

The **Call Letter**

October, 2013
Vol. 39 – No. 10

**Antique Radio
Show & SALE**



Presented by the
Northwest Vintage Radio Society

SATURDAY Oct. 12th
9 AM 'til 3 PM

American Legion Hall
21510 Main St.
IN HISTORIC
AURORA, OR

You'll see & can purchase: vintage wood, Bakelite, plastic, transistor & short-wave radios. Buy 'em all restored or in as-found condition. Hard to find tubes parts, vintage TV's, phono's and other related items will also be available.



FREE PARKING
FREE ADMISSION

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

NEXT MEETING: NOVEMBER 9TH @10AM

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 10 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 2013:

President	Sid Saul (503)869-5280	saulsidney@gmail.com
Vice-President	Mike McCrow (503)730-4639	tranny53@frontier.com
Treasurer	Ed Tompkins	edtmp@Q.com
Recording Secy	Charlie Kent (503)281-9335	radiogallerykent@qwestoffice.net
Corresponding Sec'y	Jim Harper (503)538-8738	JLHarperclan@aol.com
Board member at large	Mark Moore (503)286-5224	mark@pdxhistory.com
Call Letter Editor	Tony Hauser (503)438-0297	abhauser@aol.com
Librarian	Robert Robinson (503) 255-3585	srrobins@comcast.net

October 2013

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On the cover: Poster for the upcoming Fall Sale and Swap Meet in
 Aurora, Oregon

Monthly Feature: No monthly meeting until November.
 The November feature will be Swap Meet Acquisitions of
 2013

Visit our web site at www.nwvrs.com
and on Facebook: www.facebook.com/NWVRS

Next Call Letter deadline: October 26, 2013

The *Call Letter* is the official publication of the Northwest Vintage Radio Society. Circulation is limited to the membership and guests of the Society. The Society is not responsible for the material contributed for publication, nor the quality, timeliness, or accuracy of the items or services offered for sale in the SWAP SHOP. By common agreement of the board of directors, the buyer assumes all responsibility for the satisfaction of any transaction.

Sunny 1550 Ad

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



NWVRS Calendar of Events

Most of the hamfest and ham swap meet information comes from: PNW Hamfair web page at www.n7cfo.com/amJradio/hf/hf.htm

The PSARA monthly meeting information comes from The Horn of Plenty.

- October 12** **NWVRS Fall Show & Sale** 9am-3pm. American Legion Hall, 21510 Main St. Aurora, OR.
- October 20** **PSARA** monthly meeting. Election of Officers.
- October 26** **Swap-Tober-Fest. Mid-Valley ARES** Polk County Fairgrounds, Rickreall, OR. K7un@swaptoberfest.net
www.swaptoberfest.net
- November 9** **NWVRS** monthly meeting 10am; tailgate swap 8:30. Nominations for 2014 Officers.
- November 17** **PSARA** monthly meeting. Annual Show & Contest.
- December 8** **PSARA** monthly meeting (**SECOND SUNDAY!**) Award ribbons.
- December 14** **NWVRS Holiday Party** 10am; Election of 2014 Officers.
- January 11** **NWVRS Annual Meeting** 10am; tailgate swap 8:30.
- February 2014** **Salem Hamfair & Computer/Electronics Swapmeet** Rickreall, OR at the Polk County Fairgrounds.
www.w7sra.com

NWVRS Sept. Meeting Minutes

by Recording Secretary Charlie Kent

President Sid Saul called the September 14, 2013 meeting of the Northwest Vintage Radio Society to order at 10:00 am. Will Barnett of Gresham donated items to the club for auction. Pat Kagi was given a Zenith console to try to find the original owner, a Japanese family who was interred in 1942. The Club will try to locate the family to return their console in knowing their former address of 105 N.E. Victory Avenue, Gresham.

Guest

Bill Malloy's grandson, Scott, was our guest accompanying Bill to the meeting.

Health and Welfare

Bob Walters is recovering from heart problems. Dick Bixler, who had a fall, was present and doing better. Sonny Clutter was also present saying he is getting better every day. Sonny shared that Vern Howell had passed away. Long-time member Ed White passed away about three weeks ago.

Monthly Feature

A vote established the November monthly feature will be **Swap Meet Acquisitions of 2013.**

Tabled

To be discussed at the November meeting: Combining Yahoo and Google groups.

Recording Secretary

Charlie Kent asked for a motion to approve the August 10, 2013 meeting minutes as they appeared in *The Call Letter*. A motion was made to accept, seconded, and approved.

Treasurer's Report

Ed Tompkins gave the Treasurer's Report.

Merchandise

NWVRS magnetic name tags are \$13.50 each for a quantity of 6 or less; \$12.50 each for more than 6.

See Charlie Kent if you'd like to purchase shirts or hats.

October Aurora Swap Sale

Brian Toon reported there are four tables left downstairs at the upcoming October Swap Sale in Aurora. He reviewed who was scheduled for tables. Set-up on Friday, October 11 is from 4:00-7:00 pm and on Saturday, October 12 beginning at 7:00 am until the 9:00 am starting time. James Harper, Mike McCrow and Sid Saul have volunteered to assist with tear-down.

Dick Bixler noted for *Call Letter* advertising of \$1,000/page KVAM gives us a trade of 74 thirty-second spots split between the October and May swap sales. Dick added this is a good deal for both of us. Dick was given a round of applause for his help with this.

Corresponding Secretary

James Harper is on a road trip taking an elderly Aunt to visit her sister. Sid Saul reported the California Historical Society would like to share articles with our club.

Library

Librarian Robbie Robinson reported new books have been added to the library.

Roster

Chris Butler would like to take your picture for future rosters. The 2013-14 Roster will be without updated photos. Dick Karman was good enough to get it into a format for us. We're hoping the roster will be out by the October swap sale.

Leads and Needs

Leads and Needs were exchanged in the meeting. No Leads and Needs were reported to the Recording Secretary for publication. (*cont. p. 12*)

September Display

by Staff Photographer Chris Butler

A few of the custom radios from the September meeting.



Bill Meloy



Dick
Howard

September Display



Dan Howard

Jet Sales Company
Seattle WA
1947 Jetco Model P1-12
ON GOLDEN!
aluminum legs w/o clock
built from
Packard Bell Model 5F



Sonny Clutter

Output Trannies: Single-ended or Double? Part II

by President Sid Saul

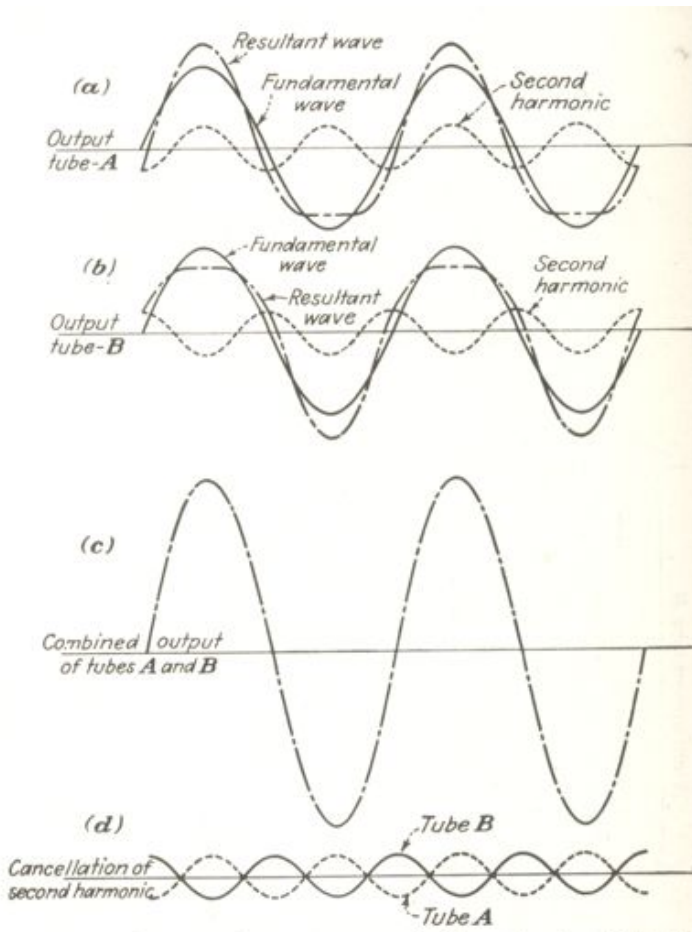
Sorry for the typos in the last article confusing primary for secondary. Proof that dyslexia and higher voltages don't always mix successfully.

In Part 1 we defined the differences between single ended SE and double ended push pull outputs (P-P), and we matched the load resistance-impedance to the SE output tube. Some differences between triodes, pentodes and power beam tubes, and why the best match for the greatest volume is not always desirable. We also tested and identified the impedance ratio of our scavenged output transformer (OT) using nothing but a vom and a low voltage ac transformer or variac.

In Part 2 we reveal some of the magic behind P-P, and why it sounds so clear and full of life. Not just more powerful *sounding*. Otherwise why not just combine two output tubes in parallel with less expense and trouble.

Now the assertion that *one plus one* doesn't always equal two. An explanation actually puts it closer to three. In P-P we are not limiting operation of the tube strictly to its strait portion of the tube's characteristic curve. We can also *drive* the output tubes with larger signal levels than in SE. The biggest *boost* comes from eliminating the large second harmonic created in the curved portions so often seen with SE outputs. All even order harmonics are cancelled in the primary winding of the P-P output transformer. We can also match the output load more closely to the tube's actual plate ac resistance to achieve maximum power, since distortion is no longer a major consideration as it was in SE.

The magic inside the output tranny's primary winding, adding the fundamental waves A and B together *originally out of phase* now *in-phase*, produces the *symmetric* output (see diagram). All *odd* harmonics *including* our fundamental don't cancel out, they *add* being in-phase in the primary winding. Luckily the strength of these higher odd harmonics 3rd, 5th, 7th decrease with frequency. Another advantage is that the OT can be made physically smaller. The DC currents from the B+ flow into the primary windings via the center tap in opposite directions cancelling magnetic core saturation. Not only cost saving, but the inductance of the primary *increases* yielding better low frequency re-



sponse. Last but not least, any hum produced in the B+ being an even order harmonic cancel out too, see example d. Unfortunately any hum introduced in the early stages of the radio pass straight through. Do I need say I am starting to appreciate push pull?

Now on to find the replacement OT. We first turn to the tube manual as before. Instead of Load Resistance, this time we look for the spec for push pull *plate to plate ac resistance in ohms*, or lesser known as *Effective Load Resistance*. It may list different values depending on whether the tube is being used as a triode, yes pentodes can be used in triode configuration for less distortion, pentode or beam, and plate voltage. If in doubt about plate voltage, thumb through your Rider service manual. I find this useful for determining if the amplifier was used for class A1, A2, or even class B amplification. Perhaps something for a later article. My sample radio used 2-6AQ5 beam power tubes. My RCA tube manual calls for 10k ac *plate-to-plate* class A1, rated at 10 watts @250 volt dc plate voltage.

My scavenged P-P tranny is about the same physical size, and had no open or shorted windings. Next I determined the voice coil impedance from the VOM method. The voice coil tested a little over 6 ohms, multiplied by our fixed value 1.25 identified the speaker as 8 ohms. A P-P tranny has three wires on its primary side. B+ connects to center tap. Full resistance or rated impedance from the primary end to end, half from center tap to each end. Now on to determine the Turns Ratio TR as before. We need 10K to match our tubes. $10K/8 = 1250$. The square root of 1250 gives us a TR of 35. I used a low voltage ac source as before on the secondary and read the higher primary voltage. Using 6.3 vac, I read 158 ac primary volts. $158/6.3$ revealed a TR of 25.

Schematic & Hook Up Data

Connect Speaker to (Sec. Lugs)	Voice Coil Impedance (Ohms)							
	1.5	2	3.2	4	6	8	12	15
	Resulting Total Primary Impedance (Blue Wire to Brown Wire)							
1 & 2	27K	-	-	-	-	-	-	-
2 & 3	18K	24K	-	-	-	-	-	-
3 & 4	10.5K	22K	-	-	-	-	-	-
4 & 5	10K	13.5K	21.6K	27K	-	-	-	-
5 & 6	8.5K	11K	18K	22K	-	-	-	-
1 & 3	5.4K	7.2K	11.5K	15K	21.6K	-	-	-
2 & 4	4.2K	5.6K	9K	11.2K	16.8K	22.5K	-	-
3 & 5	3.3K	4.4K	7K	8.8K	13.2K	17.6K	26.4K	-
4 & 6	2.4K	3.2K	5.1K	6.4K	9.6K	12.8K	19.2K	24K
1 & 4	2.15K	2.9K	4.6K	5.8K	8.7K	11.6K	17.4K	21.5K
2 & 5	1.55K	2.05K	3.3K	4.1K	6.15K	8.2K	12.3K	15.5K
3 & 6	1.3K	1.7K	2.7K	3.4K	5.1K	6.8K	10.2K	12.8K
1 & 5	-	1.4K	2.2K	2.8K	4.2K	5.6K	8.4K	10.2K
2 & 6	-	-	1.7K	2.1K	3.15K	4.2K	6.3K	8K
1 & 6	-	-	1.2K	1.5K	2.3K	3.0K	4.5K	5.6K

Not close enough so time to order a new P-P tranny.

The Hammond 125-E universal P-P output tranny rated @ 15 watts fits the original's dimensions, has reserve power and sells for around

35bucks. The Hammond table says to use terminals 1 and 4 on the secondary for an 8 ohm voice coil, yielding 11.6K impedance on the primary. Forcing me to go above the 10K required in the tube manual rather than use the next lower 8.2K on the chart. Besides, more impedance helps to straighten the tube's characteristic curve reducing harmonic distortion with only a slight sacrifice in loudness.

I hope these articles have taken *some* of the mystery out of SE and P-P output transformer replacement. I *am* getting better at proof reading! See you at the swap meet. Sid

Swap Shop

FOR SALE: **I need to finally sell my radio collection. I am using a walker now and have some difficulty getting around and I cannot lift anything of very much weight. I have about 100 radios from the 20's through plastics in the 50's. I have one Catalin in perfect condition, several cathedrals, battery sets, consoles, and chassis of different years including several containing globe tubes. I have a supply of radio knobs including some for Catalin and Zenith radios, some very nice speakers, and other miscellaneous items such as Abbotwares radios and tube checkers. Be sure to call before you come down to see me. Glen Bricker, 1425 Daugherty Ave, Apt. #4, Cottage Grove, OR. 541-942-3717.

FOR SALE: **I have an old model 14 KTR Teletype (Western Union Telegraph Co Simplex Printer 2-B) that I am finally parting with. Do any of you know if there is a Portland Teletype group around anymore? I have found groups around the country, but these buggers are heavy, so shipping gets pretty spendy. Cliff Tuttle, 503-368-7956, tuttlekip@gmail.com

FOR SALE: **KIEL "Golden Voice Table Radio", ca. 1930. Beautiful piece of period furniture containing an Atwater Kent 55C radio chassis. Tubes check OK, light up, but no sound. Asking \$400. Call Nick in Vancouver at 360-750-0286 or email, nick9818@gmail.com.

FOR SALE: Thousands of tubes, hundreds of radio parts, panels, meters, surplus, etc. R5-D3 electronic surplus, Bob Lee, 9770 S.E. Stanley Ave., Milwaukie, OR 97222, (503) 513-0410

FOR SALE: Many Tubes New and Used – 30-day money back Warranty. For list visit www.antiquetubesupply.webs.com. I can ship OR bring to club meetings. Damon Vandehey, (503) 459-1777.

FOR SALE: Amplitrex professional tube testing at reasonable rates. Curve tracing, plate current matching, noise testing and highly accurate Gm readings. Adds value to high-value tubes!
robertwstephens@frontier.com.

FOR SALE: Questions about restoration of vintage radio? Visit Radiolaguy's web site often for this information plus lots of other

interesting displays, photos, virtual museum plus lots of other information on vintage radio and television. Oh, yes, there are items for sale as well and NVRS members get a substantial discount on most of these items. Thank You, Sonny the Radiola Guy
Visit my vintage radio web site: <http://www.radiolaguy.com>

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“Meeting minutes” (cont. from p. 5)

(ed. addition: NEED: Majestic Model 60; any condition. Write to: Joe Naemura, 1614 SE Maple Loop, Gresham, OR 97080. For quicker response call 503-522-2295 and leave number)

Tech Talk

Blake Dietz gave a presentation with handouts on color-coding. There were approximately 50 members and guests in attendance. The meeting adjourned at 11:25 am.

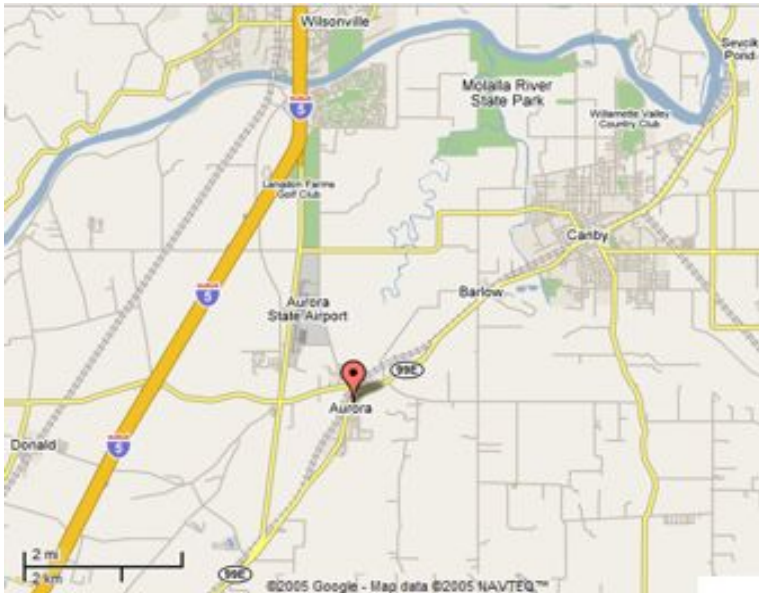
Auction


An auction of radio-related items donated to the club followed the meeting.

Fall Swap/Sale Location

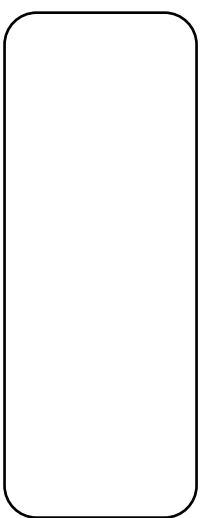
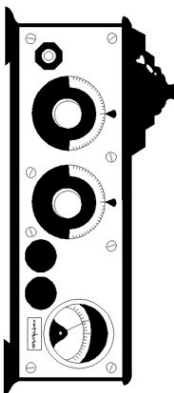
Map by Google

Here is a map to Aurora. The American Legion hall is just off of Highway 99E at the corner of 3rd and Main Street NE. Exits off I-5 to Aurora are clearly marked from either direction. Really, you can't miss it.





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P.O. Box 82379
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