

The

Call Letter

September 2015

Vol 41, #9

ANTIQUE RADIO SHOW & Sale

Saturday September 19th, 9am - 1pm.



Presented by the
Northwest Vintage Radio Society

at the North Portland Eagles Lodge
7611 No. Exeter St. Portland, OR 97203

You can see and purchase vintage radios from the 1920s - '70s. Short wave, plastic, consoles, wood, radio tubes & audio equipment will be available.

Low cost tables are available for vendors as well as outside spaces. For more info, contact Charlie at (503) 891-4615.

FREE (limited) Tube Testing
AUCTION (near end of sale)



FREE PARKING
FREE ADMISSION

for more information, see our website www.NWVRS.org

The Northwest Vintage Radio Society

Post Office Box 82379

Portland, Oregon 97282-0379

The Northwest Vintage Radio Society is a non-profit historical society incorporated in the State of Oregon. Since 1974 the Society has been dedicated to the preservation and enjoyment of "Vintage Radio" and wireless equipment.

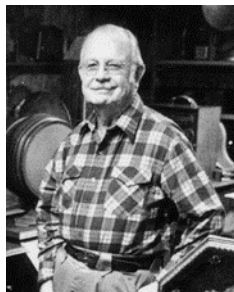
Membership in the Society is open to all who are actively interested in historic preservation. The dues are \$25.00 for domestic membership, due on January 1st of each year (prorated quarterly).

The Call Letter has been a monthly publication since 1974. It was originated with the founder, Bob Bilbie, and our first president, Harley Perkins. Through several editors and with the assistance of numerous society members, the Call Letter has continued to be a publication that informs members of the society's business and that supports the hobby of collecting, preserving, and restoring vintage radios.

Society meetings are held the second Saturday of each month at the Abernethy Grange Hall at 15745 S. Harley Ave. in Oregon City, Oregon. They convene at or about 9:30 AM for the purpose of displaying radios, conducting Society business, and exchanging information. Guests are welcome at all Society meetings and functions (except board meetings).

Other Society functions include guest speakers, auctions, radio shows, and radio sales which are advertised in the Call Letter and are held in and around Portland.

With each issue of the Call Letter, we remember Jim Mason, a charter member of the society who remained active until his death in 1999. A generous bequest from Jim's estate ensures the vitality of the Northwest Vintage Radio Society, and continued publication of the Call Letter.



Society Officers for 2015:

President Mike McCrow (503)730-4639
Vice-president Brian Toon (503) 266-5527
Treasurer Ed Tompkins (503) 573-3895
Recording Sec'y Liles Garcia (503) 649-9288
Corresponding Sec'y Pat Kagi (503) 694-6149
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September

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NWVRS Fall Swap/Sale –

Saturday, 9/19/15 – North Portland eagle's Lodge

- 7:00 am Doors open for members and vendor set up. The usual large Eagles roller carts that we have been enjoying the use of will again be available.
- 8:00 am A delicious full breakfast for \$8.00 will again be available a half hour earlier for purchase from the Eagles. Take advantage and support their efforts
- 9:00 am Public admitted free of cost. Banners advertising the swap/sale will hang from both sides, East and West, of the large Eagles corner sign to draw more public.
- Later A.M. Lunch available for purchase from the Eagles. Please plan to purchase breakfast and/or Lunch from the Eagles so they can afford to continue serving us. Thank you!
- 12:30 pm Auction begins
- 1:00 pm Ending time, but if sales are still going on, the time will be extended

NWVRS Meeting Minutes

By Secretary Liles Garcia

Meeting--August 8, 2015

President Mike McCrow called the meeting to order at 10:00 AM. Members pledged allegiance to the flag. John Irwin and Rose Ann Ranft (Tony's wife) attended today as guests. There were 49 people at our meeting.

ANNOUNCEMENTS

Dick Howard's wife is recovering from knee surgery. We wish her a speedy recovery. The October meeting will start at our new meeting time, 9:30 AM. All regular meetings at the grange hall will start at 9:30 in the future.

OLD BUSINESS

Mike thanked all members that helped at our July " Speed Feldschau Memorial Picnic ". Many thanks to Mark Moore for taking pictures at the July picnic and at today's meeting. Mike updated the group about purchasing an AED unit for our Society. He will get more information from some local fire departments. Members voted to purchase an AED unit.

NEW BUSINESS

Mike thanked Dick Karman and Don Hanson for a great job on this month's Call Letter. Members gave Dick and Don a round of applause. Mike also thanked the Call Letter folding team for their great work. Members gave the folding team a round of applause.

Sonny Clutter told the group about the American Wireless Association (AWA) and described the membership benefits.

Brian Toon told the group about a friend of his, Bob King, that recently passed away. Bob was an air personality for radio stations here in Portland.

Brian also reminded the group that we will nominate officers at our November meeting.

Damon mentioned that our library has some new books that were recently donated to our library.

Members discussed changing to one email group, but nothing was decided.

SEPTEMBER SWAP MEET

Our September Swap Meet will be on September 19. Set-up time will be from 3:30 PM until 7:00 PM on Friday, and starting at 7:00 AM on Saturday morning.

LEADS AND NEEDS

Robby Robinson needs the Bandspread and Main Tuning knobs for a Hallicrafters SX-71.

The Program Topic for today is "Pre-1950's Test Equipment ". Members showed and discussed the items that they brought.

The meeting was adjourned.

[See pages 4 and 5 for photos of the monthly feature]

OCTOBER FEATURE

Plan ahead to bring a featured radio in October - it's tube type portable radios that are functional with their own (battery operated) power (must be self-contained battery power)

SWAP SHOP ??

WANTED- a knob for the 1933 World Globe radio.
Raymond Holland, 6015 NW Perthshire Rd, Vancouver, WA
98663-1175 360 695-6349 (C) 360 989-5981
Chev33radio@comcast.net

Your editor would like to resurrect the “want ads” that we used to call “**Swap Shop**.” published monthly in the **Call Letter**. If you would like to have your listing last a little longer than the “delete key” submit them in writing to the editor. If you are concerned about publishing your personal contact information just say “find me in the Roster.”

Members' Profiles

David J. Brown

I caught the electronics 'bug' when I was in grade school with an electrical project kit. I learned basic theory by reading a lot of electronic books. People were upgrading from tubes to transistors so I collected a lot of broken radios, TVs, and Hi-Fi sets and learned my repair and troubleshooting skills.

I built a lot of Heathkits in my youth, starting with the VTVM, oscilloscope, audio signal tracer, RF generator and more. Popular Electronics provided more learning and I built a number of SWTPC projects like the metal detector, audio preamp and power amps.

I bought out the remains of a TV and Radio Repair shop while in high school which provided me parts, more test equipment, Sams Photofacts, and more radio and TV magazines. I opened a part-time Radio and TV repair business and specialized in radios, car stereos, music amplifiers, and background music systems. I was in a rock band and built a lot of speaker cabinets and repaired or modified a lot of amplifiers. I eventually got a BSEE degree from the University of Washington and an MSEE from Oregon State University and worked at Tektronix for 34 years. I used that opportunity to upgrade all my test equipment to something better and more modern. I now volunteer at the vintageTEK museum restoring early Tektronix equipment for display or show.

I like antiques and wanted a cathedral radio. My first radio was a home brew set built for a Model T automobile. I took that one apart as a kid. The next was a Philco model 41-280 console that I still have. I started collecting radios in the years from 1921 to about 1946. About half my sets are battery and the other half AC. I started picking up literature and started to put together my Riders manuals. Now my collection fills the house so I have slowed down on acquisitions. I have mostly tube radios but have a few early transistor sets and some novelty radios.

One of my favorites in my collection is a National Union tube tester. You can find it advertised in the front of the National Union Radio Service Manual Volume 1 and it goes by the name of "Visameter". My other favorite is an Atwater Kent 4066 breadboard that was originally purchased by my great uncle so I am the second owner.



The Visameter

Here's a real sales builder for permanent store or shop location - - impressive in size, beautiful in construction and finish, simple and efficient in operation. The Visameter inspires immediate customer confidence. An exclusive feature of this equipment is the noise test made possible by a built-in dynamic speaker. It has a number of preheating sockets, automatically indicates short locations, has a pilot light and is so simple to operate customers can test and judge tubes themselves.

I first joined NWVRS when I was in my early 20's which I think was around 1977 or 1978. The club membership was much older and there were some who had first-hand experience with radios in the late 1920s. I remember one class on winding spider coils and it was interesting to see how it was originally done. The club met back then met in the Buena Vista Club House in Oregon City. Attendance at the meetings was probably in the 20 or so members. I was Vice President of the NWVRS in one of those early years. I attended the NWVRS meetings when they were there but stopped once the meetings moved out to the Abernethy Grange Hall. I still try to make it to all the shows though.

Most of my latest restoration projects have been early music gear – guitar amplifiers from the 60's and 70's and electronic music synthesizers from the 70's and 80's. My personal website is at modularsynthesis.com and shows my synthesizer restorations and builds. I've not taken the time yet to document my radio collection.

Spy Radio – the Paraset

By Chris Butler

After the “canteen radio,” I was ready for another project. Two books piqued my interest, The Clandestine Radio Operators and Secret Warfare: Arms and Techniques of the Resistance. Both books offer a wealth of information about the men and women of the resistance and the equipment they used to harass the German occupiers in France and other countries. Much of the following is summarized from these books. One radio in particular was mentioned often: the Whaddon Mk VII or “Paraset.” You know what happened next, but first some background.

In the years leading up to WW2, the Germans built up their intelligence and espionage networks with a vengeance. Most other countries including England, France and yes, the US viewed this sort of warfare as “ungentlemanly” and as such were highly unprepared for what was to come. Thankfully, there was a small contingent of folks in both France and England who disagreed and began to make preparations for resistance as best they could – what was born was the French TR and the English SOE.

No other activity was more important than communication – between units, agents and the home office. London was the main hub, necessitating communication from 100 miles (French coast) up to 1,000 miles (Mediterranean). Research showed most communication would only necessitate one bounce of the radio waves off the ionosphere, meaning low power transmitters could be used – maybe 1 to 10 watts. Tests concluded the optimal frequencies to be used were around 3Mc and 6Mc from France, and 8Mc from the Med. In order to keep the equipment simple and as efficient as possible, radiotelegraphy (CW) was to be used. Each operator was required to have at least 20 – 25 wpm proficiency.

So, with these constraints in mind, the clandestine receivers, transmitters and transceivers were developed. Most were crystal controlled to provide frequency stability, designed for headphone listening only and could be powered from a variety of sources - car

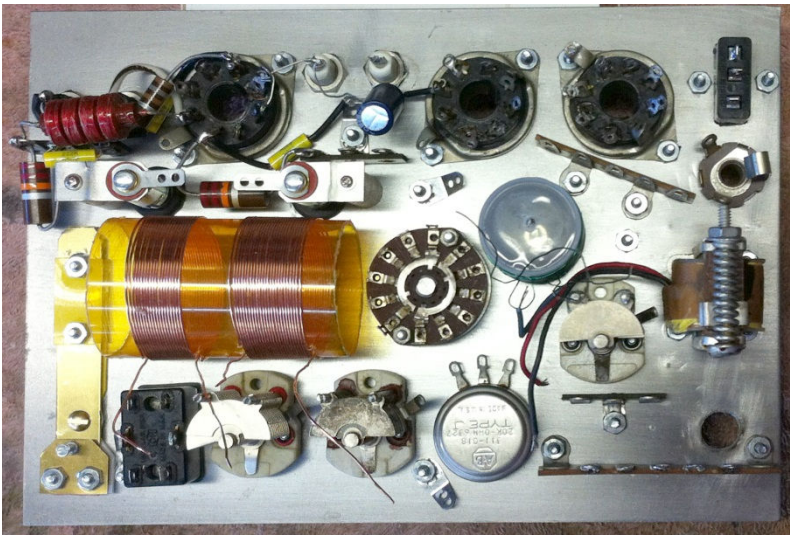
or tractor batteries, hand-crank generators or mains supply. Early in the war these radios were rather large and heavy, having to be carried around in full size suitcases. This made the agents somewhat conspicuous when they traveled from place to place, or created difficulties when they need to escape quickly. Indeed, in the early years of the war, once dropped in France the average life expectancy of the radio operator was 3 months!

Whaddon Hall, situated in Bletchley just northwest of London, was the secret site of SOE equipment development, including radio. At first, much of the equipment was constructed using commercial parts, not very sensitive and very clunky. The receiver and transmitter were separate, sometimes housed in wood boxes. However, development and construction progressed, and as one book noted, “a transceiver weighing more than 45 pounds in 1941 was replaced at the beginning of 1944 by a set which did not exceed 10 pounds. In 1945 the weight fell below 5 pounds.” This



aided in their transport and ease of concealment. Rather than two suitcases the transceiver could be hidden in a loaf of bread in a basket on a bicycle, or shoved behind a removable panel in a wall.

Production of the Whaddon Mk VII, or “Paraset” began in 1941. It gained its nickname due to the fact many sets were dropped by parachute into France and other countries, or parachuted in with an agent. Originally developed to be housed in a wood box, it was subsequently adapted to be housed within its own metal box in a suitcase. Unfortunately, due to orders from Churchill, most of these radios were destroyed after the war – very few original sets survive today.



The Paraset is a three-tube transceiver – two tubes for receiving, one tube for transmitting. The set is very compact with simple controls – Vernier dial for tuning, regeneration knob, antenna and tank coil adjustment knobs, self-contained CW key and two flashlight bulbs to help tune the antenna and tank coil. It had a small power supply unit, containing a multi-tap transformer as well as a mechanical vibrator, allowing it to draw power from a variety of sources. Its tuning range is from 3Mc – 8Mc, transmitter is crystal controlled and operates on a long-wire antenna.

The first drawings taken from an original Paraset were taken in 1990, and many folks have created replicas since. Some are exact originals, built with WW2-era parts, while others are modern day

equivalents. The circuit has been modified by some, adding safety elements or other design features, such as a buzzer in line with the key or bandspreading. I chose to go with just the original design with a safety feature (keeping the risk of shock down!).

My thanks again to George and Blake for their help in acquiring parts, both old and modern which would produce a nice period replica. I started by punching the socket holes in a piece of sheet steel, then drilling all other necessary holes for the components. Next, after prep, I painted the steel with a gun-metal color wrinkle paint. From there I installed the larger components – tube sockets, crystal socket, variable capacitors, switches and wire tie points. I wound the coils on two appropriate size pill bottles, and got to work on the wiring.

I had not built the power supply yet, but I was anxious and a generous club member loaned me a power supply. After installing two 6SK7's and a 6L6, a crystal, hooking up a long wire antenna and headphones, flip selector switch to Receive – ahh, the sweet squeal of regeneration! Only had to remove a couple of turns on the coil to get the tuning range set. After installing a dummy load on the antenna, switched over to Transmit, tuned the antenna and tank coil using the lights, pressed the key and measured output of five watts! A power supply and a period suitcase have completed the project.

Once again I am amazed and humbled by those who designed and used this radio and many others like at great personal risk to defeat the enemy. It is great to have a little replica of this piece of history.

Resources:

The Clandestine Radio Operators, Perquin, Jean-Louis, Histoire & Collections, March, 2011

Secret Warfare: Arms and Techniques of the Resistance, Lorain, Pierre, Macmillan USA, January, 1983

Electric Radio, "Two Clandestine Radios of World War 2," Hiroki "Hiro" Kata, AH6CY, November, 2012

Various "Paraset" replica building websites

Your Aspiring Radiotrician

Reflex Riddle - Two for the price of one

Last month we were presented with a mystery error for an undisclosed radio circuit. There was wide discussion at the August meeting. The Call Letter diagram was not easy to decipher, especially as we do not see filament rheostats shown pictorially that often. Looking at the area in question included here, the first tube on the larger August diagram. The filament currents supplied from the “A” battery. The rheostat below this tube may have questionable wiring. Please note the three wires coming from the same terminal on this rheostat. This would prevent control of that tube’s filament and not allow for shutdown. Notice how the other two tubes are wired with their respective rheostats in the August issue, clearly controlling filament current. There was credible discussion from one of our most knowledgeable club members, Mr. George Kirkwood, concerning these issues. His point well taken that in a reflexed circuit one would expect the tube to run “wide open” to minimize audio distortion. But we may have to conclude an error in this diagram, since there was nothing in the article pertaining to control or battery drain. The evidence may shift toward a simple error drawn by the author. In any event what a great exercise this has become for all to examine. Maybe we should do more of this in the future.

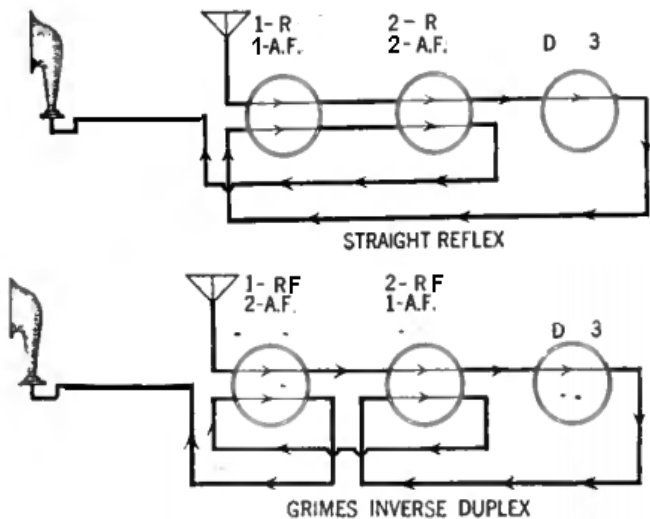
For those not familiar with the Reflex circuit I offer this short overview. As a way to eliminate tube count and to reduce battery consumption at the same time, the “Reflex” circuit became popular in the early 20s. What if we could do away with tubes dedicated just for audio. After all, a tube can perform double-duty so to speak. If tubes can amplify radio frequencies (RF), why couldn’t they do it at audio frequencies (AF) too. Examine the diagram showing the signal path for straight reflex, this being the most common. Tube 1 amplifies RF coming from the aerial, then passes this to tube 2 amplifying RF again. After the signal passes through detection in tube 3, AF is sent

back to be amplified in tube 1, then again in tube 2. That's two stages of RF and two of AF, and all without dedicated audio tubes! Three tubes doing the work of five.

The reflex circuit did have issues with oscillation and distortion, especially if care in design and construction were not followed. Tolerances being more critical in this circuit than in others. Maybe not the best circuit built on top the kitchen table, as often done in those early days. Mr. David Grimes, founder of David Grimes Inc. located at Staten Island N.Y. began manufacturing reflex radios in 1922, and out of business by 1928 with the advent of AC powered tubes making power savings a non-issue. Grimes made a name for himself with his workaround solution for the oscillation problems coined "Inverse Duplex Reflex," as depicted in our mystery circuit. Looking at the Duplex diagram you will notice a change of signal path over the strait reflex circuit. Coming from the detector, the AF signal travels to tube 2, which now becomes the 1st AF, then back to tube 1 acting now as 2nd AF and on to the speaker. Inverse duplex tends to equalize the loads of each tube, making for greater output volume before distortion begins. Thanks to. Roger Brown who provides us with the corrected schematic from the original pictorial.

Until next time, Your Aspiring Radiotrician.

Sid



**...it's always
a Sunny Day at...**



KKOV 1550 AM –

Our advertising partner for the September Show and Sale - September 19, in North Portland

Your Publication

By Dick Karman

There are several features that your editor would like to return to a place in the Call Letter.

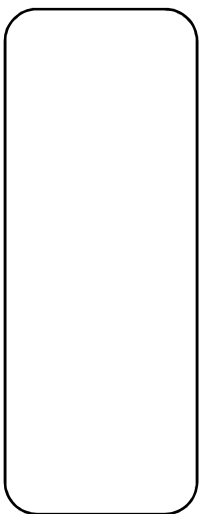
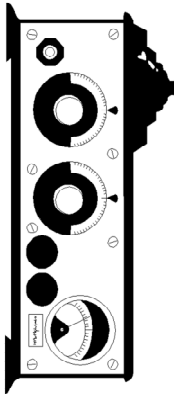
Your editor would like to resurrect the “want ads” that we used to call “**Swap Shop**.” published monthly in the **Call Letter**. It requires the members to write the ad and be sure to get it to the editor by the deadline. **But** if you would like to have your listing last a little longer than the “delete key” write them out in 40 words or less and E-mail them to the editor. If you are concerned about publishing your personal contact information in a print publication, just say “*find me in the Roster.*”

Your editor would also like to place a calendar page in future issues. This also requires members to send items for the calendar to the Editor. The basics are always the same – send a date, place and time for the event, but also **send a website** “for more information.” The calendar is only as full as the contributions that are sent. If you’d like to volunteer to be a “calendar coordinator” for the Call Letter, write or contact the Editor at vanguard4@lycos.com

And lastly, your editor would like to have member’s profiles in every editon of the Call Letter. Dave Brown’s on page 4 is a great example of what we’d like to see – it’s a way to get to know other members as well as compare notes on interests, experiences and the enthusiasm of collecting. Send your “profile” to the editor in text format. About 500 words fit well, and if you include an illustration or photograph they will get included as space permits.



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FIRST CLASS MAIL