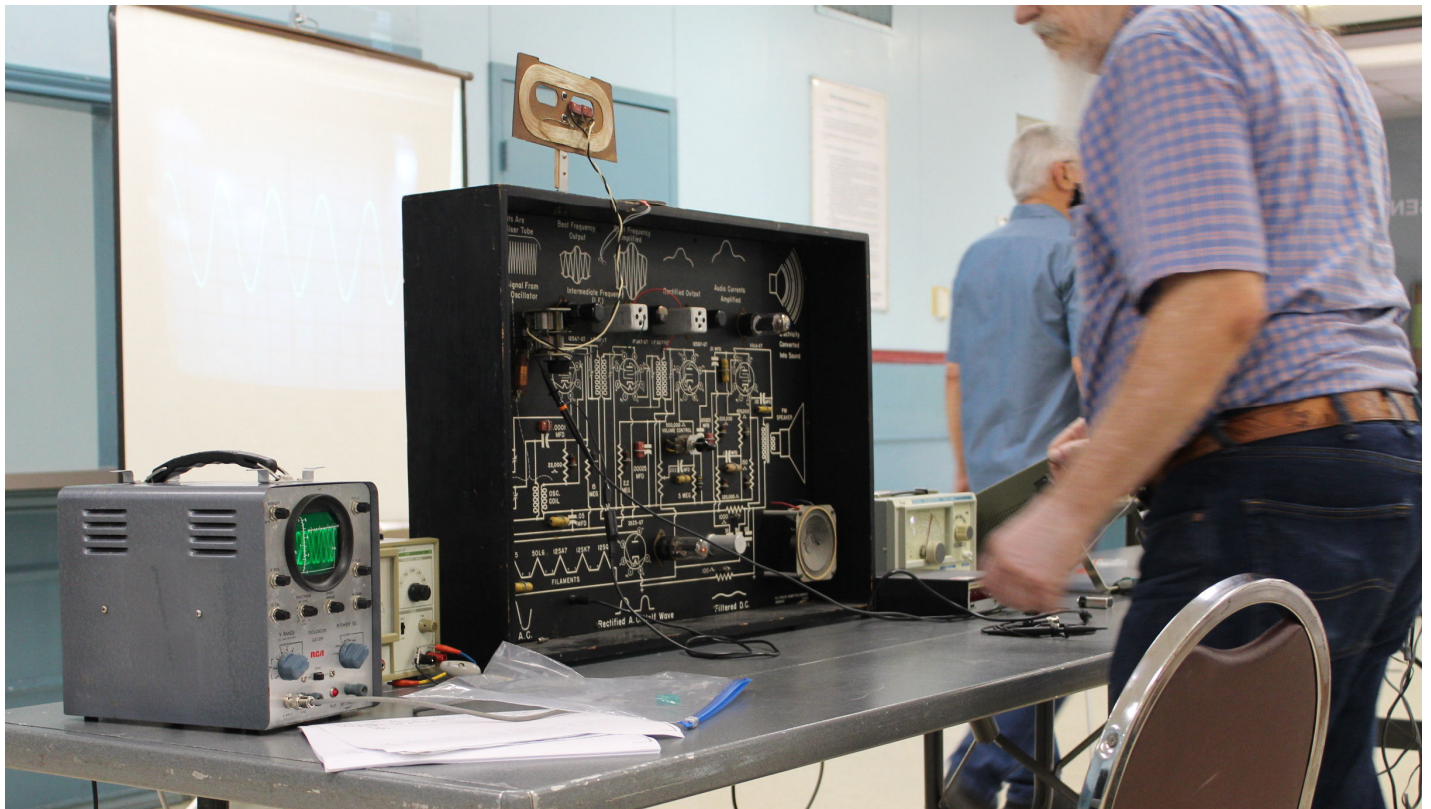
Photo from Repair
Session July 21st



Notes from Meeting August 18th

V.P. Randy James conducted our meeting. There was a good turnout of about 30 members, including new member Scott Finley. Mike Grimes passed around for signatures a "miss you" card for our long-time member Cleo Cherryholmes, who has been unable to attend. Program organizer Larry Lindsey. Larry announced that the October meeting would be a show-and-tell, for anyone wishing to participate. He had brought some SMITR (smartest-man-in-the-room) certificates for previous contest winners. Steve Nance and Dave Seymour were presented with their "official" certificates - won earlier. For this meeting, the question was - "what was the price of the 1936 E.H. Scott "Quaranta" 40-tube set? (Quaranta is the Italian word for the number forty.) Only two of these sets are known to exist. Joe Strickland was familiar with the set and its \$5000 list price, so he won the SMITR award. Larry introduced Mike McCarty, our program presenter for the meeting topic "The Use of the Oscilloscope". Without getting into how it functions, Mike explained that an oscilloscope produces a small dot of light that it moves, vertically and horizontally, to create a display of electrical signal activities. By providing a horizontal displacement of the spot proportional to the passage of time and a vertical displacement that is proportional to the signal

applied to its probe, the 'scope can reveal the nature of a signal. Rapid repetition makes our eyes see a pattern of lines instead of a moving spot. Mike had brought an oscilloscope, signal generators, a frequency counter and a large "Radio Trainer" board containing an operational 5-tube AC-DC radio spread out for access to all its circuits. (The board was manufactured for technical school training courses). He passed around copies of a block diagram of the "Radio Trainer", with annotated test points to be used during his discussion. Using the training board and the test equipment, Mike was able to choose and connect to test points on the board, providing the various forms of signal needed to show how the 'scope displays their character. He "walked through" the radio from one end to the other, starting at the antenna, and ending at the audio output stage. First, he showed the 'scope display of an amplitude-modulated (AM) signal, using the built-in "internal modulation" function of his signal generator. He demonstrated the frequency measurement capability of the 'scope, using the scales on its screen and the known horizontal sweep rates selected using the 'scope control knobs. He then coupled the signal generator signal into the radio antenna, resulting in an audio tone from the speaker of the training board. Connecting the 'scope to the converter tube, the nature of the local oscillator and I.F. signals were seen, followed by moving to the I.F. stage to quantify its amplification



of the signal. Then the action of the detector stage was shown, with its recovery of the audio signal from the modulation envelope of the I.F. output signal. Mike discussed the functions of some of the components in the detector stage having to do with filtering out residual R.F., affecting the sound of the radio and developing the automatic volume control (AVC) signal. He pointed out that the proper place to measure the AVC voltage is at the AVC filter capacitor. The output of the first audio stage was displayed, as well as the output stage, showing the distortion of the audio waveform with too much volume.

Mike took questions and discussed the usefulness of the oscilloscope. First of all, it can be educational (as in the case of his presentation). Second, it can provide a troubleshooting tool for some difficult or puzzling faults in radios - as follows: Is there an unwanted signal, e.g. caused by spurious oscillations? Is the signal distorted, e.g. caused by saturation or clipping or improper tube bias?

Author's Notes: An oscilloscope is indispensable for some types of TV work and useful for FM alignment. Service manuals show waveforms for sync signals and alignment purposes. A TV alignment sweep generator needs a companion oscilloscope in order to function at all. A 'scope can reveal ripple on power supply voltages (make sure the DC is blocked by the probe, the 'scope or with a capacitor). A Simpson 260 will do the same, using the "OUTPUT" jack and an AC scale setting. My first 'scope was a Heathkit O-1.

Bill McKeown

Zenith Trans-Oceanic, The "Royalty of Radios"

Zenith was a significant player in the 1920s radio market, but, prior to the Great Depression, did not hold the same market share as Atwater Kent or RCA. The closing of the Atwater Kent factory in 1936 and RCA's decision to make the greater part of their income from licensing their patents rather than be a major producer of radios at this time, opened the door for Zenith to become the leading manufacturer of mid-grade to high-end radios. With the development of tubes in the late 1930s to support portability, McDonald came up with the concept of a portable shortwave radio that he could use while at sea on his yacht. Although the series of radios was inspired by his yachting experience, Mr. McDonald correctly assumed that consumers were hungry for portables that could receive international shortwave broadcasts. By this time, the popularity of international shortwave broadcasts was growing rapidly.

Using the circuit developed for the Model 5G401, Zenith first refitted it to a larger chassis and cabinet

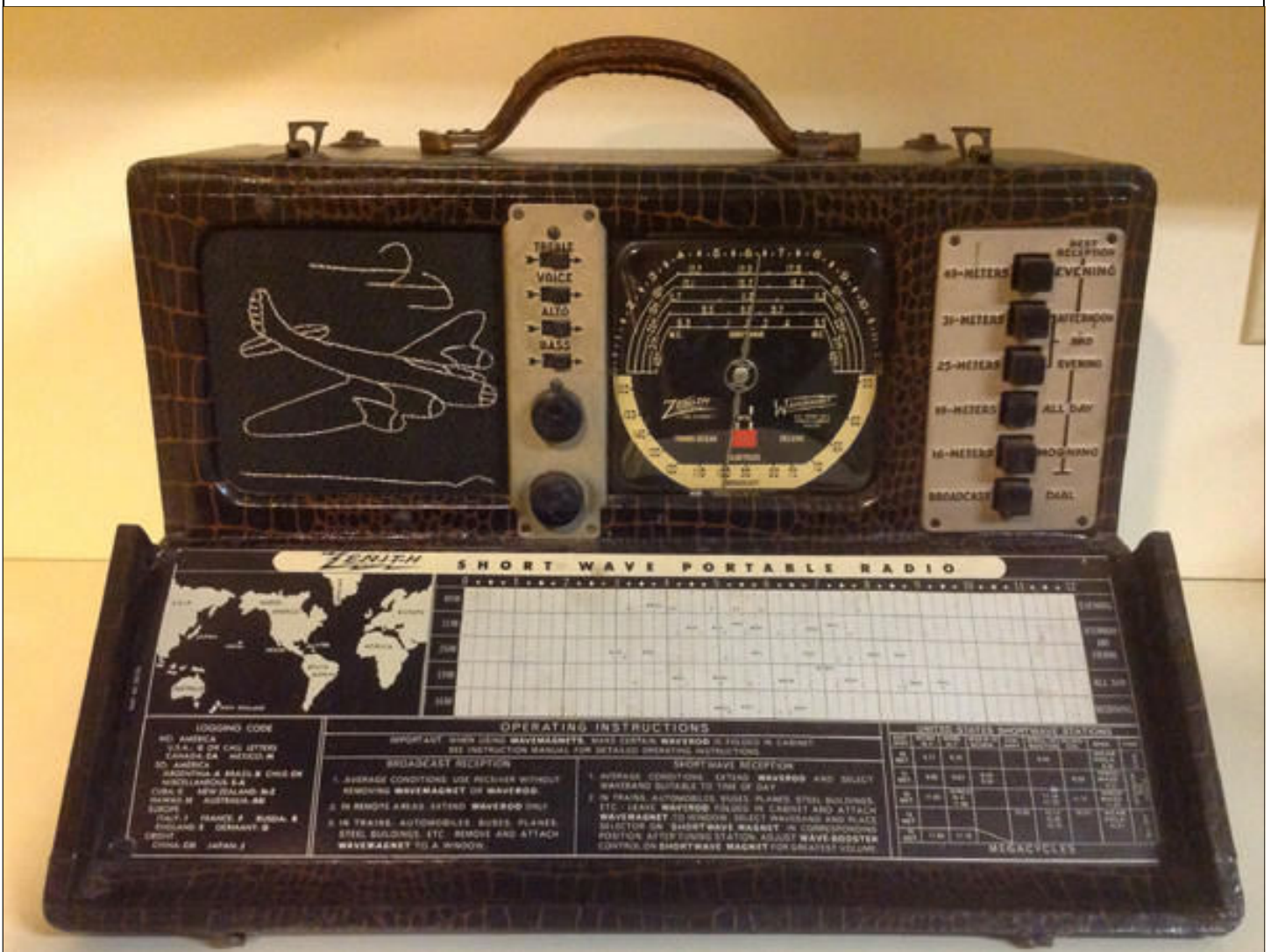
The AM broadcast receiver preceding the Trans-Oceanic line of short wave portables.



resulting the Model 6G601. The larger chassis would allow for the addition of the components required to receive shortwave. The AM only radio became known as "The Clipper" because it had the image of a sailboat on its grill.

The greatest challenge facing the Zenith engineering team, lead by Chief Engineer Gilbert E. Gustafson, would be to design a tuning assembly that would result in stable operation and still be able to fit into the 6G601's cabinet. Starting in 1939, and continuing through the remainder of that year, no less than 20 prototypes were submitted to CEO McDonald for his approval. All but versions 19 and 20 were rejected for one reason or another. (Trans-Oceanic, The Royalty of Radios, John H. Bryant and Harold N. Cones, Schiffer Publishing Co., 2008) The final version consisted of a six button band selector from which the user could select between the AM broadcast band, and five shortwave bands ranging up to 16 MHz. The components used in the tuning unit were of the highest quality to ensure stability in the often rough environment that a portable radio might be operated in. The outward appearance of the radio was the work of Robert Davol Budlong, and industrial designer who was a graduate of Grinnell College in Iowa. He was also well known for designing other appliances, such as Sunbeam toasters, shavers, and mixers, all

Zenith Model 7G605, the first in the line of Trans-Oceanic radios.

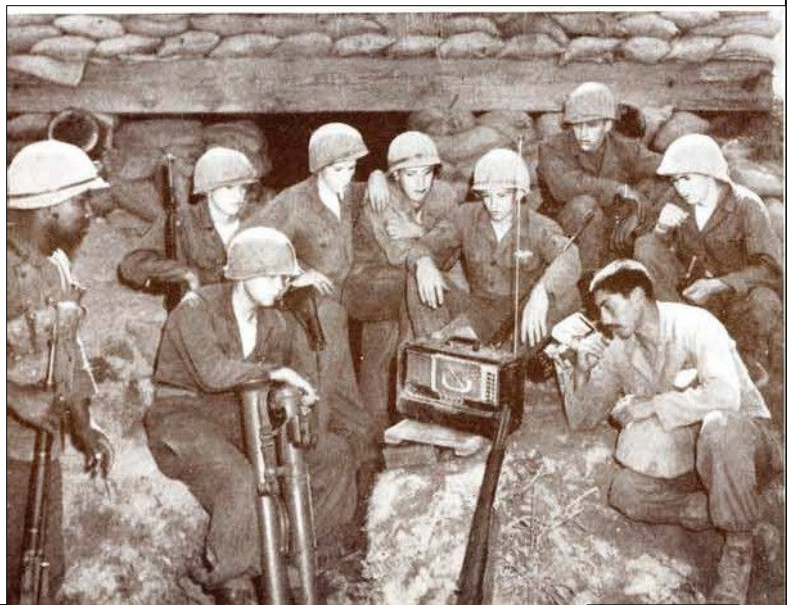


featuring a modernistic appearance. He chose to make the radios look like radios, a trend away from attempts to make them look like furniture or other objects.

The first version of Zenith Trans-Oceanic line of portable shortwave radios, the 7G605, was released less than two months before the Pearl Harbor attack. It bore the sailboat image, and continued to be known as the "Clipper." It sold for \$75, and was an instant success. It was just the beginning, though, of the series' long and colorful history. Zenith planned to heavily promote the radio for the coming holiday season. Then, the surprise attack on Pearl Harbor came. Most manufacturers halted production of consumer goods for the war effort. Zenith had other plans for their new radio, though. They changed the image on the grill from that of a sailboat to the likeness of the B-17 bomber. The change was implemented in such a hurry, that collectors have reported finding the bomber grill inserted over the top of the sailboat grill. Such radios fetch a premium on the collector's market. It is not documented as to how many sets shipped this way. As the original radios were called Clippers, collectors often refer to these as "Bombers." Zenith continued to produce the radio based on parts that it had ordered and received prior to the start of the war. On April 22, 1942, Zenith was forced to discontinue all consumer production by the government decree known as the "war planning board federal edict" ordering all manufacturing efforts to be directed to the war effort. By then, 35,000 sets had been made. At the time, it left approximately 100,000 orders unfulfilled. (Trans-Oceanic, The Royalty of Radios, John H. Bryant and Harold N. Cones, Schiffer Publishing Co., 2008)

Government edict or no, and despite a ceremony in front of the press celebrating the "last" 7G605 to roll off of the assembly line, the company did produce a limited number of additional sets, rumored to be about 1000 (some sources have Zenith sitting aside 1000 sets from the final run). These were retained and used as presentation pieces given to Zenith executives, dignitaries, war heroes, and celebrities such as movie stars who promoted war bonds. The radio would have the recipient's name silk screened on the face plate. When I was trying to acquire a 7G605 for my collection, I was outbid on one such presentation radio, bearing the name of a Zenith vice president. The 7G605 in Clipper or Bomber form is the rarest of the civilian series, and is highly sought after by collectors.

Beginning with WWII, Zenith also pushed the idea of Trans-Oceanics being sold to soldiers not as military radios, but as a way for troops to keep in touch with what was going on back in the states. To this end, they frequently ran advertisements featuring pictures of the radios being used by soldiers in the field and included stories (presumably real) of the radios surviving nearby bomb blasts and even being dropped in salt water. I have my own doubts as to the radio's ability to function after immersion in salt water, but the radio did have performance specifications that make stories of it being used as a backup when a military radio was destroyed in battle quite credible. They were not able to sell this idea to the government until after the Korean War when, in 1956, they landed a small contract to supply 2,973 of the radios known as the R-520 to the army for such purpose. The R-520 was a



militarized version of the civilian Model H500. It was ruggedized, damp- and fungus-proofed, had additional shielding, a set of spare tubes, and alignment tools included inside the cabinet. Extremely rare, it is identified by the army green vinyl covering stamped USA at one end, and the spare set of tubes clipped inside the rear cabinet door.



Left: the post-war Model 8G605., Right: the Model H500, circa early 1950s.

After the war, Zenith returned the radio to production in the form of the Model 8G605 and then a slightly improved Model G500 which, outwardly, looked the same as the 8G605. These were produced from 1946 through 1951. The sensitive, high performance portables remained a favorite amongst shortwave listeners and radio enthusiasts in general. In 1951, the H500 was introduced with an additional shortwave band, giving the user an additional band button to select. The H500 was the first model to use the new miniature tubes which had been developed as part of the war effort.

In 1954, the 600 Series went into production. It featured a "slide rule" dial, a departure from the traditional dials used by its predecessors. It was produced until 1962 and was the last portable vacuum tube radio produced in the United States.

All of the Trans-Oceanics featured Zenith's detachable "Wave Magnet" loop antennas. On the original 7G605, the antenna was taken to the extreme and made to look like a giant horseshoe magnet. It was toned down on subsequent models. The series also introduced the telescoping stick antenna that we are more familiar with today. The listener could switch between the two antennas to see which performed better under different conditions. The 7G605 came with a faux snakeskin covering. After WWII, almost all of the



radios came in black leatherette-covered cabinets, with two exceptions. On later models a brown leatherette covering was offered as an option. I would not call these rare, but they are far less common than the black ones. The other exception being the very rare R-520 which was covered in either an army green vinyl covering or the brown leatherette, both stamped "USA" and bearing military insignias.

By now, the elegant high performance radios had earned the nickname "The Royalty of Radios," so when the first transistor version came out, overlapping the 600 series from 1958 on, it was named the Royal 1000. The line continued through several more solid state models ending with the Royal 7000, which remained in production until 1982. Just as the Model B600 was the last vacuum tube portable manufactured in the United States, its descendent, the Royal 7000, was the last solid state portable radio to be made in the USA.

From: Zenith Trans-oceanic, The "royalty Of Radios"

Paul Litwinovich - <http://www.wshu.org/post/zenith-trans-oceanic-royalty-radios#stream/o>



SOUNDWAVES IS PUBLISHED QUARTERLY BY THE VINTAGE RADIO AND PHONOGRAPH SOCIETY, INC.

PRESIDENT—JIM SARGENT (972) 742-8085
BSARGENT@SWBELL.NET

VICE PRESIDENT—RANDY JAMES (817) 881-0974
RANDY-JEANNINE@SBCGLOBAL.NET

NEWSLETTER EDITOR—MARY ANN CARUTH
MCARUTH@ATT.NET

WEBMASTER—MIKE GRIMES K5MLG@VERIZON.NET

BOARD OF DIRECTORS

MARY ANN CARUTH

CLEO CHERRYHOLMES

BLAKE DIETZE

MIKE GRIMES

RANDY JAMES

ED JANSSEN

LARRY LINDSEY

MIKE MCCARTY

BILL MCKEOWN

GEORGE POTTER

JIM SARGENT

DAVE SEYMOUR

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 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.

- **OCTOBER 20, 2018 - SHOW & TELL - SENTER EAST BUILDING - 2 PM**
- **NOVEMBER 16, 17, 18 - ANNUAL CONVENTION; PLANO, TX**
- **DECEMBER 08 - SENTER EAST BUILDING ANNUAL CHRISTMAS PARTY 1PM**

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 telephone: 817-312-8761..**