

The

FLASH!

The Newsletter of
The **Colorado Radio Collectors**
Antique Radio Club

Volume 33, Issue 6

Next CRC meeting - November 13th

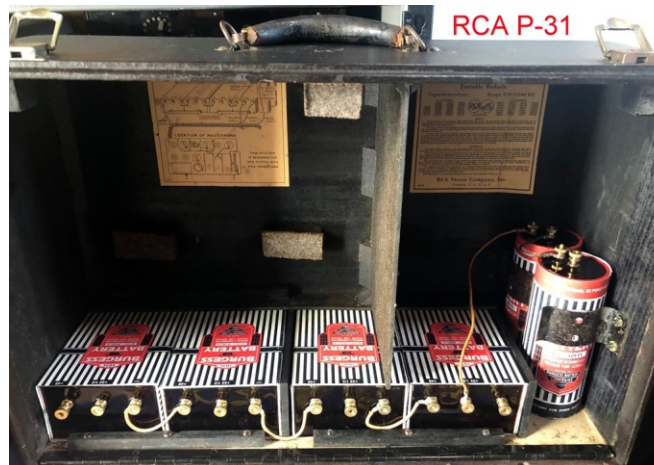
Nov./Dec. 2022

ABCs of Reproduction Batteries

The "A" Batteries, Part 1 of 2
by Bill Potorti, CRC member

If any of you have thought of making your own reproduction batteries, I thought I would share my experiences (good and bad) in their production. As those of you who have worked on early radios know (mainly from the 1920's), they ran on an external power source, usually batteries, unless you were fortunate enough to have power running to your home and could use one of those new-fangled battery eliminators!

Why make your own batteries? In some cases, it's out of necessity. I had an RCA P-31 portable set I was working on. It required 180 volts DC. None of my power supplies were capable of providing more than 135 volts. I had to produce a battery supply just to work on this set! This drew me down the path of reproductions.



Some of the Radiolas also had room in their case for batteries, and I'm sure there are others. Even portable radios from the 40's and 50's (Zenith Transoceanic anyone?) could benefit from this, although producing the connectors for these would offer their own challenge.



volts. The A and C batteries are fairly consistent in size, but the B batteries come in all shapes.

There are generally 3 types of batteries: A batteries supply power to the filaments. The A batteries I've been reproducing are the #6 style battery. They are tubular and 1½ volts, often linked in series. They were also used in some auto ignitions; B batteries power the plates. Typically, they are 45 volt packs, sometimes tapped at 22 ½ volts. They also can be linked in series; and C batteries (not always used) provided negative bias to some tubes, usually -4.5 v or -9

Continued on Page 3



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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: November 13th, CRC club meeting. The 1 PM meeting location is at the Bemis Libray in Littleton. January 8th, CRC meeting. Location will be at the Castle Rock Library in Castle Rock, a Pizza Party is planned. March 12th, CRC meeting. Location TBD.

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MESSAGE FROM THE PRESIDENT

I hope you are all well as we wind down from summer, pass through fall, and head towards winter. The past two months have been good ones for our club. We are having in person club meetings again and sharing the fun of our hobby together. It is nice to see everyone, along with the show and tells and the raffle. I missed those when we were all stuck at home.

Our auction was a good one this year! You can read all about it in this issue. I'd like to add my personal thank you as well to all who volunteered. A great club has people who are willing to chip in, and there was no shortage of that this year. I am humbled to be associated with such a caring group of people. What was most heartwarming for me was seeing your family members and friends also helping in different ways. It is great comfort as president to know that I can ask for your help with something and you will be there for me.

I am looking for ways that we can give back to our communities and increase the awareness of, and interest in, old radios. It would be fun to speak at local schools and share what we know. Even if it does not bring someone to our club, it just might kindle the interest of a young person in electronics (modern or otherwise). If you are interested in participating in something like this, let me know.

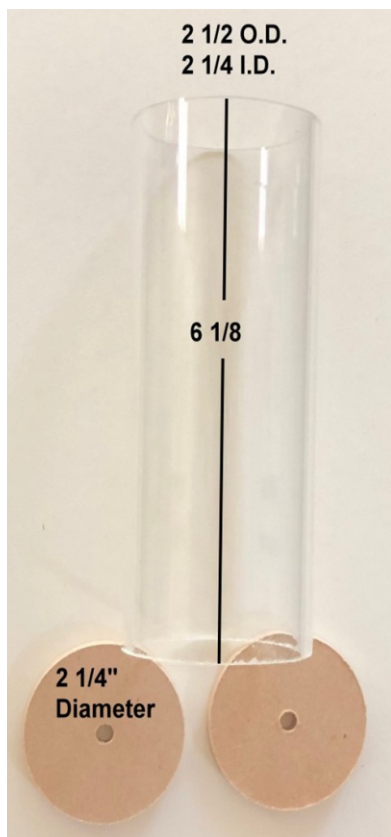
Our next meeting is November 13 at the Bemis Library in Littleton. I hope you can attend. We were planning to have pizza and drinks, but this is not allowed at that library so we will do it in January when we are again in Castle Rock.

Paul

Where to begin? Normally I start by determining which battery I want to reproduce and obtain a label for that battery. I'll provide some sources later. The label provides the dimensions for your battery box. All tubular A batteries are the same size, as are most C batteries (it's still helpful to have the label). B battery sizes vary quite a bit.

“A” Battery Reproduction

In many respects, reproducing a #6 A battery is simpler than its B and C counterparts. The case is pre-made in the form of a plastic tube (source later). You'll need to cut plugs/stoppers for the top and bottom, and wire-in 4 c cell battery holders. (For clarification, in this context c cells are modern day flashlight batteries. - the editors.)



The tube needs to be cut to 6 1/8 inches long. The I.D. of the tube is 2 1/4 inches, which is what your plugs need to be. I've tried several methods and materials to produce these. I've tried cutting them by hand or with a jigsaw with mixed results. I couldn't find a hole saw of the correct dimensions. The method I landed upon only works if you have a drill press available. It's an adjustable circle cutter. It can be fine-tuned to give an exact fit. If you go this route, just mind the safety precautions. It's a lot of mass rotating at high speeds!

I have tried thin plywood for the plugs, which works adequately, but I did get a bit of veneer chipping-which in the end really isn't going to show. I settled on 1/4 inch MDF. (Medium Density Fiber board). It gives a nice clean cut.



Whichever method you choose, you'll need to drill 2 holes for the terminal bolts on the top plug. If you use the adjustable cutter, the center hole is already drilled for you. Locate the other one about 3/8 inch in from the edge.

I like to paint the rim of the tubes to approximate the color of the label to give it a more finished look.

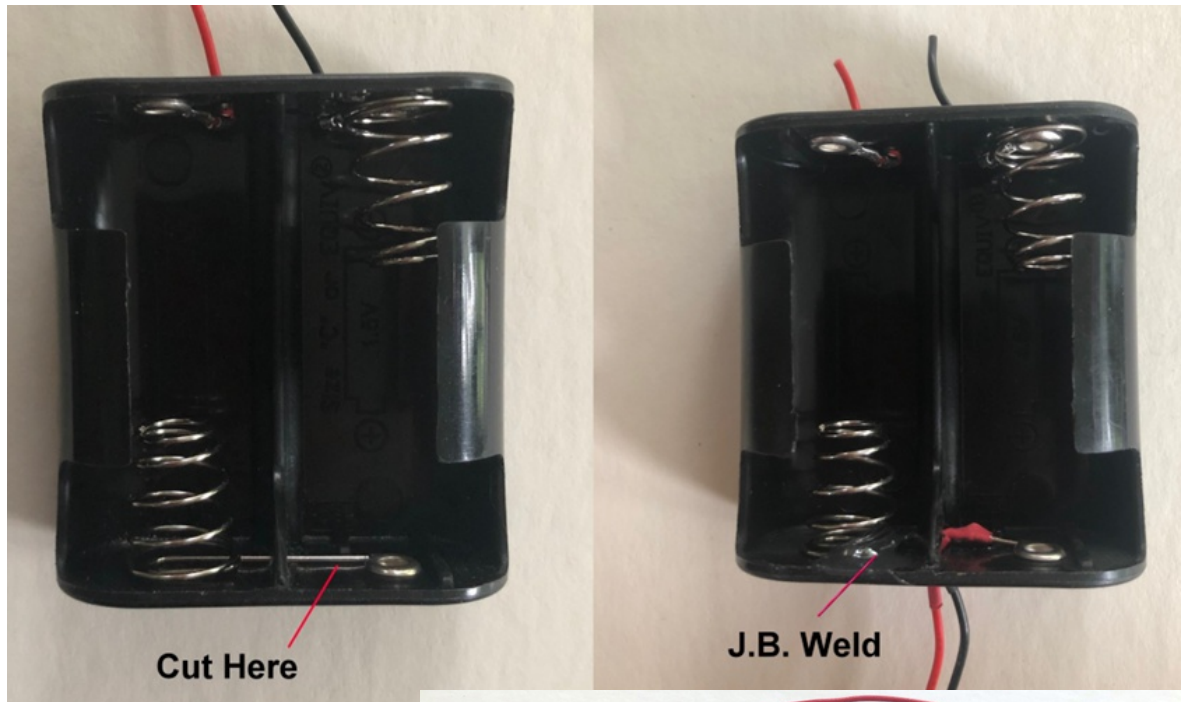


Battery Connections

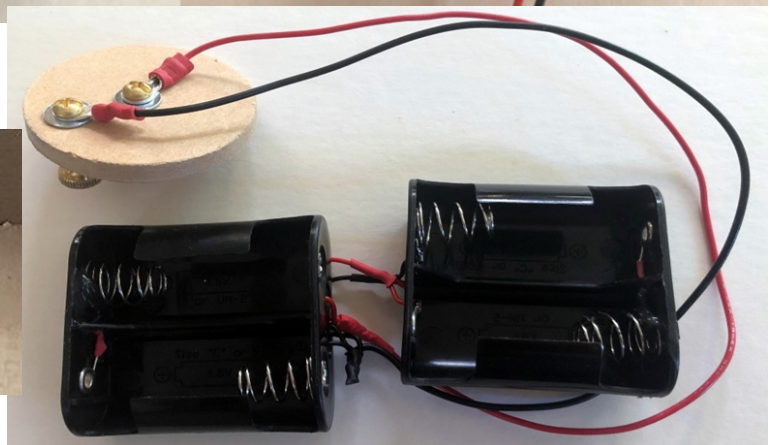
B and C batteries offer higher voltages with low current demands. The opposite is true of the A battery. It supplies the tube filaments, which are power hungry. As such, even though it's supplying only 1½ volts, we need to increase it's capacity to meet the needs. This is done by wiring 4 c cells in parallel. If you're lucky enough to find a source of individual c battery holders at a decent price, grab them! Otherwise you'll do what I have done and buy holders for 2 c cells, cut the connector between them and rewire them.

I use J.B. Weld KWIK (quick setting version) to reattach the negative terminal spring to the box. If you have another glue/epoxy that you like to use, by all means work with what you're comfortable with. It helps to insert a c battery in the box to keep the spring centered on the battery while the glue sets up.

Wire the 2 battery boxes so that the 4 c cells are in parallel. I leave long leads at the end, so the boxes can be pulled free of the case should the batteries need replacing. Put ring connectors on the end of the leads. Mind that the negative terminal is on the outside, positive in the middle.



I like using brass knurled nuts (8-32) as my terminals, 2 per post, the bottom one placed upside down. A brass 8-32 x ¾ inch screw with a washer under the top plate completes the setup.



It's time to install mounting blocks for the bottom plug. Take 2 short ($\frac{1}{2}$ inch) pieces of the square $\frac{3}{8}$ inch dowel and glue them (JB Weld) to the inside of the battery tube a little further in than the thickness of your bottom. This will allow room for the screw heads. Glue them in opposing each other. Don't use more than 2 or your battery cases won't be able to be inserted. When they're dry, make a tick mark on the outside of the tube where the center of your blocks are located. Insert your plug and, using the tick marks as a guide, pre-drill through the plug and into the blocks. Remove the plug.



Mounting blocks in the tube and Bottom Plug shown

Next, install the top plate with the wiring attached to the top part of the tube. I do this by putting a couple of dabs of JB Weld $\frac{1}{2}$ inch from the top on opposing sides of the tube. Insert the top plate from the BOTTOM of the tube and pull it to the top. It will drag through the JB Weld. Conversely, you can drop the top plate in from the top, in which case you would place your glue dabs $\frac{1}{4}$ inch from the top edge. I've found it 'easier' to go in from the bottom.



Sight across the edge of the tube and line it up so that the top of the bottom knurled nut is even or slightly above the edge of the tube. Adjust the top plate so that you have an even inset all around. The glue is meant just to hold the top plate in place. The epoxy added later will lock it in.

When the glue is set up, use clear silicone caulk to seal around the edge of the top plate as well as around the knurled nuts where they enter the plate.



Time to mix your epoxy. Make sure your battery is set on a level surface and follow the directions for whatever your epoxy you're using. Pour it and let it cure.



For the B and C batteries, I've been printing the labels on card stock. For the A batteries, I think regular printing paper is better because it more readily conforms to the radius of the tube. I give them a couple of light sprays of clear lacquer on the outside to add abrasion resistance. When applying your label to the tube, it's very easy (don't ask me how I know) to have the label start to 'spiral' as you go around and not meet up evenly at the other end. I try to keep the top of the label even with the top of the tube as I work it around. It takes a little practice.

Paint your bottom plates if you wish then attach them and trim off any of the label protruding from the bottom.



All of the procedures I've described in this article have come from trial and error (lots of error). Experience is what you get when things don't turn out the way you planned. Feel free to veer away and try your own methods and materials, but have fun, otherwise it's not worth it.

Resources for A, B, & C Reproduction Batteries

Plastic tubing - available from Tapplastics sold in 6' sections shipped in two - 3' sections
2½ o.d x 2 1/4 i.d. at:

https://www.tapplastics.com/product/plastics/plastic_rods_tubes_shapes/clear_acrylic_tubes/141

General Circle Cutter #55 – Various sources. Amazon, Home Depot, etc.

J.B. Weld Kwik – most home stores

c cell battery holders – best source I've found is eBay

1/16 Basswood - I've purchased from Hobby Lobby, but it can be a little pricey. Amazon has a couple of dealers that sell it in packs, which are more reasonable.

3/8 inch square dowels - Home Depot, and probably other home stores

Fahnestock Clips - Sal's <http://www.tuberadios.com/capacitors/> are probably the cheapest. Radio Daze, as well as AES (tubes and more) also stock them.

Knurled Nuts - Home Depot for small lots. Amazon has larger packs available at a decent price. I use 8-32 size.

Epoxy - I've been using a product called 'Amazing Clear Cast' made by Alumilite with good success. It's available at Hobby Lobby, directly through Alumilite, Woodcraft, and elsewhere. You can't use water based dyes with it so choose your dyes accordingly. Don't buy them through Amazon-they'll cost twice as much.

Battery Holders - Amazon has a good selection, usually in packs

Placeholder (Dummy) Batteries – Ebay or Amazon

Battery Labels - This can be one of the harder parts of the project. Sonny at Radiolaguy has a decent selection <https://www.radiolaguy.com>

There are some here: <https://www.royalsignals.org.uk/kd4hsh/index.html>

<https://www.byan-roper.org/steve/steve-at-play/antique-electronics-and-2/hunter-compton-battery.html> You may have some luck doing a google search, but my experience with this has been spotty.

I have the following in my collection. If you drop me a line at billpot@gmail.com, I'd be happy to send you an image file of these: Burgess #6, Burgess 3045, Burgess 5038, Burgess 5156, Eveready 711, Eveready Columbia #6

Bill Potorti will continue this excellent article in the next Flash, where he will discuss
"B" & "C" Battery Reproduction - the editors

Highlights of the September 11, 2022 meeting in Castle Rock

The meeting was held in the existing Douglas County Library and although the NEW library was still under construction immediately in front of the building and causing some mild parking confusion, 20 dedicated and enthusiastic members made their way to the meeting room to discuss club business, coordinate the upcoming BBQ/auction activities, the show & tell, the raffle table, and enjoy some general camaraderie.



The guys socializing pre-meeting

Merril Campbell, Steve Touzalin, and Marty Phillips presented items during show & tell.



Merril discussed how he restored the exterior and interior of these four transistor radios.

Corrosion from the old batteries was a challenge to remove from contacts within the chassis, as well as removing the batteries from their holders. The takeaway from his presentation should be **"Don't forget to remove the batteries before storing the radios!"**



Steve Touzalin presented his recent work building a device to check the continuity of various filaments such as found in tubes with most pin bases, or lamps with screw bases or bayonet bases. There are also terminal posts to attach leads for checking other remote devices. A green indicator bulb lights-up if there is continuity.

A detailed article on making this device will be forthcoming in a future Flash!



Marty Phillips told us about his restoration of a six tube 1947 Delco radio, model R1256 that he bought on September 12, 2005, at Fran's Antique Mall in Greensburg, Kansas. The store was located in a church that was destroyed by the Greensburg Kansas Tornado eight months later, on May 4, 2006. The tornado also destroyed the entire town.



The restored radio



1947 Delco Radio Restoration



Black Bakelite Delco radio before ugly paint stripped off



Chassis before restoration



Chassis restoration included. Replacing all capacitors, upgraded speaker to modern 4x6 speaker, added larger capacitor for more bass

Greensburg Kansas Tornado May, 2006 (Delco radio purchased September, 2005)



Antique store in Greensburg, Kansas, owned by Church member Erica Goodman, before it was destroyed by a tornado on May 4. Photo courtesy Erica Goodman. Credit: Photo courtesy Erica Goodman



Church members, most in yellow t-shirts, helping clean up debris of antique store owned by Church member Erica Goodman in Greensburg, Kansas, after it was destroyed by a tornado on May 4. Photo by Dave Proulx of the Andover Ward, Derby Kansas Stake. Credit: Photo by Dave Proulx



Original invoice above
Radio restored spring 2020

The above documentation shows restoration photos, the sales receipt, the church before the tornado, and the site being cleaned up by church members, after the tornado.

The raffle table included a collection of dozens of meters and test instruments of all sizes, shapes and functions. Four or five of the most impressive were 'auctioned off' to the first bidder at \$5 ea. The remaining meters were consumed by raffle ticket holders. The table also contained the usual fare of magazines, a variety of components and parts, modern earphones and boxes of free items. All the proceeds went to the club.

Highlights of September 18, 2022 BBQ and Auction

Once again, through the efforts of club member Rich Kuberski, the annual CRC potluck Barbeque and Auction was held in the beautiful park like setting at the Tectonic Management Group Facility found in Wheat Ridge, CO nearby the intersection of I-70 and Wadsworth.

Getting to the BBQ/Auction location was a challenge to some because there was MAJOR road construction which blocked the usual streets CRC visitors used to drive to the venue in past years. Those that were fortunate enough to see the alternate route directions provided in the Sept/Oct Flash made it to the event without significant delay. Others were not so lucky, as the road blockages extended for at least 6 blocks southward on Wadsworth. Those that were not familiar with the area, and did not see the alternative road map provided in the Flash, found it frustrating to find their way in. For that we are sorry!

The event was attended by about 63 persons including members, guests, wives, and one toddler at 10 AM when the BBQ items were served. That number grew to about 75 at the start of the auction, at noon.



Many dedicated club members volunteered their time and efforts to perform the variety tasks associated with making the event a success. Those tasks include:

- the installation, managing, and operation of the computers and printers;
- the installation of the sound system;
- the talented auctioneer and the relief auctioneer;
- the heavy lifting and movement of the radios for the auction presentation;
- the purchasing, cooking & serving of the burgers, hot dogs & condiments;
- the purchasing and setup of the cold sodas & water;
- the bringing of tasty potluck dishes like cakes, cookies, deviled eggs, & treats;
- the storage and transportation of the tables and other equipment to the venue;
- the early morning setup, after auction cleanup and site restoration.

Of course, the auction also needed many CRC members, to pre-register and transport their items to the venue; unpack and carry them to the general display area well before the auction began. Without the sellers the auction is a bust, and without the buyers what's the point. Both are needed. There are many ways you can volunteer to support your club!

Auction Notes

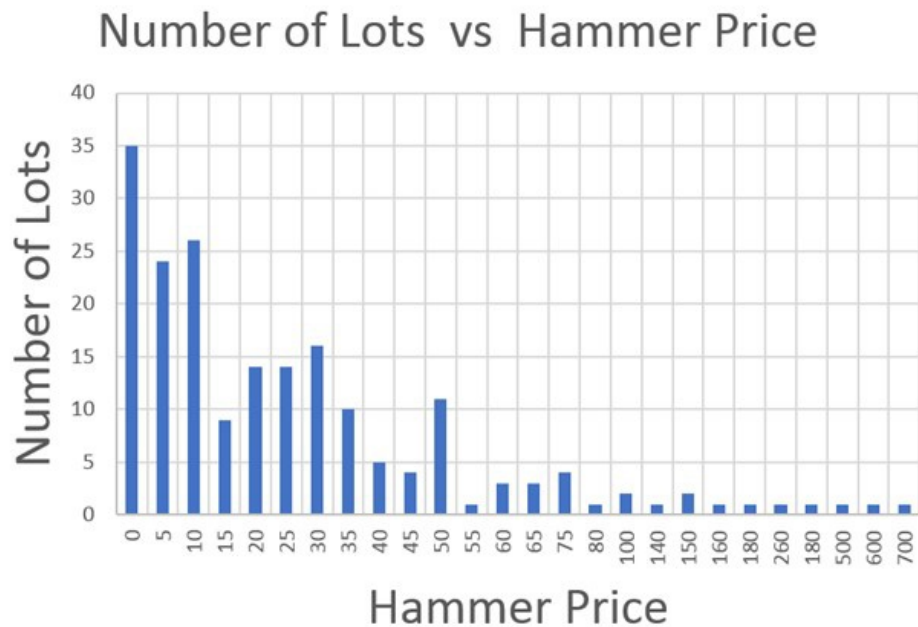
It was a very mild late fall day with sunshine and temperatures in the upper '80s.

For the most part buyers continued to enjoy items selling for extremely low prices. The sellers not so much. Although, a few higher-quality, more sought after items sold for several hundred dollars as seen in the chart below.

This chart compares the number of lots sold in each price category.

A Hammer Price of zero indicates "No Sale" or a "No Show" for the lot.

Twelve lots sold for more than \$100. The highest bid was \$700.00



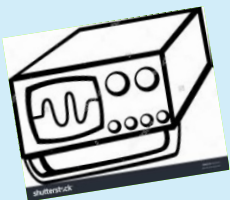
Nearly 200 lots were pre-registered for the auction. Total Sales were \$7,045.00 resulting in a CRC Commission of \$716.50.

Thanks goes to the many CRC cleanup volunteers that stayed, after the auction, to make sure the facility was clean with the tables and equipment returned to the proper locations.

For all CRC members and their families that supported them, and the general public that participated in making this event a huge success, we offer a large heart-felt THANK YOU!

But most of all, we thank the management of the Tectonic Management Group for allowing us to use their facility for our annual BBQ and Auction. THANK YOU!

Classified Ads



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!

David Boyle

Castle Rock Area

email: djboylesr@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

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

Call David Boyle 303-681-3258

WANTED: Articles for the Flash! No project is too small! Send your files to Steve at stevetou@comcast.net or Larry at Lsnyder200@cs.com. See below.

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.

WESTINGHOUSE

Rechargeable "A" Battery for 2-Volt Tubes



If you are using WD-11 or WD-12 type tubes you can have all the advantages of storage battery operation by using the Westinghouse type 2-DC-9 Battery.

Small, compact and powerful, housed in a one-piece, clear glass case, it furnishes a steady dependable filament current. When discharged you don't throw it away, simply recharge it. Ask your dealer to show you the Westinghouse 2-DC-9 storage "A" Battery. You will like its looks and the name Westinghouse on the case insures its service to you.

WESTINGHOUSE UNION BATTERY CO.

Swissdale, Penna.

Source: Radio In The Home, December 1924



Type 201A

AIRTRON RADIO TUBES

With the new highly developed dielectric molded Bakelite base which eliminates all kinds of electrical losses.

AIRTRON TUBES

speak for quality, volume and all other characteristics demanded of a radio tube. Designed and manufactured to give the highest efficiency that a tube at the present time can possess.

Type 200—6-Volt, 1 Amp. Detector.
Type 201A—6-Volt, 25 Amp. Detector and Ampl.
Type 12—1½-Volt, 25 Amp. Det. and Ampl.
Type 199—3.4-Volt, .06 Amp. Det. and Ampl.
Standard Base.

**Every Tube Guaranteed
List Price, \$4.00**

Sold by all dealers, or shipped C. O. D. direct by Parcel Post. When ordering mention type. Discount to Dealers

H. & H. RADIO CO.

Clinton Hill Station, Box 22, Dept. 103, Newark, N. J.

We Are Still Repairing

All Types of Radio Tubes at \$2.50

Source: Radio In The Home, November 1924



**This Radio Battery Has
"Over Twice The Life"**

THE Burgess Radio "A" is exclusively a radio battery, designed especially for service on the "A" or filament circuit of dry cell vacuum tubes.

In Radio service it has over twice the life of the ordinary No. 6 ignition battery... costs approximately the same... has a rapid recovery to high voltage after short periods of rest... practically no voltage is lost when not in use.

Replace your worn out "A" battery with a Burgess. Compare the service in your own set under any and all conditions. Then let your experience guide you in your future purchase of Radio "A", "B" and "C" batteries; there's a Burgess Battery for every radio purpose.

"ASK ANY RADIO ENGINEER"

BURGESS RADIO BATTERIES

BURGESS BATTERY COMPANY

Engineers • DRY BATTERIES • Manufacturers
FLASHLIGHT • RADIO • IGNITION • TELEPHONE
General Sales Office: Harris Trust Bldg., Chicago
Laboratories and Works: Madison, Wisconsin

Branches:

New York Boston Kansas City Minneapolis
Washington Pittsburgh St. Louis New Orleans

In Canada:

Plants: Niagara Falls and Winnipeg
Branches: Toronto Montreal St. John

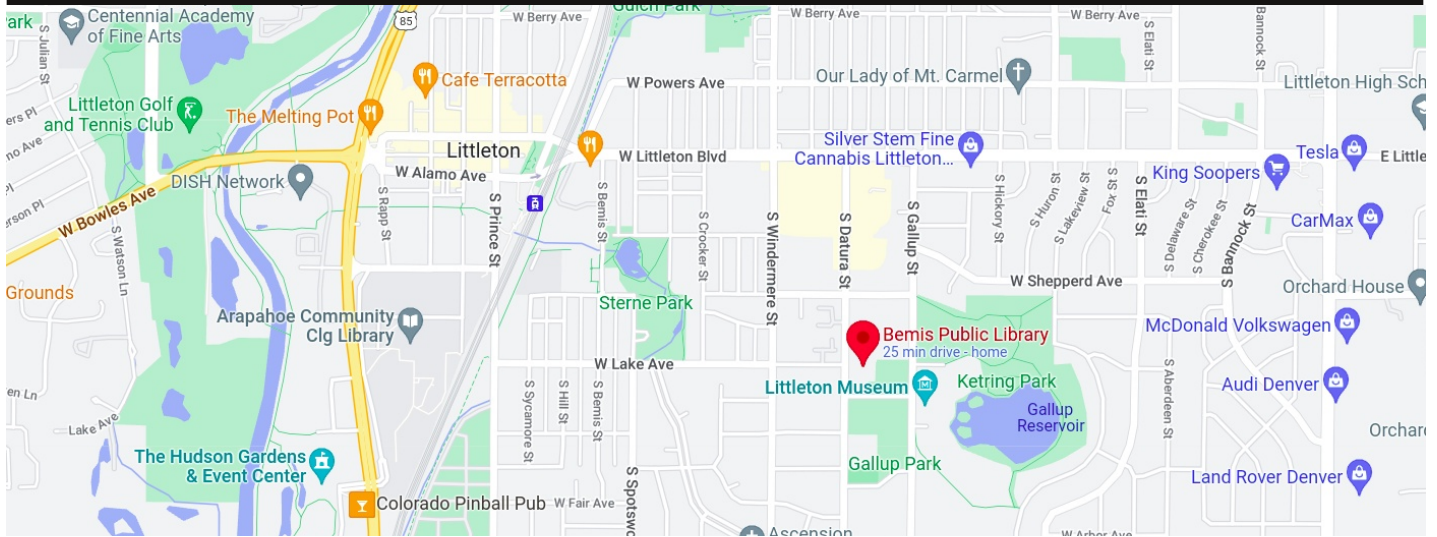


Source: Radio In The Home, Sept. 1924

CRC Meeting November 13th at 1:00 PM

Directions to the Bemis Library in Littleton

From Santa Fe and Bowles: Head east on W. Alamo Ave. through downtown Littleton, continue to W. Littleton Blvd. Continue east for about 1/2 mile, then turn right on Datura St, continue almost 1/2 mile south on Datura Street. The Bemis Public Library is on the east side of the street at 6014 S. Datura St.



For Christmas! A MUNROE RADIO SET



Type D-7, Range 150
to 1,000 miles.

\$35.00

Write for our illustrated list.

ALAMO RADIO SUPPLY CO.

1420 Sixteenth St. Denver, Colo.



Welcome As a Gift

This Westinghouse Aeriola Senior complete with Antenna ready for installation, \$75.00. Operates on dry cells. No troublesome storage batteries.

**Winner
Radio Corp.**

1710 Glenarm Denver, Colo.

YOU CAN PUT RADIO INTO YOUR HOME for Christmas



IF you want to make a gift that puts the richest entertainment into your home—tying the whole family together with mutual interest—go to your dealer tomorrow and order an Aeriola Senior. No storage batteries required.

What I Heard

"Every night I hear plainly from my home in Denver, Kansas City, St. Louis, Fort Worth, Texas; Davenport, Iowa; Chicago, Los Angeles and other stations. I also entertain the whole family with the wonderful Denver programs.

"I Use an Aeriola Senior."

THE
**Hendrie & Bolthoff
Mfg. and Supply Co.**
Denver, Colo.

Make the Aeriola Senior your
**Xmas Surprise
Package**