

The
**Call
Letter**

June, 2002
Vol. 28 — No. 6



Over **25** years in print!

The Northwest Vintage Radio Society

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 \$20.00 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 (except July and August) 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 show, and radio sales which are advertised in the *Call Letter* and are held in and around Portland.

Society Officers for 2002:

President	Wendy Johnson-Kent	(503) 281-9335
Vice-President	Cliff Tuttle	(503) 666-7005
Treasurer	Ed Charman	(503) 654-7387
Secretary	Liles Garcia	(503) 649-9288
Board member at large	Charlie Kent	(503) 281-9335
<i>Call Letter</i> Editor	Rick Walton	(503) 284-5648
Librarian	John Bucholtz	(360) 693-7135

The Society’s address is:

The Northwest Vintage Radio Society
Post Office Box 82379
Portland, Oregon 97282-0379



June 2002

Table of Contents

From the Editor2

NWVRS 2002 Calendar of Events3

Roster Corrections & Updates3

Photo Display.....4

Remembering Radio (from both sides of the mic.)7

Voilà ...new and recent finds by NVRS members8

Play It A gain, Sam!8

Swap Shop12

On the cover: Cars, car radios, and car radio antennae have changed considerably since 1923, when this artwork graced the cover of the June issue of Popular Radio magazine.

The next meeting is on June 8, 2002.

Monthly feature: Vintage televisions and accessories.

Tailgate swap meet starts at 8:30!

Visit our web site at <http://nwvrs.org>.

July Call Letter Deadline: June 25, 2002.

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 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.

From the Editor

by Call Letter Editor, Rick Walton

This month's meeting is our last until September. Be sure to be there. The monthly feature is vintage televisions and accessories, which should bring out some interesting equipment.

Our Swap Meet last month seemed to be a success. I heard a number of sellers say it had been a good day, with lots of radios heading out the door of the Rose Center. As always, the auction at the end of the meet was a lot of fun. And as always, I came home with a bunch of stuff that makes my wife wonder what happened to my sanity.

I was up in Canada in mid-May with my wife for a "driving" weekend during which I learned to drive a pair of horses hitched to a wagonette. On our trip home, we stopped in several antique shops so that I could look for radios. I was hoping to find a super deal on some uniquely Canadian make of radio. I saw a number of Canadian radios but none qualified as super deals. There was a shop in Okanogan Falls, though, that had a large number of radios both US and Canadian. I saw a Radiola 18, and Atwater Kent of undetermined model and a lot of others including Northern Electric and Rogers.

If you're wondering about the slightly early deadline for the July *Call Letter*, it is because your editor will be on vacation beginning June 28, so the July issue must be finished and at the printer before that date.

This month we have all the usual features, but you'll notice that we have an expanded Photo Display. Jerry Talbott was good enough to share his pictures of a swap meet put on by the California Historical Radio Society. If you are wondering where the Meeting Minutes went, there aren't any because the Swap Meet replaced the meeting in May. Dave Wise provides us with another informative tale of restoration, this time an Atwater Kent set. Dick Karman searches his archives for important radio events occurring in the month of June. Sonny Clutter is the only member reporting any radio finds for the last month in Voilá. Of special note is John Bucholz' ad in the Swap Shop for a number of test equipment items.

NWVRS 2002 Calendar of Events

- June 8 Regular monthly meeting 10 am; tailgate swap 8:30.
- July 21 Concours d'Elegance antique auto show, Forest Grove.
- July 19-21 Montana State ARRL Convention, Glacier/Waterton
Hamfest Committee, East Glacier, MT.
<http://www.gwhamfest.org>
- August 2-4 Pacific Northwest DX Convention, Portland, OR. Wil-
lamette Valley DX Club
<http://www.wvdx.org>
- September 14 Regular monthly meeting 10 am; tailgate swap 8:30.
- September 14 Hamfest, Radio Club of Tacoma, Graham, WA
<http://w7dk.org>
- October 12 Regular monthly meeting 10 am; tailgate swap 8:30.
- November 9 Regular monthly meeting 10 am; tailgate swap 8:30.
- December 14 Regular monthly meeting 10 am; tailgate swap 8:30.

Roster Corrections & Updates

New e-mail address for Ron Hershey:
hershey_r@msn.com

New e-mail address for Liles Garcia:
landn@easystreet.com

Photo Display

Photography by Rick Walton except as noted.

Here are some photos from our Spring Swap/Sale at the Salvation Army Rose Center.





The CHRS Swap Meet in April

These are some of the photos that Jerry Talbott brought back from his visit to the California Histroical Radio Society this past April. Jerry reports that it was all done in the parking lot.



Remembering Radio (from both sides of the mic.)

By Dick Karman

June

The earliest date I have in my archive for June is 6/02/1896. That's the date on the patent that was issued to Guglielmo Marconi for his radio invention.

New York appears often in the June memories. On the 14th of June 1924 - WOKO-AM radio began transmitting from Albany NY. The first round-the-world radio broadcast originated from Schenectady NY on June 30, 1930. LUX radio theater originated from New York City until it moved to Hollywood on June 1st, 1936. Rock and Roll fans remember June 2, 1958 as the date that Alan Freed joined WABC (NYC).

June politics played a part in radio milestones. President Harding was the 1st US president to use radio, dedicating the Francis Scott Key memorial in Baltimore on June 14, 1922. The first political convention broadcast on radio was the Republican National Convention in Cleveland on June 10, 1924. In June of 1928 The Government radio service published a list of radio stations whose call signs were to be changed to conform with international standards. And who can forget June 12, 1936 when the first 50 KW radio station went on the air in Pittsburgh Pennsylvania. On a darker note, on June 18, 1945 William Joyce who had made propaganda broadcasts against the Allied forces throughout the war (known as Lord Haw-Haw) was charged by Her Majesties' high court with Treason.

Other radio dates in June

- June 28, 1940 the "Quiz Kids?" premiered on radio
- June 26, 1946 the Fred Allen show left the air for the last time (his guest, Jack Benny)
- June 03, 1949 Dragnet came to radio: 1st broadcast on KFI in Los Angeles
- June 11, 1953 The Amos 'n Andy show on the air since 1929 aired it's last (TV) show on CBS
- June 12, 1955 A show called Monitor (full weekend programming) began on NBC radio
- June 18, 1961 CBS radio cancels Gunsmoke.

Voilà

...new and recent finds by NVRS members

Compiled by Sonny Clutter

Sonny Clutter: Zenith "cube" model 5 -S-237

Philco modle 54

Zenith modle 825

These are all recently completed restorations, all can be seen on my web site soon.

Play It Again, Sam!

Compiled by Dave Brown

The column where club members can publish their restoration accomplishments!

Dave Wise Atwater-Kent 206

This is a beautiful 1935 cathedral, with A-K's characteristic broad top. MW/Police/SW. It has a stationary flat celluloid disc scale ("airplane" dial) with two backlights; which one is lit depends on the band. It has two concentric tuning knobs: one fast, the other slow. Tube lineup is 58 2A7 58 2A6 2A5 80.

1. Filter cap. 8/450 replaced dead old repair 12/450 which replaced original 8/350 section. These sets are getting old enough that the previous generation of repairs are going. Another multisection cap had been replaced with a twist-lock which was still ok but for some reason one section was unused. I put it in parallel with another original 4/350 section that tested open with insignificant leakage.

2. Audio output grid coupling cap. A-K made most of their own parts. Their tubular paper caps have a distinctive appearance, with stranded radial leads and an A-K stock number instead of capacitance and voltage. Fortunately, the schematic can be used as a cross-reference. I hid my .02/400 replacement inside the original .01, as I practiced previously on the Airline 5120. Instead of heating the leads, I heated the entire cap with a hair dryer. This made it a snap to push out the old winding. I couldn't have done that with the Solars in the Airline.

The 1st audio grid cap and the AGC caps were also leaky, but they don't perturb the DC voltages enough to warrant replacement. All other paper caps are in low-impedance situations where the usual leakage doesn't matter.

By the way, the resistors are interesting too. At a time when everyone else had gone to painted carbon-composition rods (usually marked with the RMA body-end-dot system), A-K resistors were still white ceramic tubes with molded solder end caps. (I've never taken one apart, but I figure there's something like a carbon-coated glass whisker inside.) Like the caps, they are marked with a stock number (in color stripe form) instead of resistance. Inscrutability aside, they're good resistors. I checked several against the schematic; they were spot-on.

3. Scratchy volume control. A shot of tuner cleaner helped some. If it bugs me enough I'll take stronger action.

4. Cosmetic: A previous repairer replaced all the top-cap wires with brightly-colored plastic. I in turn replaced these with old cotton-covered wire.

5. Cosmetic: A previous repairer replaced the original power cord with a modern plastic one. I replaced it with a still-serviceable old cotton-covered one. This radio is more valuable than most of my others and warrants this level of detail.

6. Hum: You can get hum even with good filter caps, if the power cord runs near the 1st audio grid coupling cap and wires. With 120VAC "next door", even a few stray pF is enough to couple hum into this high-impedance circuit. Rerouting the cord fixed it. This type of hum (and hum due to an ungrounded audio cathode leaking to the heater) has a characteristic timbre that's quite different from power supply ripple.

7. Reliability: I coated cracked rubber wires at the speaker connector with Victor Rubber Repair. It looks like a repair but it's better than a short or a shock.

8. Distortion. This was interesting. It was worst on strong signals. The AGC was fine. Audio biases were fine. The audio stages gave good sound from an injected source. I discovered that the 2A6's grid (top cap) wire was picking up 455kHz radiated from the IF amp and rectifying it. The schematic shows a shield around that wire, but I couldn't find the slightest trace that it ever existed, and there was no place to ground it. Instead, I added a 40pF mica cap from top-cap wire to ground. Cleaned it up pretty well. 40pF is too small to cut the treble, but it grounds out enough 455.

The molded mica looks more modern than the A-K ones (which are naked mica sandwiches stuffed into open-end paper tubes), but it was the best I could do.

I've never seen this problem before. If you have alternate fixes, I'd like to hear them.

This reduced the distortion but did not eliminate it, and I noticed that what remained was independent of signal strength. There were two distinct problems contributing to the one symptom.

I hooked up a signal generator to the antenna and an oscilloscope across the volume control. I was surprised to find that it sounded better with the scope than without. When I added a blocking cap, it sounded the same with or without the scope. (That was the first clue.) It looked good up to about 50% modulation, but above that the positive peaks were clipped. Eureka!

Q. Who might have this problem? A. Virtually any radio where the same diode develops AGC and detects the audio. That's most radios from the 30's on.

Q. What's going on? A. The detector circuit rectifies negative peaks. Picture RF modulated by a sine wave. As the RF envelope grows larger, the detector yields an increasingly negative voltage. This goes through the AGC filter resistor and charges the AGC filter cap. On the other half of the sine wave, the envelope shrinks, right to 0 if the modulation is 100%. If the charge on the AGC filter cap is visible at the detector, it biases it and prevents detection, which prevents the sine wave from completing its positive peak.

Q. What makes it work? A. The detector load resistor. It and the AGC filter resistor make a voltage divider. Only part of the AGC appears on the diode. To avoid clipping on modulation troughs, it has to be as little as possible. This is done by making the load resistor a small fraction of the AGC resistor. On the other hand, too heavy a load will broaden the IF response and also introduce its own distortion (discussed in Radiotron), so it's a compromise.

In many radios, the volume control doubles as the detector load resistor. Mine is supposed to be 500k, which with a 3Meg AGC resistor gives a 1/7 ratio and good sound up to about 95% modulation. The replacement VC was 2Meg, which biases the diode to 40% of the AGC. Clipping began at around 50% modulation. Rather than replace the VC, I put a 680k resistor across it (parallel total = 500k). Cleaned it RIGHT UP!

In some radios, the audio comes from one diode while another rectifies the AGC, which avoids the whole problem. Why don't they always do this? Beats me!

By the way, there are two versions of A-K 206. I have the late one. Riders only seems to have the early schematic. Anybody got a late one?

9. Muddy tone on SW. I couldn't find a cause. I ended up removing the cap from 1st audio plate to ground. To my old ears, this makes it about right on SW. Unfortunately, it also introduces regeneration on MW. The antenna picks up RF radiated by the speaker cable! It manifests as the familiar tunable rushing sound on each side of the station, and by motorboating when the volume control is turned high. I got rid of most of it by putting the cap back. To keep some treble, I used a smaller one, 250pF where the original was around .001. To kill the last of it, I put 330pF from the output plate to ground.

I don't know the real original value. Anybody know the size of an A-K P/N 403 condenser?

10. At first I could get shortwave only over part of the dial. Since the 2A7 tested weak, I figured we just didn't have enough gain to oscillate, but the frequency was jumpy too, so I cleaned the band switch. That did it.

11. Align. Don't try it without the service data. I couldn't even find all the trimmers. Turns out the RF transformer cans have removable lids, and the extras are concealed inside. For a given adjustment, the right ones are not the ones you might expect. On top of that, there is a lot of interaction, which Rider's doesn't tell you. On SW, when you trim the Antenna or RF, the oscillator goes off frequency, which makes it impossible to peak them with the documented procedure. Tuning between stations and peaking the noise worked much better. At first I suspected that the interaction was due to tired bypass caps, but no matter how many I bridged, it still did it. I think it's just a quirk. I haven't seen it to this degree on other shortwave sets of the same age.

12. Tuning/Mechanical. This set uses a ball-bearing planetary reduction drive. It was frozen. Most of the time these are integral with the tuning cap and if they start to slip (which they frequently do), short of replacing the cap you're out of luck. This one was separate and fairly easy to disassemble. I degreased it, filed the races for a tighter fit, put in a bit of new grease, and reassembled it.

The planetary drive turns a rubber bushing pressed against a big stamped gear on the tuning cap shaft. There was a groove worn into the bushing and it would no longer turn the gear. Bad design, pure and simple. Shame on you, A-K. First I tried coating the bushing with Victor Rubber Repair. This made the bushing too big, and the planetary drive could not furnish enough torque. I tried to sand it down with the dremel's grit wheel, but it tended to dig in and tear off big chunks. I gave up and sanded it all off again.

The bushing was still pretty "live", and with a little x-acto knife work I separated it from the shaft, turned it end-for-end, and glued it back on with VRR. This put a fresh part of the bushing against the gear. The planetary drive only slips part of the time now :-/

This won't last. Next time I'll glue a section of inner tube over it, or find a modern substitute. The diameter is critical. I wonder if I could fashion a gear, maybe out of half-cured JB-Weld; I'd run it against the stamped gear to create teeth. I used to hate dial cord, but this set is teaching me to love it :-)

(Speaking of dial cord, you might remember my Hallicrafters S-72, where I overdid the rosin. I figured out a hot trick, so to speak. My Channel Master 6515 started slipping. I heated the shaft over a match, and set a chip of rosin on it. It melted and spread out to a uniform thin layer, end of problem.)

13. Intermittent low volume, tinny sound, hum, and playthrough. (Playthrough is the phenomenon where you hear the program with the volume control at zero.) The hum sounded like stray AC pickup, not power supply ripple. This and my earlier discovery of 455kHz rectification at the 1st audio grid led me back there. This combination of symptoms could be explained by an open 1st audio grid-coupling cap, and that's exactly what it turned out to be. A cosmetics-preserving cap replacement.

14. Missing dial pointer. I fashioned an acceptable temporary replacement from 22-gauge bus wire and a washer. Cut a straight section, taking care not to kink it. Solder it to the washer. Cut out the center section to clear the hole. Paint. This is delicate but once it's behind a cover it will be safe.

15. Missing dial cover. I don't know whether it was glass or plastic. If anyone can help out, particularly with a cover or description of same, I'd appreciate it.

This radio took way more work than I expected, but it was worth it. Looks great and plays great.

Swap Shop

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: Vintage Radio, Early Television and Hi-Fi.

Wanted: Tubes, Parts and whatever you might have related to early radio & TV. Visit my web-site at: <http://www.radiolaguy.com> or e-mail me at: sonny@radiolaguy.com

Thanks, Sonny Clutter, phone (360) 834-5741

WANTED: The INGRAHAM man wants radios with wood Ingraham cabinets. If you're not sure if it's an Ingraham, call Ed Cook in Vancouver, (360) 573-1439, or e-mail "hopopcol@attbi.com".

FOR SALE: A wide variety of radios at <http://radiogallerykent.com>. Charlie Kent

FOR SALE: These are the leftovers of the estate of Logan Bellville, an EE and a retiree from Tektronix. He had a lot of equipment and parts that the family had no use for so we will try and find a home for it through the Call Letter. Make offers to John Bucholtz, 1-360-693-7135 or e-mail BonJonBuck@webtv.net.

- Variable L.P & H.P. Filter Model 2-B by Alison Labs.
- RF Voltmeter Model 91-CA by Boonton Electronics Corp.
- Panodramic Sonic Analyzer Model LP-1a
- D-C Amplifier & Electrometer Type 1230-A by General Radio Corp.
- Radio Frequency Head Type 90350-1 88 to 400 megs.
- Equipment Cabinet 23"w x 24"d x 85"h with 4" rubber casters, door in back & a power strip
- Qmeter Type 170-A 30mc to 200mc by Boonton Radio Corp.
- Variable Voltage Power Supply 0 to 300 volts by Oregon Electronics
- Tranistor-Curve Tracer Type 575 with cart by Tektronix
- Frequency Converter Model 52538 50mc to 500mc by H.P.
- Panalyzor Model SB-12a by Panodramic Radio Corp.
- Oscilloscope Model RM547 by Tektronix

Leads and Needs

See the "Leads and Needs" section of the Meeting Minutes.

Radiolaguy's web page is full of lots of information on early radio, TV and also provides lots of links to other valuable info resources relating to the radio collecting hobby; it's not just a "for sale" site. Be sure and visit the site often. One of the services offered is pictures and information on the entire RCA "Radiola" line from 1921 to 1931 and my "show and tell" page.

Membership Form

If you'd like to join the Northwest Vintage Radio Society, simply fill out this membership form and return it with your dues to the Society Treasurer, Ed Charman, either in person at a Society Swap Meet or Meeting, or by mail at the Society's address listed inside the front cover.

Name

Address

City

State or Province

Zip or Postal Code

Country

Phone(s):

E-mail:

Collecting Interests (i.e. Catalin, Clock Radios, General)

This information is published in the Society's Membership Roster and distributed *only* to the membership of the Society. We need your mailing address at a minimum to be able to mail you the *Call Letter* each month. If you include your e-mail address, you will be invited to join an e-mail list whose membership is restricted to Society members.