

The FLASH!

The "Colorado Radio Collectors Antique Radio Club" Newsletter

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

Volume 30, Issue 4

CRC Meeting July 14th - Castle Rock

JUL/AUG 2019

Restoration: 1928 RCA Radiola 60

Model AR954 Serial No.116081 BS

By Larry Snyder

This paper discusses the repair and restoration of an RCA Radiola 60 assembled from several “part” sets obtained at CRC raffles and auctions over the last decade. Some were missing lids; one needed a power supply, others needed cabinet work, dial scales, knobs, escutcheons, etc. Useable items were salvaged from them to make up the one radio in this article.

The terminology used in this article to identify the radio components is from the RCA Victor Service Notes 1929-1930 pp 214-245. These service notes, obtained from the internet, were extremely useful and are an excellent source of information.

This nine-tube super-het design was RCA's first AC powered radio with the power unit “inside” the cabinet. In the 1928 season, 135,336 Radiola 60 sets were sold for \$175 each with tubes (\$147 w/out). The recommended RCA speaker sold for an additional \$88 and the new owner also had to supply a suitable antenna and ground equipment. That was an expenditure of more than \$263 for the radio which I believe is over \$3000 in today's dollars. The average union labor rate in 1928 was \$1.20/hr. for an average 45-hour work week. No wonder the RCA ads of the era depicted men in tuxedos, women in gowns and servants serving champagne! It seems that new technology was just as expensive then, as it is today!

I initially thought the radio was manufactured entirely by RCA, but I learned that the Receiver Assembly was made by General Electric, the SPU by Westinghouse and the cabinets by different furniture manufacturers. I found RCA Radiola 60 cabinets made by:

Merriam Hall & Co, Inc & Richardson Piano Case Co, Leominster, Mass.

Irving, Federal Oualiu, NY

Jamestown Mantel Company, Jamestown, NY.

Bob Coraor⁴ shows a cabinet made by R. Prescott & Son, Inc, Keesville, NY.



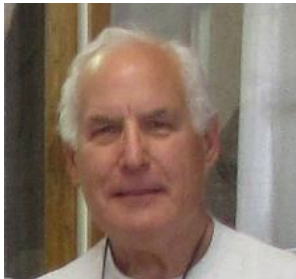
The manufacturers labels are on the inside of the cabinet near the lid support

continued on page 3

Club Announcements

MESSAGE FROM THE PRESIDENT

I am pleased to announce that the Great Radio Giveaway was a resounding success. First of all credits and a debt of appreciation go out to our donor. Those of you that were participating most likely had an opportunity to meet her. I do know she received many personal "thanks" too; Larry and Mike Cook who to make sure our according to on this subject at Suffice to say...that 415 or so radios, tube lots, boxes with chassis and parts went up the stairs and out the door! Win-Win for everyone.



"thanks." Secondly, members deserve our Weide, Rich Kuberski, were there in advance GRG went somewhat plan...and it did. More the July meeting. just about all of the

Important: Our Annual Auction and BBQ will be Sunday, September 8th at our usual venue. In preparation for this event our "auction facility coordinator" Rich Kuberski once again, went to the facility and cleaned and re-varnished all the tables and benches. Seems like Rich keeps on earning our welcome there year after year..

We will be doing the planning for the auction at the upcoming meeting as there will be no September meeting (was to be the same day).

I am encouraging everyone to attend the July meeting as there be a small "Awards Ceremony" to single out and recognize some club members. This will catchup with the past...and also present contributors of personal time and "energy" serving the club's various needs and functions.

Please remember that there are those among us occasionally working behind-the-scenes on behalf of our club while the majority of us are carrying on with our lives. Ever thought about how the Flash gets written, produced, and published? Of course, thankfully many members contribute articles and those articles are somewhat the centerpiece of many of our bimonthly club journal editions. That's just one example. We will be highlighting several other key functions and the members associated with that function. So please join to show our combined appreciation by your presence.

Stay Tuned, *David*

Meeting Locations

(Unless noted otherwise)

Littleton	Castle Rock
January	March
May	July
September	November

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.

CRC MEMBERSHIP

Annual membership in the CRC runs from July to June. Dues entitle members to attend meetings, "The Flash!" our newsletter, participation in our spring show and Fall auction. Current annual dues are \$20. New memberships will be prorated to the following June.

Upcoming Events

July 14th	CRC meeting
Sept. 8th	CRC Auction
Sept -	No scheduled meeting

The Flash! © 2019, all rights reserved.
This issue of the Flash was created using Scribus
Desktop Publishing software

CRC Contacts

President

David Boyle 303-681-3258
djboylesr@msn.com

Vice-President

Michael Cook 303-885-8034
mldcook@hotmail.com

Treasurer

Merril Campbell 719-596-3482
campbell321@juno.com

Flash! Co-Editor's

Larry Snyder 303-279-9711
Lsnyder200@cs.com

Steve Touzalin 303-988-5394
stevetou@comcast.net

eGroup Administrator

Mike McCutcheon 303-343-2956
ColoradoRadioCollector@gmail.com

eGroup

posting address:

colorado-radio-collectors@googlegroups.com

Webmaster

Yuriy Yedidovich
yyedistudio@gmail.com

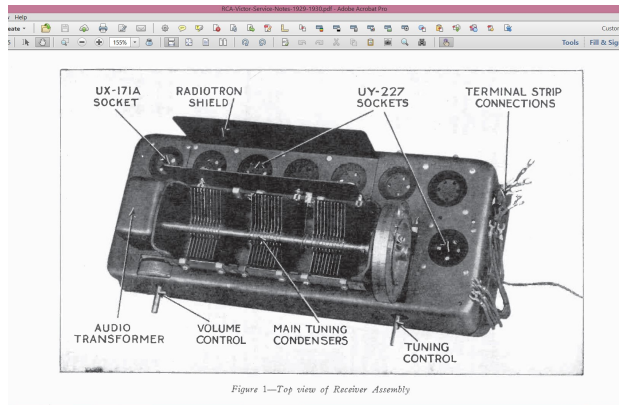
Website

address:

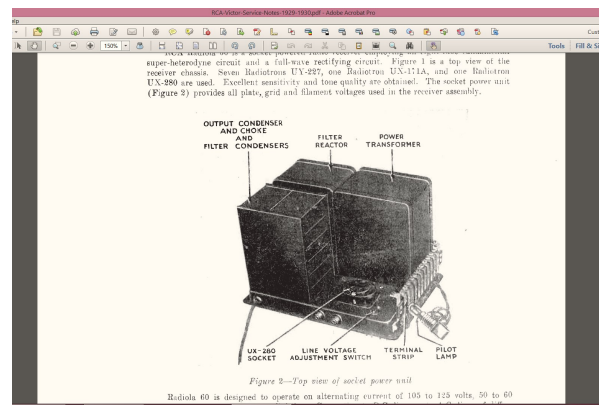
<http://coloradoradiocollectors.com/CRC/>

The 2-toned walnut veneer cabinet is 29 1/4 wide, 11 deep, 11 high with the lid closed, 19 1/4 high with the lid open. The total weight of the radio is 49 lbs. consisting of the SPU at 21 lbs., the Receiver Assembly at 10 lbs. and the cabinet at 18 lbs.

The Radiola 60 is an AC powered radio employing an eight-tube super-heterodyne circuit and a full wave rectifying circuit. The two main electrical assemblies are a Receiver Assembly with (7) UY-227 tubes & (1) UX-171A tube and the Socket Power Unit (SPU) which utilizes a UX-280 tube. The SPU provides all the plate, grid, and filament voltages used in the Receiver Assembly through 12 wires connected via a terminal strip.



Receiver Assembly



Socket Power Unit (SPU)

The components inside each of the three cans on the SPU are encapsulated. Tar was used inside the transformer and filter reactor cans. A bee's wax like substance was used in the can containing the filter condensers.

During my examination of the Receiver Assembly I replaced the three original metallic condensers highlighted below: the A.F. bypass condenser (.0074 uF), the Osc. grid condenser (800 pF), and the Osc. series condenser (740 pF) because they were more than 20% out of tolerance. All the other condensers, RF & IF transformers, oscillator coils, and resistors were in good condition and not changed.

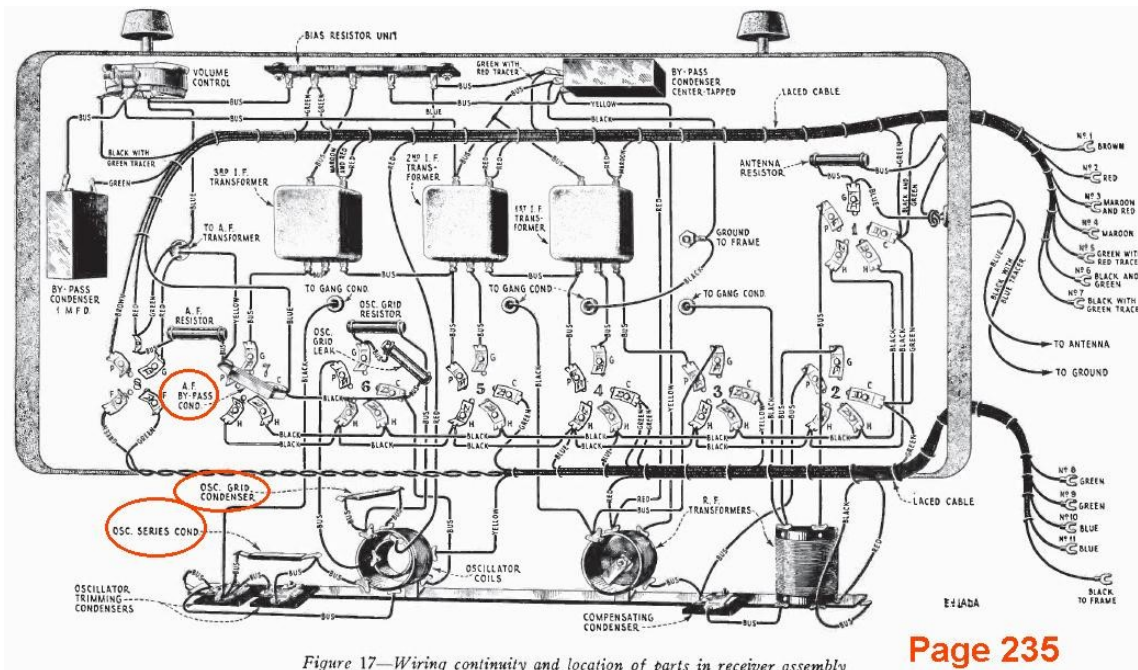


Figure 17—Wiring continuity and location of parts in receiver assembly

Page 235

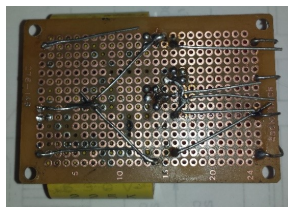
Wiring and location of parts in the Receiver Assembly

Figure 18—Wiring continuity and location of parts in socket power unit

In two previous restorations of RCA Radiola SPU's I melted the bees wax in the filter condenser can and extracted the components, intending to replace only the filter condensers. On each occasion the fine lead wires on the output choke were damaged in the removal process which necessitated replacement of the otherwise good output chokes. This time, I decided to avoid that pitfall and disconnected the wiring at the filter condenser connection lugs leaving the original condensers in the can with the good output choke. New condensers were added above the connection surface, outside the can.

filter condenser connection lugs with the wiring disconnected

Internal connections of condensers, and output choke with wiring shown



FUSE HOLDER

For safety, to protect the radio against the possibility of future short-circuits, a 1¼ amp fuse was wired into the AC power supply wires when they were re-attached.

Photos from the May club meeting

submitted by Bill Grimm



Neil Gallensky receiving his delayed but well deserved award, **Most Educational Display**, for his Navajo Code Talkers Display at the last show.



New member Ethan Orr
.....who was also at the
“Great Radio Give Away – 2019”



Larry Snyder discussing his
Wheatstone Bridge



... more photos of Larry's Wheatstone Bridge

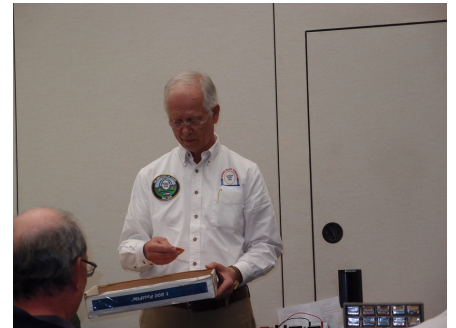
additional photos



Merril collecting club dues



A full house....



Rich conducting the raffle



A very large amount of raffle items this time !!

CRC eGroup changes are on the way

We are going to be moving our eGroup from Yahoo to Google Groups. Unfortunately you must sign up as your Yahoo account **won't** transfer. Anyone who wants to sign up to the Google eGroup should send an e-mail to:

colorado-radio-collectors+subscribe@googlegroups.com

A subject is not needed so don't worry about typing anything in the subject line unless you really want to.

To combat spammers, you have to go through a couple hoops to complete the sign-up process. Google will send you an e-mail. Click on the button to join the group. The next screen asks you to input your e-mail address. You will then receive an e-mail asking you to click a button to confirm your request. I will then receive an e-mail notifying me of your intent to join. I'll then approve requests as they are received. Thanks in advance.

Mike McCutcheon

eGroup Administrator

Because the combined weight of the Receiver Assembly & SPU is almost 32 lbs. a work cradle was made to safely handle them as one-piece when they are wired together during repairs and testing.



The work cradle holding the Receiver Assembly on the left and the SPU on the right

The long horizontal channels are also used as hand-holds while positioning the radio to access components and trimmer capacitors during repairs and testing.

The 2 ¼" diameter cabinet feet were made of Repwood consisting of wood particles mixed with resin and cast in a mold with a grooved wood spool at the center.

The wood spool is slightly longer than the feet are thick and extends beyond the Repwood on each side. It is recessed to accept the felt covered metal slide & attachment screw. The slotted head of the long wood screw is accessible through a hole in the felt.



These are ALL the foot related parts that were on the "parts" radios.

Each foot has an image of a rose with petals, repeated four times around the circumference. The original feet were painted black with gold paint on the raised areas of the petals.

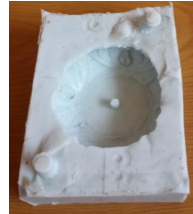
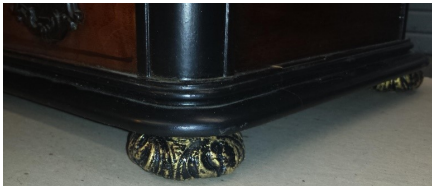


The foot was free to rotate on the spool when new, but as the wood particles and resin mix dehydrated

over time it shrunk onto the spool, getting tighter and tighter, until the Repwood split. The Repwood piece did not contact the table or surface that the radio was placed on; it was merely for decoration and a more pleasing appearance. The felt covered metal slide and wood spool supported the weight of the radio.

The split Repwood pieces were glued together and the holes were bored out to 7/8" diameter to make the holes round again. The split wood spools were glued together and turned down to 7/8" diameter so they slipped into the holes in the Repwood. When that was done, I glued the wood spools into the Repwood with the wood spool protruding from each side.

After the feet were sprayed a glossy black, gold paint was dabbed on the raised portions with a sponge, for the look shown below.



I made a mold of a Repwood foot & spool, so I could cast replicas of it for other Radiola's.

The walnut veneer on the exterior of the lid was sanded down to bare wood with 320 grit sandpaper. Five coats of Deft Clear Lacquer Gloss wood finish were sprayed on and rubbed out with 4F pumice and rottenstone. I did not stain the top of the lid. Nor did I refinish any part of the cabinet interior.



The salvaged lid had scratches and water marks.

The refinished lid on the selected cabinet.

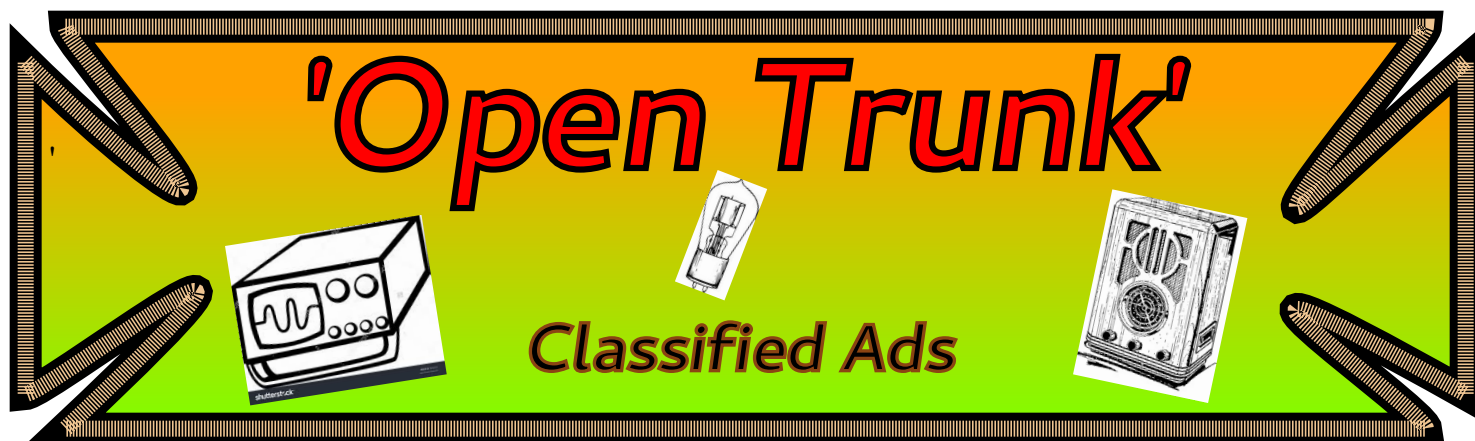
Helpful References:

- 1) RCA Victor Service Notes 1929-1930 pp 214-245 (available from the internet)
- 2) RCA Radiola 60 Instructions (available from the internet)
- 3) Radio-Trician Service Sheet, The Radiola 60, National Radio Institute, 1931
- 4) Restoration of a Radiola 60 radio and RCA 103 speaker for the Brandon Historical Society, Bob Coraor, August 2015 (available from the internet)
- 5) Radio Manufacturers of the 1920's. Vol.3 pp 45, Alan Douglas, Vestal Press Ltd.

Just a REMINDER:



- Dues were due in June!



REPAIR SERVICE: Radio repairs for club members. Reasonable rates. Good references.

Call David Boyle 303-681-3258

For Sale:

1) Knight (Allied Radio) Model KG-680 In-Circuit Capacitor Tester

Note: This is a unique in-circuit capacitor tester for opens and short indications. Not the usual test bench capacitor tester for capacity and other electrical characteristics. Eye tube is very bright. Completely electronically refurbished with required new parts and one new tube, other tubes good. Tested and ready to use with instructions. New test leads. Complete manual available "free" on the internet. \$60.00

2) EMCO Model 20DT Dual Trace Oscilloscope.

Works fine, just retired from my own radio/TV repair and test bench! With both probes. Ready to use. \$80.00

Call David Boyle, 303-681-3258

djboylesr@msn.com

FOR SALE: Radio Tubes. Tested as "Very good" to "good." Tested on some of the top end and calibrated Hickok testers. Have around 3000 plus tubes tested and boxed ready to go. Inventory includes many new tubes. Prices on used tubes typically would be 50% or less of AES posted prices. Cost of all new or used tubes can be negotiated.

ALSO FOR SALE: Large selection of NOS Dial Belts from recent sources. GC and JFD Brands. All I need is brand and model number...I have catalog data to look up the correct belt. If I have it...\$4.00 each.

David Boyle 303 681 3258 or better yet:

djboylesr@msn.com

For Sale: Radiola 1925 Super-heterodyne Second Harmonic "Semi Portable (AR-812). Cabinet has some scratches on original varnish. Contains 6 RCA 199 triodes that test good. Sub chassis components are encased in wax and are difficult to access. The receiver does not play. Battery power. \$250

Jerry Knievel 303-766-0845

jerryknievel@gmail.com

For Sale: Full size/console TV 1950's B&W RCA 6-T-65 "Eye Witness" Farnsworth small console radio/record player k-262

Larry Steele (719) 596-8883

larrysteel@comcast.net

in Colorado Springs

WANTED TO BUY: 1980's Atari 520 or 1040 ST computer components (key-board, monitor, etc.). I still need it for several specialized programs I wrote including a simulator for transistor and tube circuits.

Dave Laude dlaudel@msn.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 **303-2381384**

radios4us@aol.com

Thank You,

Ron Smith

WANTED: I am searching for a vintage Sony PS-F9 Vertical Record Player sometimes referred to as a Sony Flamingo Record Player. Please contact **Jonathan Brown** at jbrown220@aol.com or call **303-514-9900** **Thank you.**


WANTED:

Goose neck horn speaker with 8 to 10 inch bell, with or without driver.

Don Andrus

270-304-8807

DWAndrus@aol.com



Quickie
Q-Tips

from the OFs

Do you have a Zenith Oceanic that just won't play?

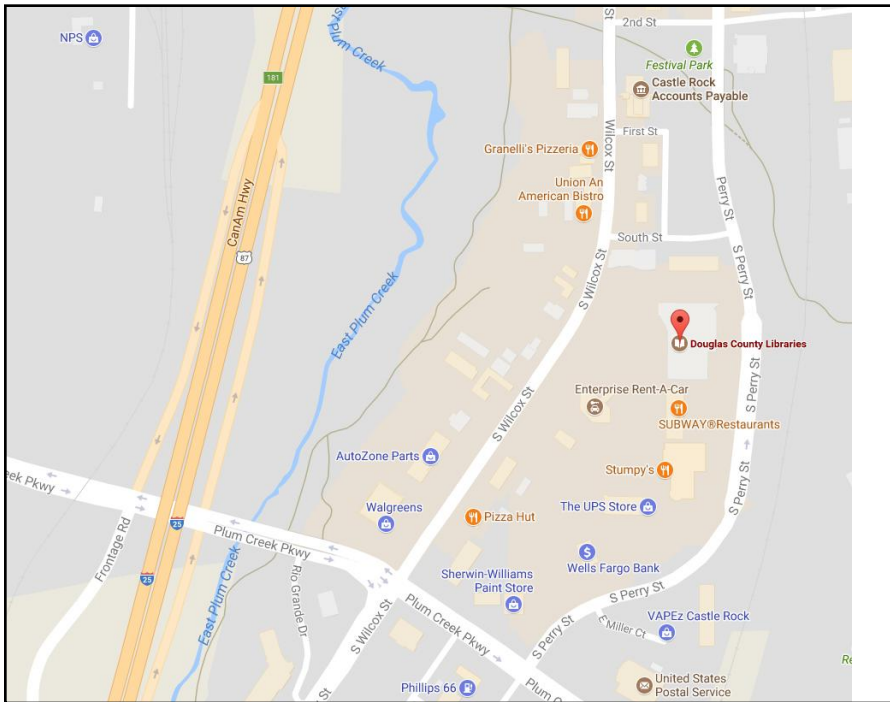
Check for low B+, since this is where the filament voltage is derived.

SUBMISSION OF ARTICLES & AND ADVERTISEMENTS

Classified Ads for The Open Trunk 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**. Submit to Steve Touzalin by email at: stvetou@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, 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 July 14th at 1:00 PM



Directions to Miller Library in Castle Rock:

From I-25: Take the Plum Creek Parkway, exit #181. Turn East onto Plum Creek Parkway.

Turn Left (North) onto S. Wilcox Street and continue north 2-tenths of a mile. The Philip S. Miller Library is on the east side of the street at 100 S. Wilcox St. The building is towards the back of the parking lot, past the Dairy Queen .



Colorado Radio Collectors

Antique Radio Club

417 So. Queen Circle

Lakewood, CO 80226

1st Class Mail