

The

Call Letter

*June, 2014
Vol. 40 – No. 6*



NEXT MEETING: JUNE 14TH @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).

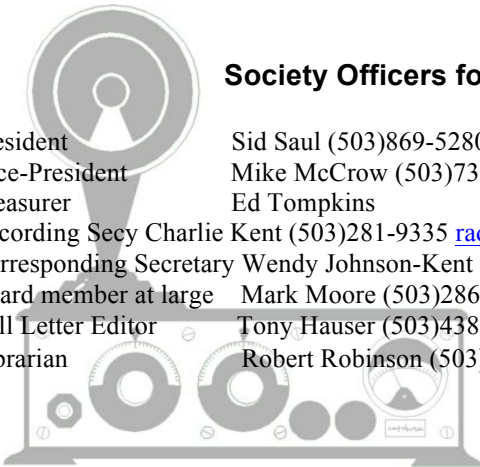
The Call Letter has been a monthly publication since 1974. It was originated with the founder, Bob Bilbie, and our first president, Harley Perkins. Through several editors and with the assistance of numerous society members, the Call Letter has continued to be a publication that informs members of the 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.

Society Officers for 2014:

President	Sid Saul (503)869-5280	saulsidney@gmail.com
Vice-President	Mike McCrow (503)730-4639	tranny53@frontier.com
Treasurer	Ed Tompkins	edtomp@Q.com
Recording Secy	Charlie Kent (503)281-9335	radiogallerykent@qwestoffice.net
Corresponding Secretary	Wendy Johnson-Kent (503)281-9335	
Board member at large	Mark Moore (503)286-5224	mark@pdxhistory.com
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June 2014

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On the cover: Chris Butler’s Don Iverson Award-winning display of his Westinghouse RC restoration

Monthly Feature: Philco radios and the Annual Trash Bash

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

Next Call Letter deadline: June 28, 2014

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 May Meeting Minutes

By Recording Secretary Charlie Kent

President Sid Saul called the May 10, 2014 meeting of the Northwest Vintage Radio Society to order at 10:00 a.m. welcoming a large attendance of 62 members and guests. A close resident to the Abernethy Grange, Paul Meyer, was a guest; as well as Steve Harget invited to the meeting by Chris Butler. The Pledge of Allegiance was led by our President.

Old Business

On April 27 Jerry Hertel, Charlie Kent, Liles Garcia and Sid Saul manned a nice display of NWVRS radios at the Abernethy Grange Open House at our club house. Sid noted he thought our table was the most popular of those invited to participate. The event was the Club's initiation of our first outreach in years to the community.

Proposed New Club Swap Sales Location

Charlie Kent gave a presentation on a new swap sale location at the Eagles Lodge on North Lombard in Portland. The suggested change from many years being held in Aurora was well received. An overwhelming vote with only one dissention passed to try to obtain the new venue. Brian Toon was given a hearty round of applause for his many years of service as the Swap Sale Coordinator.

Don Iverson Award

The 2nd Annual Don Iverson Craftsmanship Award contest followed. Judging the event were Tom Hoskins, Brian Toon, Liles Garcia, Bruce Bauer and James Harper, with President Sid Saul serving as alternate. Chris Butler won the prestigious award for the 2nd year and his name will again be added to the new plaque depicting Don in his radio room.

Trash Bash

Vice President Mike McCrow announced the Trash Bash is slated for June. He asked for a volunteer to drive a 5'x9' low boy trailer. Damon Vandehey has again agreed to recycle the items from the trailer.

Leads and Needs

Blake Dietze is looking for an RCA 87T glass surround and frame for Bill Meloy.

Recording Secretary

Charlie Kent asked for a motion to approve the March 8, 2014 meeting minutes as they appeared in *The Call Letter*. A motion was made to accept, seconded, and approved.

Merchandising

Charlie Kent stated NWVRS hats and polo shirts are available for purchase. Magnetic-backed nametag badges can be ordered for a cost of \$13.50.

Corresponding Secretary

Wendy Johnson-Kent was given a letter received from the California Historical Radio Society requesting a NWVRS donation toward the purchase of their vintage 1920's building in Alameda, CA to use as their Radio Museum and Bay Area Radio Hall of Fame. Membership declined the invite, and a letter conveying our decline, but wishes for success in their endeavor was sent from the Club.

Treasurer's Report

Ed Tompkins gave his Treasurer's Report on club finances. A vote approved the removal of the James Mason funds from its current account where no interest was being received to being placed in a Money Market account.

Library

Robbie Robinson reminded all present that books are ready to be checked out from our library. *The Big Broadcast 1920-1950* was a new book to the library donated by Robert Johnson. DVD tech talks are also available for check out.

Website / Membership Dues

Webmaster Pat Kagi suggested members dues be prorated to their month of payment. After discussion, it was decided we would retain payment of dues as January 1. The prorating of new member dues remains open for further review.

Club Photographer

Chris Butler announced he still needs to take about 25 Club member pictures for the next Club Roster.

Call Letter

Editor Tony Hauser will be retiring at year-end. Sid Saul has volunteered to take on *The Call Letter* responsibilities starting in 2015.

New Member

Sid Saul shared Sarah Kidd joined the Club at the April Aurora Swap Sale. Subsequently she purchased a Westinghouse R169 phonograph record player console from a member.

Monthly Feature

The Monthly Feature for June is **Philco Radios**. The business meeting adjourned at 11:45 pm.

Auction

Charlie Kent auctioned 11 consignment items netting the Club 50%, with the other 50% going to the owner. The Club made \$132.00 slated to go into the General Fund Account.

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.

- June 14** NWVRS monthly meeting 10am; tailgate swap 8:30. Annual Trash Bash. Display: Philco Radios.
- July 12** NWVRS monthly meeting 10am; tailgate swap 8:30.
- July 19** Coos County Radio Club Hamfest and Swapmeet North Bend, OR. <http://www.coosradioclub.org/>
- July 20** PSARA monthly meeting 11:30am; Abraham White Award
- July 26** 16th Annual Pacific NW Ham Radio Tailgate Swapmeet Lewis County Fairgrounds <http://www.cvars.org/>
- August 9** NWVRS monthly meeting 10am; tailgate swap 8:30.
- August 16** Clark County Ham Fair Salmon Creek American Legion Hall, 14011 NE 20th Ave. Vancouver, WA 98686 www.w7aia.org
- August 17** PSARA Antique Radio Swapmeet 9am – 1pm, Shoreline Community College, 16101 Greenwood Ave. North, Shoreline, WA www.eskimo.com/~hhagen/psara/
flyer: <http://www.n7cfo.com/amradio/hf/psara.pdf>
- August 23** Highline Amateur Radio Club SwapFest Des Moines, WA. Always the 4th Saturday in August. www.highlinearc.org/swapfest.html

Education Committee Outreach Display

By Education Committee Chair Charlie Kent
Gilman Park Retirement Center
May 30, 2014



Dick Karman has been visiting retirement and convalescent centers for many years giving presentations on various aspects of radio. The one he gave on May 30th was “Remembering the Way Radio Was.” Those who have seen Dick’s presentations at our Christmas programs know of his professionalism and expertise in the field.

Liles Garcia and I brought a display of 20’s, 30’s, and 40’s radios to augment the program.

After the show, while Dick was breaking down his equipment, Liles and I listened to stories from ladies in the audience. One relayed her remembrance of hearing FDR’s fireside chats on her father’s console. More retirement and convalescent center programs and displays will be scheduled to share and give enjoyment to the elderly.

A future NWVRS Education Committee outreach will take place on June 7th at the VW June Bug Rally at our new Lombard Eagles swap meet location. Education Committee members Mark Moore and Charlie Kent will man a NWVRS booth. Radio expert Blake Dietze will be present to answer questions about car radios.

NWVRS May Don Iverson Contest Display

By Staff Photographer Chris Butler



Dan
Olson



Mike McCrow

NWVRS May Don Iverson Contest Display



Larry Tobkin



Liles Garcia


The Aspiring Radiotrician

By President Sid Saul

Good Ol' 0Z4's (Maybe Not)

This month we take a look at the infamous 0Z4 rectifier tube. These were used from the late 30s to the early 50s, mainly in GM Delco car radios. Although, you may find an off-brand that pre-dates back to the mid-30s. These were filament free, hence known as *cold-cathode* full-wave rectifiers. Argon-filled glass tubes stuffed inside of a metal shell resembling most other metal shielded tubes. High voltage on the anodes or plates to ionize the gas, allowing current to flow from the single cathode to the two plates. And all without using a filament heated cathode! The thinking was perhaps to eliminate another expensive power-hungry tube in the already overtaxed six volt electrical systems. Power transformers could be made cheaper, now having less filament demands placed upon them. However, the tube might stop conducting under very low battery conditions. Perhaps when sitting at a stop light. If it were very cold outside it could take all of twenty minutes warming up the car enough to *fire* the good ol' Z4. Folks soon found that several attempts may be needed at the radio's on-off switch to bring things to life. One popular alternative was to replace the cheap but venerable 0Z4 with the slightly *if* more reliable 6X5 rectifier tube. As this used the same octal base and pin assignments. 6X5s could be found in car radios dating back to the mid-30s. The difference being that it used the conventional filament heated cathode. The conversion was easily accomplished by grounding pin 2 of the tube socket, and running a wire from pin 7 to another tube's filament. Unfortunately most of the six volt rectifier tubes of the period had their own misgivings. The 6X5 had the reputation of eating power transformers. The filament-cathode would short. Slow enough to overheat and kill the transformer, but not fast enough to blow the 14amp, 25 volt fuse.

Dealers and repair shops always kept a generous supply of power transformers in stock for the inevitable X5 conversions. The required 14 amp fuse was shorter than the 20 amp preventing swapping-in a higher rated fuse.



RAYTHEON

Excellence in Electronics

TECHNICAL INFORMATION

**GAS-FILLED
DOUBLE DIODE**

TYPE

OZ4A/1003

The OZ4A/1003 is a gas-filled, double diode employing an ionic-heated cathode. Its principal application is as a full-wave power rectifier in equipment with vibrator type power supplies.

MECHANICAL DATA

ENVELOPE: MT-8 Metal
BASE: Small Water Octal 5-Pin
TERMINAL CONNECTIONS:
 Pin 1 Shell Pin 6 No Connection
 Pin 3 Plate #2 Pin 8 Cathode
 Pin 5 Plate #1

MOUNTING POSITION: Any

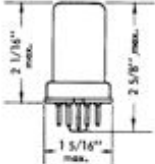
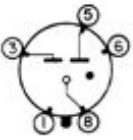
ELECTRICAL DATA

DESIGN CENTER MAXIMUM RATINGS:

Max. Peak Inverse Plate Voltage	580 volts
Max. Peak Plate Current	330 ma.
Absolute Min. Peak Shorting Voltage, per Plate (Full-Wave)	300 volts
Max. DC Output Current	110 ma.
Absolute Min. DC Output Current	30 ma.
Min. Total Effective Plate Supply Impedance, per Plate	300 ohms

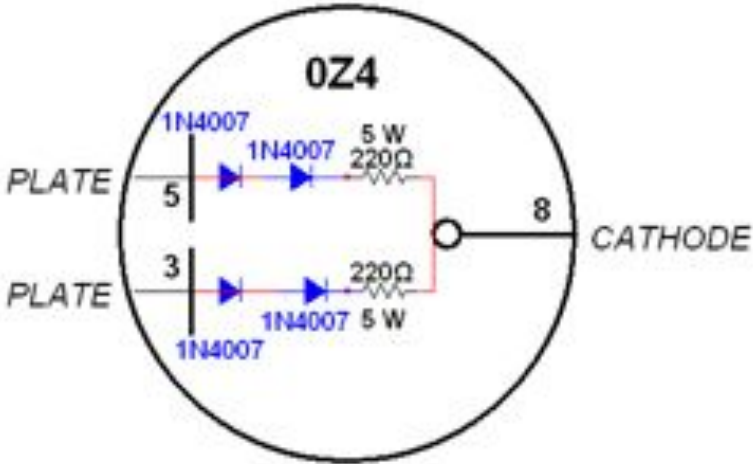
CHARACTERISTICS AND TYPICAL OPERATION - VIBRATOR OPERATION - FULL-WAVE

Peak Plate Voltage, per Plate	440 volts
Filter Input Capacitor	8 µf
Total Effective Plate Supply Impedance, per Plate	600 ohms
Average Dynamic Voltage Drop	24 volts
DC Output Current	100 ma.
DC Output Voltage	310 volts

BOTTOM VIEW

Sometime in the early 50s Delco changed tube sockets with just enough pins to accept the 0Z4 but not the 6X5, thus preventing the conversions. Many shops just rewired-in an external X5 however and wherever they could. Moving ahead to the late 50s provided for another, albeit better solution. Replacing the rectifier tube with the dependable and cheaper solid-state (SS) version. The 1n2071 silicon diodes available at the time, along with a few resistors were all that were needed. The tube's metal shell easily pried off to reveal and gut the small glass tube inside.



Today we use the 1n4000 series diodes, easily acquired from Radio Shack. A higher PIV (peak inverse voltage), 1000 volts for the 1n4007 compared to the 600 volt 2071s. We will discuss more on this later. Because the OZ4 tube has a PIV of 880 volts, a single diode for each half of the rectifier tube doesn't leave much room for error. Putting two or even three diodes in series allows for more breathing room. Placing diodes in series, just as placing capacitors in series, increases their voltage carrying capacity. I have included a diagram using two diodes and a resistor for each half of the tube. Why use 220 ohm resistors you ask? The OZ4 spec shows the voltage drop at 24 volts. Diodes only drop about half a volt, so the two diodes drop about a volt. Eliminating this series-current resistor would cause the B+ voltage to increase, possibly damaging other components, especially the points of the vibrator due to the higher current. Some would say the extra jolt shouldn't matter, but I choose to play it safe. As you know I have always advocated for safety!

So how did I come up with 220 ohm resistors? Compensating for the higher voltage drop of tubes is commonly neglected when substituting SS diodes for tube rectifiers. Dropping 23 volts for each half of the tube, (24 volts minus the 1 volt for the two diodes in series). Now figure in the B+ current of 100 milliamps found on the spec for the OZ4 tube and solving for R. Voltage (E) divided by the current (I)

equals resistance (R). 23volts divided by 100mA = 230 ohms. I used the standard 220 ohm resistors for being close-enough. Now what about the power rating used for these resistors? The consensus was to use 5 watts and here is why. The calculation proves easy enough. Power (P) in watts is simply E squared, or voltage *squared* divided by R. Again the voltage drop being 23 volts and the resistance calculated at 220 ohms. 23 volts squared divided by 220 ohms equals 2.4 watts. Doubling this value for safety gives us our 5 watts. Wire them under the chassis where they will run cooler if unable to stuff into the original tube shield. PIV is the maximum voltage that the diode can tolerate being reverse biased without failing. Simply put, each complete cycle sees the ends of the diode switch polarity, be this tube *or* SS. When the diode's anode, *arrowed* end shown on the schematic, opposite the striped band, goes positive with respect to the cathode, current will flow from the cathode to anode in the forward direction. When voltage exceeds the diode's *inverse* rating on the negative half cycle with the anode now more negative and the cathode more positive, the diode may fail. My data book shows the 1n4007 rating at 700 volts DC in the forward direction. Typically the diode's forward rating, or peak *plate* voltage for tubes is going to be less than the inverse rating. 0Z4s being rated at 440 plate volts is no problem for the 4007. One last rating if you please. The 4007 is rated at 1amp hence handling the 100 mA current as seen on the tube's data sheet won't be a consideration. Reverse bias specs always seem to *jump off the page* when it comes to diode selection; at least for me!

So until next time from your Aspiring Radiotrician...Sid.

Fall NWVRS Swap Sale

By Recording Secretary Charlie Kent

Date: September 27, 2014

New Location: Lombard Eagles Lodge
7611 N. Exeter St.
Portland, OR 97203

Coordinators: Rick Ryan and Charlie Kent

The Club was lucky enough to secure the only date available in September or October, 2014. By the time I rechecked on availability after the Club vote, all dates were taken. This date of September 27th became available due to a cancellation.

Our promoter was able to secure a 50% discount of \$500.00. By having the September 27th date, we will be right between meetings. As a result, we will hold a vote at the June meeting to decide if we will cancel our normal September meeting in Oregon City. Rick and I also realized that for 2015 having the swap sale in September on the second Saturday would be a plus for outside vending as the weather will more than likely be better than later. We want to make that the permanent early Fall swap sale date. Spring swap sale will still be the second Saturday in April.

This Portland centrally located site offers 125 parking spaces in the attached lot, with another 100 on-street spaces adjacent to both sides of the building.

This building measures 88-feet long by 62-feet wide inside allowing for many more tables than we've had in the past. Other clubs will be invited to participate. Rick and I will make sure that any inside vendor that wants electrical power will have it.

As the event gets closer, we will be working with the kitchen staff to get the best variety of food available. There will be a port-a-potty delivered outside for additional use to the restrooms located inside.

Inside tables are still \$15.00 each for Club members and \$20.00 each for non-NWVRS members. Outside spots (one parking space) are \$10.00, or \$20.00 for two parking spots for a pop-up tent for NWVRS members, and \$15.00 per space for non-NWVRS members.

If you wish to rent a table, contact Rick Ryan at (503) 474-7778 or Charlie Kent at (503) 891-4615. Rick and I are working to make this the best swap sale event ever!



Dan Olson's RCA Victor display from the May meeting

Tuned Into... Bob Campbell

As told to Corresponding Secretary Wendy Johnson-Kent

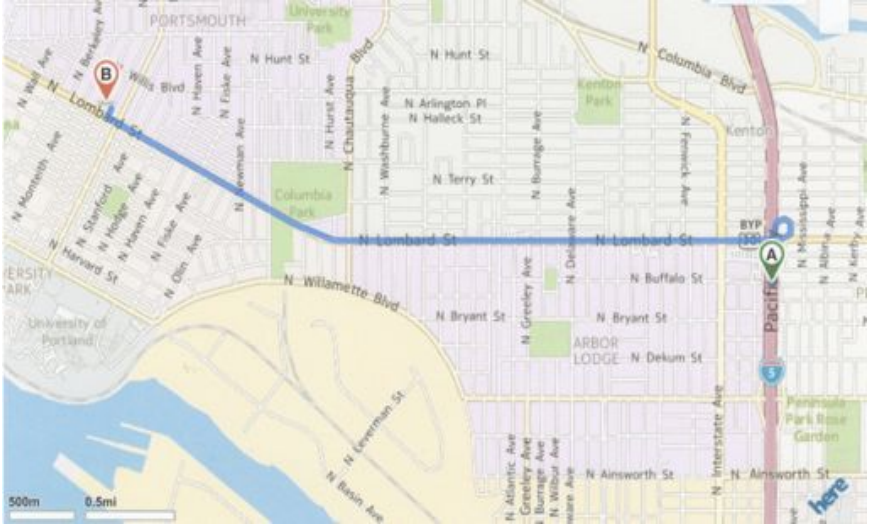


Bob's first recollection of radio was a one-tube radio with a 1H5. He didn't realize until much later it was a diode used to pick up radio, like a crystal set, and the triode was used as the amplifier.

He is one of the Club's charter members, running the meeting for its first 6-8 months. Bob has never liked potlucks, so missed attending NWVRS' first Christmas event where it was decided to elect a President. He missed out on being in that role, but in looking through the Club's archive materials, it's clear to see his participation throughout the years. I have found many early NWVRS items Bob carefully preserved and donated to the Club.

Although Bob continues to like radios, he has only one left, a Crosley 124-1 7' console that's in his living room. Bob still finds books and electronics to sell before the meeting, and says he keeps coming to the meetings to see the people.

Our New Swap Meet Location

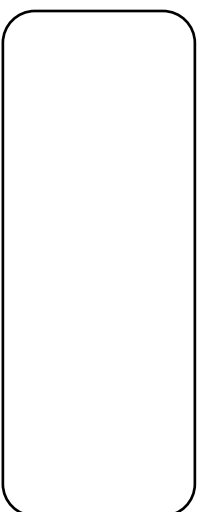
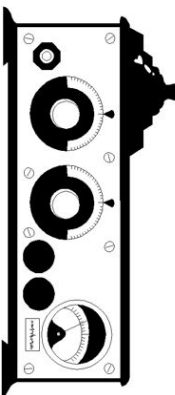


North Lombard Eagles Lodge
7611 North Exeter Avenue
Portland, OR 97203-5903

Directions: from I-5 take exit 305B and head west on North Lombard then turn right on North Exeter Avenue to the “B” marked on the map above.



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