

Volume 34, Issue 4

Next meeting July 9th - see page 12

Jul./Aug. 2023

Some Often Overlooked Sources of Radio Related Information

by Steve Touzalin, CRC member and Flash co-editor

Now days it is common practice to do a "Google Search" for whatever radio related information we need to locate at the moment. This will often reveal a website with some information on the item being searched for, or a radio forum that features a thread on the topic searched for. A search on "YouTube" will also provide lots of information. This was not a viable option 30 or 40 years ago. People had to rely on other sources which are now often overlooked. Some of these sources are examined below.

Most of you are already aware that newsletters from antique radio clubs and their back issues are an excellent source of radio related information. The AWA, MAARC, ARCI, NWVRS, PARS, and the CRC are just a few of the clubs with newsletters that come to mind. There are several others out there!

An often forgotten but excellent source of radio related information can be found in back issues of older magazines from the 1920's, 30's, 40's, & beyond, written for radio and electronics hobbyists. These magazines contained service information, construction ideas, and just general radio information. *Radio News, Radio Craft, Radio Age,* and *Shortwave Craft* were just a few of the early publications about radio. There were many others. These were published for several years, some for decades. Some later published magazines, *Popular Electronics, Radio-TV-Experimenter,* and several other publications often contained articles on radios and repair techniques. *Antique Radio Classified* was also an excellent source of antique radio information.



While unknown to many, several later published electronic/hobbyist magazines, starting in the 1970's, featured special columns written specifically for people who collected or just had an interest in antique radios and included the columns regularly in their magazine issues. These often overlooked publications contained several useful ideas and information not found anywhere else. Some of these special columns on antique radio are presented below.

One such column, "Antique Radio Corner", written by Jim Fred, was included in the *Elementary Electronics* magazine, which was published bi-monthly by Davis Publications. Fred's column first appeared in the September/October 1973 issue. The column featured general antique radio news and radio history as well as book reviews. TRF alignment guides, tube substitutions, power supply repairs,

Antique Radic

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Newsletter for The Colorado Radio Collectors club, founded in the Fall of 1988.

"Dedicated to the preservation and education of wireless, antique radio, television and associated equipment."

CRC MEETINGS: Meetings are held on the 2nd Sunday of every other month starting in January (except May is the 3rd Sunday) at 1:00 pm. The meetings consist of business, "show & tell", raffles, auctions, swap meets, technical discussions and other subjects of interest. Visitors are welcome!!

CRC MEMBERSHIP: Current annual dues are \$20 and membership in the CRC runs from July to June. New memberships will be prorated to the following June. Members are entitled to attend meetings, participate in our Spring show and our Fall auction, and receive our newsletter, **The Flash!**. Submit dues payable to: **Merril Campbell - 4723 Woodbury Dr. - Colorado Springs, CO 80915**

UPCOMING EVENTS: July 9th CRC meeting. Location - Palmer Lake Town Hall - directions on page 12. Sept. 10th CRC meeting. Location - Event Hall "A" Highlands Ranch Library. Sept. 17th the CRC Annual Auction/BarBQ. Nov. 12th CRC meeting. Location - Event Hall "B" Highlands Ranch Library.

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MESSAGE FROM THE PRESIDENT

Hi everyone,

I hope you are having a great summer. Things are very green here at my house with such a wet spring. But I'm not complaining! Rainy days means more time to work on radios.

It was nice to see the turnout at our May meeting, especially our guests and newer members. I look forward to the day when our oldest members return again and share their knowledge and experiences.

The July meeting is going to be fun! Thanks to Wayne Russert it will be at the Palmer Lake Town Hall. See the article on the last page of this newsletter for more information.

Please attend if you can. We need to plan our fall auction. Please consider volunteering to help. Many of you do pitch in, even if you don't say so ahead of time, and it is always appreciated. No task is too small. But certain jobs need to be agreed ahead of time and we need volunteers.

See you in July!

Paul



'A' and 'B' power supply plans, spec's on tuning eye tubes, safety protocols, and general restoration ideas were all also included. The column ended with the January/February 1981 issue of *Elementary Electronics*.

"Antique Radio Corner", written by Lance Borden, later re-appeared in *Electronics Handbook*, published by C&E Hobby Handbooks. Lance's column used the same article logo that was used in Jim Fred's earlier column. The column began with the 1987 Fall issue and was still present in the 1996 issue. Detailed articles on tube substitutions, several crystal set construction projects as well as a very detailed restoration article of an AC-DC set were featured in the column.



Another column, "Antique Radios", written by Richard Fitch, first appeared in the 1985 February issue of Gernsback's *Radio-Electronics* magazine and continued through the March 1987 issue. The column then randomly appeared in *Radio-Electronics* until the May 1989 issue. Besides the basic history of early radio electronics,

several basic technical restoration techniques along with cabinet restoring were presented. Discussions on vacuum tubes and substitutions were included. Battery sets, phonographs along with several different radios as well as test equipment were also examined.

Next, we'll look at the many columns written by Marc Ellis, who was the long-time editor of *The AWA*



Journal. Marc produced his own very interesting bi-monthly publication, *The Radio Collector*, from September 1993 through June 1996 and he also wrote columns for several different magazines on the subject of antique radios for several years. His columns covered the history of different radio companies,

radio collecting advice, and he also covered all the different types of radios, from early battery sets to the more modern AC-DC sets. He did several detailed repairs and restorations on specific radios and test equipment pieces. A summary of his published magazine columns follows.

"Ellis on Antique Radio", written by Marc Ellis, first appeared in another of Gernsback's magazines titled

Hands-on-Electronics in November of 1986. In the December 1988 issue the name of the column was shortened to "Antique Radio". In February 1989 Hands-on-Electronics became Popular Electronics (not to be confused with the Ziff-Davis publication named Popular Electronics that was popular in the 1950's and 60's) and Marc's column was still present through May 1999. In May 1999 Marc's column moved and began its



appearance in a sister Gernsback publication titled *Electronics Now* and continued through the end of 1999, when the magazine decided to change its line-up and Marc's column was to be eliminated. In January 2000 Marc began writing a column called "Radio Restorations" for a magazine named *Monitoring Times* which was published monthly by Grove Enterprises. Marc's column appeared



regularly for several years in *Monitoring Times* until December 2013 when the magazine stopped publication. Marc re-located and began writing a column named "Adventures in Radio Restoration" for an on-line only magazine titled *The Spectrum Monitor* which is published monthly by Ken Reitz KS4ZR. Marc's column appeared for the entire year of 2014, after which he then

decided he was going to retire from writing the column.

Due to Marc's retirement, starting with January 2015 issue of *The Spectrum Monitor*, "Adventures in Radio Restoration" was written by Rich Post KB8TAD. The column continues to provide specific set restorations as well as useful tips and ideas. It is still in publication at this time.

There may be even more columns not yet uncovered. It would be a shame not to investigate some of the above mentioned columns for that little bit of information, restoration idea, or technique that you have not seen elsewhere. If nothing else, they are interesting to read.

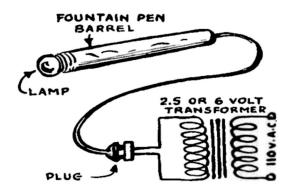
Of course, no one has a full set of all these magazines in their collection. Fortunately, back issues of the magazines mentioned above, with the exception of *The Spectrum Monitor*, can be found on the worldradiohistory.com website. Back issues of *The Spectrum Monitor* can be purchased on their website, https://www.thespectrummonitor.com/.

Sources:

- 1. https://antiqueradios.com/forums/viewtopic.php?f=2&t=96174
- 2. https://worldradiohistory.com/index.htm
- 3. https://www.thespectrummonitor.com/
- 4. Personal magazine collection containing some of the above issues

A Handy A. C. Trouble Light

Here is a simple suggestion for a handy trouble light which has been in use at our shop for some time and which the writer believes may interest other service men. It merely consists of a small lamp socket and bulb cemented into one end of an old fountain pen barrel with a 4 ft, length of flexible lamp cord connected to the socket brought out through a hole drilled in the bottom end of the fountain pen barrel.



The cord is provided with a standard cord plug to be inserted in a receptacle which connects to an old filament transformer as shown in the diagram herewith.

The transformer is mounted in a convenient place on the bench so

that the light may be used for inspection work on small set chassis. This light will be found more desirable than the regular battery-type flash light as it can be employed continuously. — Edgar Boles, Marion, III

FM/TV, WiFi, Scanning, Satellites, Vintage

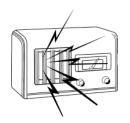
Rejuvenating Old Volume Controls

This method to renew old carbon type volume controls has proven satisfactory with most all designs of controls, claims the writer.

Remove the carbon element of the control and apply a thin coat of aeroplane "dope" on the contact sur-face. Before the "dope" has become dry dust the surface with powdered carbon such as used for auto door locks, etc. Blow off surplus carbon powder and apply a thin coat of clear lacquer thinner with a camel'shair brush. Allow the thinner to dry thoroughly, then check the resistance of the unit with an ohmmeter. If resistance is too low apply the thinner again and rub off some of the carbon with a clean, soft cloth and recheck the resistance until the proper value has been obtained. A little care and patience will pay for the time taken to renew many of the old unused controls lying around service shops. - Wm. C. Burns, Brooklyn, N. Y.

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THE C-D CAPACITOR



The Latest CRC Club News



The May 21st CRC meeting was held in the Castle Rock Library. Signs near the entrance indicated they would be open for business in the NEW library the next day, on Monday May 22.

There were 28 attendees, including 4 visitors; Chris Campbell, Daniel, Jerry, and Scott Thomas's grandson, Devon Thomas.

Our next meeting is July 9th in the town of Palmer Lake, at the Palmer Lake Town Hall - 1 PM starting time. The address is 42 Valley Crescent St., Palmer Lake, CO 80133. From the north, take I-25 Exit 163 west onto Palmer Divide Rd. (county line road). In several miles you will cross the RR tracks and immediately turn west (left) onto Spruce Mtn. Rd, which becomes Hwy 105. Turn right onto Middle Glenway St. and the Town Hall/Village green will be on your left. Parking is available in front of the fire station, next to the Town Hall. The drive from Castle Rock to Palmer Lake can be 20-30 minutes depending on traffic. The Renaissance Festival is in operation west of Larkspur and will create heavy traffic in that area and should be avoided. From the south, take I-25 Exit 161 and follow Hwy 105 NW thru Monument to Palmer Lake. We will have plenty of tables for the usual raffle, show and tell, etc. See more details on the last page of this newsletter.

Rich Kuberski stated the annual BBQ/Auction will be on September 17th - there will be a limit on the number of lots, probably a total of 200. No other details at this time.

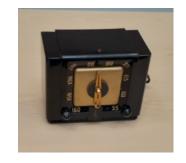
Paul Heller is looking for volunteers for the CRC website, which is now up and running.

Chris Campbell provided details of an upcoming estate sale in Boulder.

Merril mentioned another estate sale to be held on June 1-4 in Colorado Springs. Details of this estate sale were transmitted to those on the CRC google-groups list on Monday, May 22.

Other future estate sales were also revealed & evaluated.

Prior to the raffle ticket sales, a small plastic case <u>Emerson 572 Series A</u> radio was auctioned off for \$25 with the proceeds going to the club. The raffle table contained books, parts, oscilloscopes, and lots of other treasures that changed hands.





"Show and Tell" Items

Merril Campbell showed off his <u>Zenith Model 808</u> and demonstrated how he saved the original grill cloth when he restored the set. A unique approach that turned out very well.

Bill Harris presented his restored, Ivory colored, *Philco Model 42-KR3*. One of the last sets

produced in 1942, the case is actually wood, not plastic as it would appear to be. The set also has a slightly curved base to allow it to nicely sit atop a refrigerator of that era.



Scott Thomas displayed his <u>1936 Western Air Patrol Tombstone</u>. He is unable to determine the model number. He restored the cabinet from dis-assembled pieces, and explained to the membership that he believed that Hide glue was a better choice to reassemble a cabinet than regular wood glue, because Hide glue has better stain holding properties. The set looked great.



Steve Touzalin showed his <u>1947-48 Setchell-Carlson "Frog Eye"</u> set and gave a brief account of the different Frog Eye sets that were produced. He then explained this is a 7-tube, <u>32-Volt DC</u> set and described how he restored it to working condition, including a brief description of the

32-volt DC power supply, he made, so he could power-up the set.

Merril gave a treasury report, the club is in great shape right now.

The March 26, 2023 Vintage Voltage Show was also discussed.

- It was generally agreed upon that the VOLUME output of the Guitar Show was extremely loud. This matter has been discussed with the Dana Cain, and the Guitar Show coordinator, and is hopefully resolved for the future shows.
- Speaking of future shows, Dana Cain informed CRC that due to rising costs at the Delta Hotels by Marriott, at I -25 & 120th Ave, the venue for future shows will be in a hotel further east on I-70. More details will be forthcoming when they are available.
- It was also suggested that prize ribbons, judging, and registration, etc., be discontinued at future V.V. shows due to the lack of volunteers required to perform the necessary computer data entry and the many other related tasks. After a single comment, this suggestion was tabled for a later meeting, closer to the planning stage of the next V.V. show.

Editorial Comment

on the suggestion of

Eliminating Judging & Registration at the next Vintage Voltage Show

The following is the opinion of the Flash Co-Editors and does not necessarily represent the collective opinion of the CRC staff and other members. Since only around 20-25% of CRC members attend the club meetings, *The Flash* is a good way to share thoughts and ideas on topics that can affect the other club members.

The suggested elimination of judging, show ribbons, and registration and may not be a bad idea.

Consider the following. If the judging and ribbons were discontinued there would be:

- -- No need for a volunteer to do the pre-registration or registration at-the-show
- -- No need for the radios to be grouped into categories for display or judging purposes
- -- No need for a volunteer to tally the judging results, either manually or with a computer
- -- No need for a volunteer to make the computer entries, or learn to to use the software.
- -- No need for a volunteer to transport the computer & related equipment to/from the show.

CRC members could just bring radios and display items to the show, like the "Show and Tell" at the club meetings. In the last show there were 118 items on display. Only 87 of them were registered; 31 were not registered (26%).

The CRC participants could just place their radios wherever they liked, in what ever fashion they wanted, the public would not know the difference since they are there to enjoy the displays.

All we would need would be a Show Coordinator to keep in touch with Dana Cain and make sure we have enough tables for the radios, and set up the banner, etc.

The club would save time and money, and this would solve the problem of recruiting volunteers for this event.



If members would like to continue with the ribbons, judging, and registration they should show their support by volunteering in upcoming meetings, to perform the tasks required.

Please, forward your comments to Larry Snyder or Steve Touzalin.

Vacuum Tube Designation by RMA Standard

submitted by CRC member Thomas Dodds

RMA Type Number Designation System for Standard Receiving Tube Types

The RMA type number designation system standardized in 1933 which is now employed for designating the type numbers of all standard American receiving tubes should be understood by every radio serviceman, for the type number itself gives considerable information regarding the construction and purpose of a tube.

With this system, only three or four symbols are required to give a tube an identifying type number. They are:

- 1. A first numeral (or group of numerals)
- 2. One or more distinguishing letters
- 3. A last numeral
- 4. A letter suffix (not required for some tubes)

Significance of the First Numerals in the tube type number

The first numeral group indicates the approximate filament or heater operating voltage of the tube. In order to avoid the use of decimals, the numerals actually used is always that of the next lower even volt (except in the case of the 2.0 volt filaments which are assigned the numeral "1" to differentiate them from the 2.5 volt filament tubes which are assigned the numeral "2").

Many of the tubes with the lock-in type base can be recognized by their filament voltages: type numbers starting with the numeral 7 are those of lock-in types. There are some exceptions: 1201, 14A4, 35A5, 35Z3, 1231, 1232, etc.

Significance of the Distinguishing Letters in the Tube Type

The letters following the first numeral show the function of the tube and distinguish the tube type from another which may happen to have the same numerals. These letters are arbitrarily assigned in alphabetical sequence for all tubes except rectifiers. Rectifiers have a separate assignment starting with the letter Z and working backward. The number of the tube types manufactured has become so large that two letters are employed in the type numbers of some tubes, eg. 6Z5 and 6ZY5, 6B5 and 6AB5. Some metal tube types which were first introduced with a top control grid cap are now also available with the control grid brought out to a pin on the tube base. The balance of the tube base connections in such single-ended tubes may also be different than the cap-type tube. To distinguish between the newer single-ended tubes, their type letters consist of those of the equivalent cap-type tube with an "S" added before it, eg. 6K7 and 6SK7, 6F5 and 6SF5.

Generally, in types containing two letters, the first of which is an S, indicate single-ended tubes with characteristics resembling the tube indicated by that letter when the S is removed. In some cases, the tubes are not exactly electrically equivalent, for example the 6K7 is less efficient as an amplifier than the 6SK7. The use of the letter S in this way should not be confused with the use of the letter S as a suffix to the tube type in non-RMA type numbers such as 56S, 57S, etc. to indicate a metal spray-shielded tube.

Significance of the Last Numeral of the Tube Type

The last numeral indicates the number of useful elements which are brought out to the terminals. Thus, the 3A5 has five such useful elements: a heater, a cathode, two grids, and a plate. In this particular tube, the suppressor grid is not brought out to an external terminal, as it is connected to the cathode inside the tube and is not counted.

Significance of the Letter Suffixes

With the introduction of the glass equivalents of metal tubes, the use of letter suffixes have become common. A number of such letter suffixes indicate some of the "mechanical" characteristics of the tube. Octal Base Tubes:

- M Metal envelope
- G Glass envelope
- GM Metal coated glass envelope
- GT Short (T-9) glass envelope

Lock-in Base tubes:

- GL Integral (T-9) glass envelope and base
- ML Integral (T-9) metal envelope and base
- LM (MT-8) Metal envelope and octalox/loktal base
- LT (T9) Glass envelope and octalox/loktal base
- GB Integral (T-5 ½) Glass envelope and base

As a general rule, the characteristics of a "G" tube are the same as its metal equivalent (if such a tube exists), except for the inter-electrode capacitance and the shielding properties.

Some of the G-tubes have been made with a smaller tubular glass envelope. Known as "Bantam", "Dwarf Tubes" or "Tom Thumbs", such tubes are indicated by a suffix T added after the letter G. Their characteristics are similar to the corresponding G tubes. Thus, the 6K7, 6K7G and 6K7GT all represent tubes with the same characteristics, but the 6K7 is a metal tube, the 6K7G is a glass tube with a domeshaped bulb and octal base, and the 6K7GT is a glass tube with a tubular bulb and octal base.

How to Deduce General Information from a Type Number

IF the RMA type designation is kept in mind, it is usually possible to figure out the main information about a tube from the study of the type number. For example, the 2A3 tube must have three useful elements. It is not a rectifier because it has the letter A. It must therefore be a triode. Also, the last number does not allow for a heater in addition to the other three useful elements, therefore it must be a directed heated filament type tube. Considering these deductions together with the first numeral, the tube must be a 2.5 volt filament-type triode. Similarly, the 25Z5 tells by the first numerals 25 that the filament or heater operates at approximately 25 volts; by the letter Z that it is a rectifier; and by the final number that it has 5 connected elements, ie. two plates, two cathodes and one common heater.

Information concerning many types of tubes cannot be deducted as easily as this, but in all cases the first number will at least supply the heater voltage. Older tubes (such as 00A and 01A, 1 etc.) numbered under the non-RMA system do not apply here.

Source: - Excerpted from Radio Troubleshooter's Handbook, Alfred A Ghirardi, 1943

It's time to renew!

It is time to renew your Colorado Radio Collectors club membership dues. Dues are still only \$20 a year, and include participation in our Facebook and egroup email accounts, the CRC club newsletter *The Flash!* along with access to several several other antique radio club's newsletters, our Annual Show and our annual BarBQ and Auction.

Mail the form below and a check, made out to Merril Campbell, to

Merril Campbell

4723 Woodbury Dr.

Colorado Springs, CO 8091

September 17th this year.

1 0		
Name		
Address		
City		
State	Zip Code	
Phone		
E Mail		
Or pay in person at the July 9th	n CRC club meeting at Palmer Lake.	

Please be planning in advance, we will need volunteers for the BarBQ and Annual Auction which is on



Classified





Ads are free for CRC members. To place an ad send your ad description along with personal contact information to Steve at **stevetou@comcast.net** or Larry at **Lsnyder200@cs.com**.

FOR SALE:

Starting to gradually sell off restored radios from my extensive collection to club members and friends. Prices are very reasonable and will gladly negotiate. Range from the early 1920's to mid 1950's.

Mostly wood radios from the 1930's...my favorite styles! Castle Rock Area David Boyle 303-681-3258 email: djboylesr@msn.com

REPAIR SERVICE: Radio repairs for club members. Reasonable rates. Good references. Please call Mike Cook 303-885-8034 mldcook@hotmail.com

FOR SALE:

Tube Radios - Tombstone, Cathedral and Novelty Transistor Radios.

I have collected radios of all types for 35 plus years and now it is time to let them go to new home/s. I have over 250 tube type and over 5,000 transistor (both novelty and shirt pocket type) Please call 303-238-1384 radios4us@aol.com
Thank You, Ron Smith

WANTED - Austrian Minerva 388 wood table radio, vintage about 1937. Bob

Krassa ACØJL. **bob@krassa.com** or 303-475-2824 Thanks!

FOR SALE: New old stock & quality used vacuum tubes. Please refer to my business card pictured below. Thank you! Sean Duffy (573) 999-6187 acmetubesupply@gmail.com



Recently purchased:

Los Angeles Radio Manufacturing The First Twenty Years By Floyd A. Paul

A 3 booklet set is available as reprinted copy's from the Southern California Antique Radio Society's website http://www.antiqueradios.org/paul-bks.html. Limited quantities. "Filled with excellent information and history not found elsewhere. I'm very glad I purchased them." - Steve Touzalin





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BOULDER

Via an earlier Group email, Jeffery Koski has offered JNS Vintage Radios and Tubes as a resource for CRC club members. They currently have 20,000 vacuum tubes in stock and have been in business since 2014. All tubes tested are 75% or higher with a 30 day guarantee. They also have unrestored and restored radios for sale. They are on eBay: https://www.ebay.com/str/jnsvintagera dioandtubes.

Call for ordering information at 775-301-8758, 8am to 5pm PST or email jnsvintageradio@gmail.com

Mention the CRC club and receive a refund of 20% off your first order. PayPal is also accepted outside of eBay.

Source: RMA, April 17, 1925

SUBMISSION OF ARTICLES & AND ADVERTISEMENTS: Classified Ads and articles of any radio/electronic or historical related subject to be published in The Flash! are encouraged and welcomed. The article(s) should be submitted in Microsoft Word, OpenOffice, RTF, or as plain text, to Steve Touzalin by email at: stevetou@comcast.net or Larry Snyder at Lsnyder200@cs.com or by postal mail to 417 So. Queen Circle, Lakewood CO 80226. Formatting isn't necessary as it won't transfer into our software, but if you do, set the font to Times New Roman, size 10, left justified. If you have graphics (.jpg files) to be inserted, please name them and be specific about how you would like them placed. We will do our best based on space limitations.

CRC Meeting Sunday, July 9th at 1 PM. This meeting is at the Palmer Lake Town Hall in the Town of Palmer Lake.

Our next meeting is July 9th at the Palmer Lake Town Hall - 1 PM starting time. The address is 42 Valley Crescent St., Palmer Lake, CO 80133. From the north, take I-25 Exit 163 west onto Palmer Divide Rd. (county line road). In several miles you will cross the RR tracks and immediately turn west (left) onto Spruce Mtn. Rd, which becomes Hwy 105. Turn right onto Middle Glenway St. and the Town Hall/Village green will be on your left. Parking is available in front of the fire station, next to the Town Hall. The drive from Castle Rock to Palmer Lake can be 20-30 minutes depending on traffic. **The Renaissance Festival is in operation west of Larkspur and will create heavy traffic in that area and should be avoided.** From the south, take I-25 Exit 161 and follow Hwy 105 NW thru Monument to Palmer Lake. Wayne Russert has offered to provide directions if anyone gets lost. His cell number is 303-519-1031. Some Google maps are presented below.

