

Volume 37, Issue 3

Next CRC Meeting - May 17th
Highlands Ranch Library Event Hall B - 1PM

May/June 2026

Restoring the Tower Castle speaker by Bill Potorti - Flash Editor

I've always enjoyed the speakers produced by the Tower Co. I own several of their ship models, and when one of their Castles came up for sale at a decent price, I couldn't resist. Of course, like all of the Castles I have seen, it was missing its driver (I don't know why that is so commonplace) as well as the cone. Nonetheless, I decided to try to restore it.

Part of what intrigued me on this particular one is that someone had taken the time to colorize it instead of its traditional plain gold color. When I received it in the mail, I realized what a good job the seller had done with the lighting and photography, as the colorization was very amateurish, and would have to go.



Just some background-the Tower Manufacturing Company was out of Boston, Massachusetts. This speaker was produced in 1927 and is about 18 inches in diameter (slightly taller than it is wide). The frame is cast iron.

After applying paint stripper and using a toothbrush to get into the crevices, I was left with a plain frame that had many areas where the original gold finish had been worn away (perhaps that's why it was painted in the first place).

I had experienced this in other speakers when I discovered my miracle cure, a product called Rub 'n Buff. It's a metallic wax that comes in a few different colors. I found that their Gold Leaf is almost an exact match to the original color of these speakers. It also can be used to spruce up other gold colored parts (e.g. escutcheons) of radios. A little dab will do ya', and it's easily removable with mineral spirits. For that reason, I will seal it with clear lacquer when I get the





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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"

View Past Issues of the Flash! here: <https://coloradoradiocollectors.com/CRC2/index.php/flash>

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 January to January. New memberships will be prorated to the following January. 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: CRC Meeting May 17 at the Highlands Ranch Library-1PM

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MESSAGE FROM THE PRESIDENT



Hi everyone. I hope you are doing well. As you will read in these pages, the show came off very well. While I certainly congratulate the winners of the three categories, I want to congratulate and thank all of you who participated. You are all winners. It is important that the Denver community knows who we are and knows that this part of history is being preserved. Your radios and exhibits did just that.

Steve Touzalin deserves a special thanks for a job that he does that you might now know about. Steve interfaces with other clubs around the country and makes sure that newsletters are shared both ways. Open sharing embodies the spirit that will be needed to keep our hobby alive and to preserve radio history.

Finally, a huge thank you to Larry Snyder. If you missed his presentation at that last meeting, you missed a good one! Sadly, due to bad time management on my part, Larry was cut short. But don't worry, he graciously said he would come back and finish his presentation.

See you at our meeting on May 17!

Paul

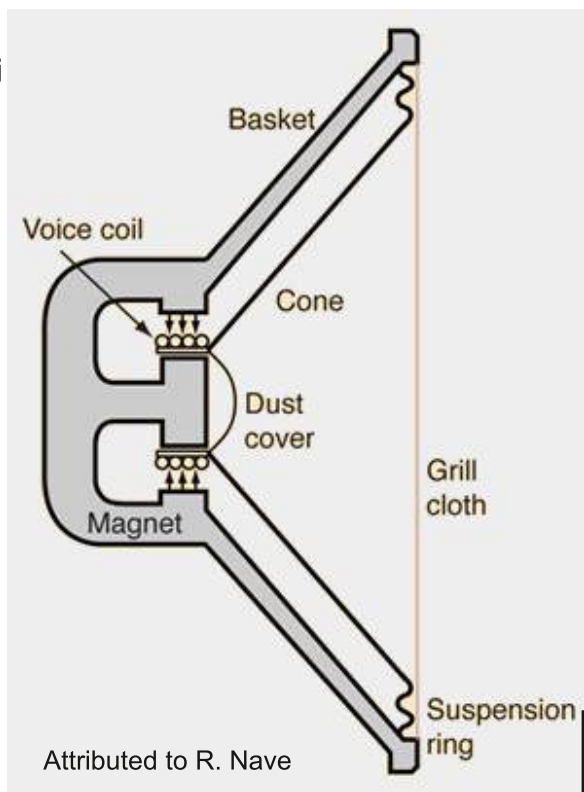
result that I want.

Now that I had my frame colored back in, I needed to add a driver. I had read articles where the driver from a Radiola 100 speaker was used successfully in other large speakers (particularly the Tower Adventurer speaker), and I thought I would attempt a driver transplant with this one.

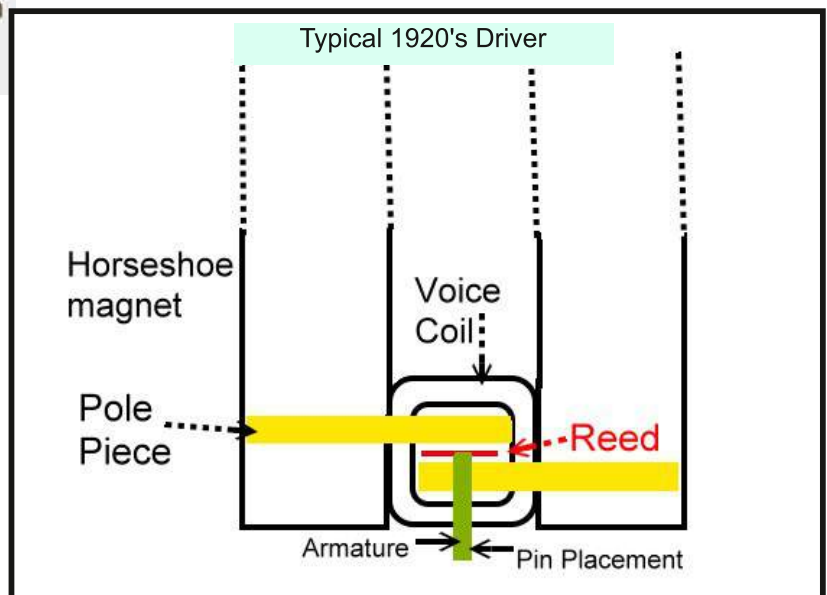
A Short Primer on Speakers

Modern speakers and 1920's cone speakers have 2 things in common: a permanent magnet and a voice coil. When an audio signal is applied to the voice coil, it produces a fluctuating magnetic field which interacts with the field from the permanent magnet. Where these speakers diverge from each other is how the sound is produced.

In a modern speaker, the voice coil is free to move and is attached to the back of the speaker cone. The magnetic fields of the voice coil and the permanent magnet interact, and repel or attract each other. As the voice coil moves, so does the cone, producing a sound wave.



In a 1920's style speaker, the voice coil doesn't move, it's stationary. A thin flat metal reed runs through the center of the voice coil. Above and below the reed are small extensions of the horseshoe magnet called pole pieces. They don't touch the reed, but cause it to vibrate with the audio sent through the voice coil. At the end of the reed will typically be attached either a long metal rod (or pin) that is attached to the center of the cone, or a short threaded rod also attached through the apex of the cone. Oftentimes the reed will attach to a short armature which is then attached to the pin. As the reed vibrates, that vibration is sent to the cone. The Tower Castle uses a long pin to transmit the sound, while the Radiola 100 uses a short threaded rod.



I bought a rust bucket of a Radiola 100, unknown condition and took a gamble. Luckily the driver was good.

There are 2 mounting holes on back of the Castle speaker, tapped for 4-40 screws. I didn't feel that would be strong enough for this larger driver, so I retapped them to 6-32. I didn't need to predrill, I just fed the tap into the existing holes.

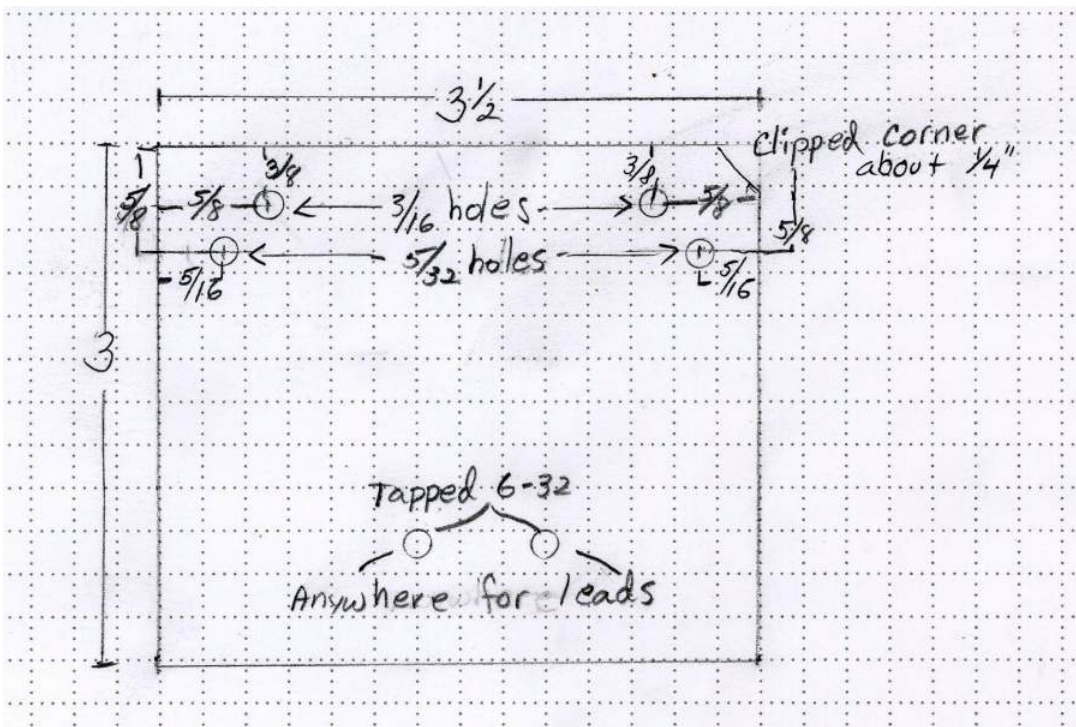
After removing the driver from the Radiola (keeping the screws), I cut off the short threaded rod that ran to the

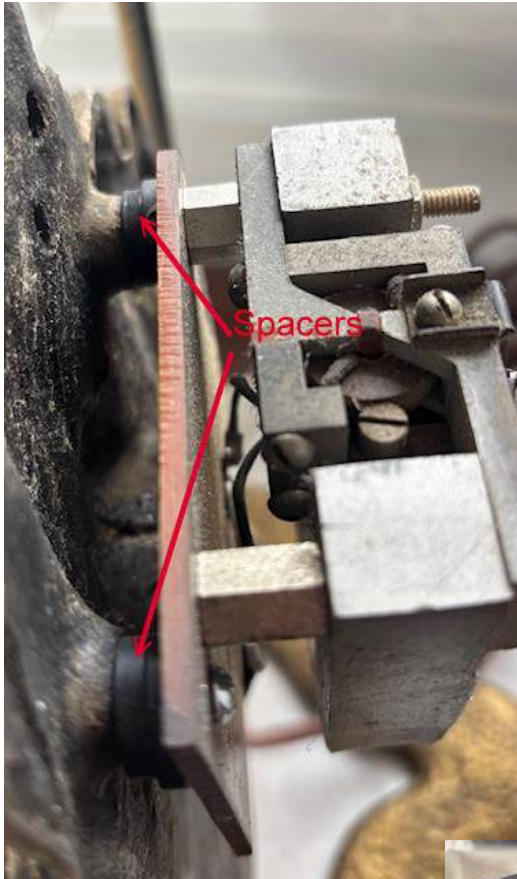
original cone with a dremel tool, and reversed the driver so that it would be facing the rear of the Castle speaker.

In order for it to fit, I needed to make a mounting plate that would line up with the existing mounting holes as well as keep the driver centered in the new space. I used 1/8



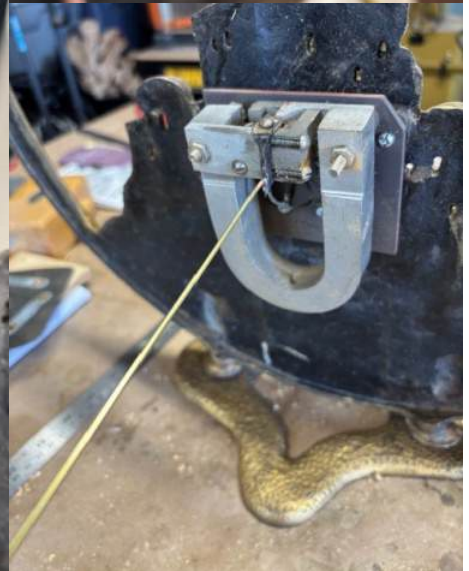
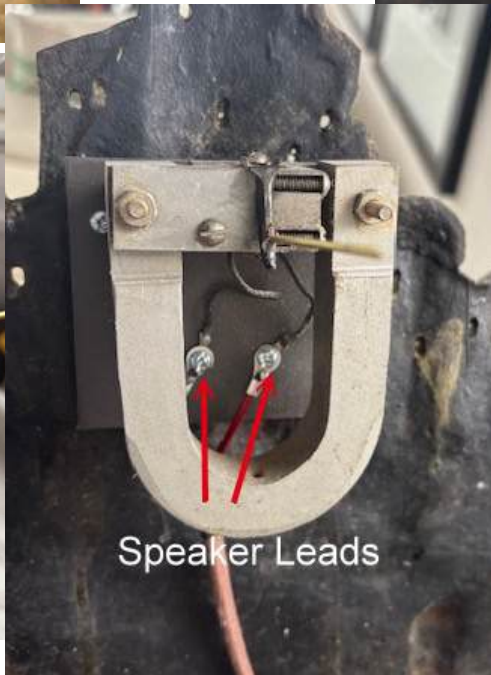
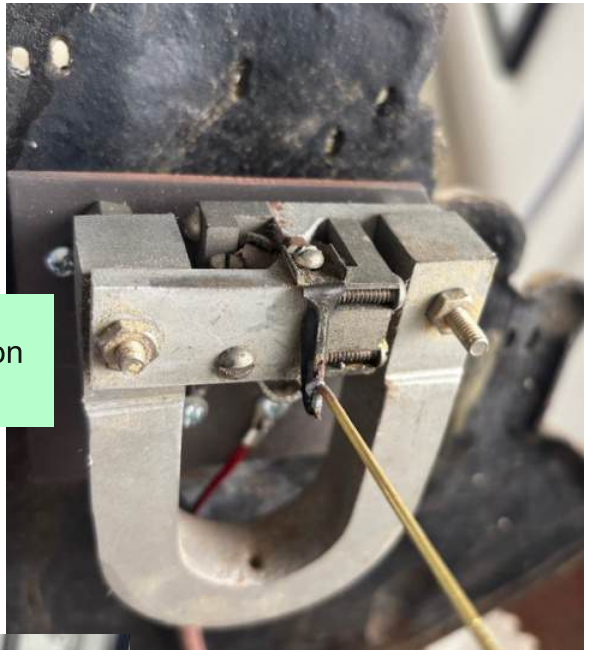
inch (3mm) phenolic and I clipped one corner so that it wouldn't show from the front. I also painted the plate in a neutral color on the side facing front so that the color of the phenolic wouldn't show through the windows of the towers.





When mounting, I added a couple of spacers (about 1/4 inch) to keep the plate off of the speaker frame. After mounting, I soldered a long piece of 1/16 inch brass rod to the place on the driver where the original threaded rod was attached (the armature). This pin will be attached to the center of the new cone.

Brass pin soldered on armature



After attaching the speaker leads, all that is left is producing a cone. I won't go into too much detail about this process. I used posterboard. the inner dimension of the frame was about 17 inches. I added another inch and cut an 18 inch diameter circle. I made a small hole in the center and cut a slit in the paper from one edge to the center. I then overlapped the 2 edges until I got a cone that would fit inside the frame. I marked that and cut away some excess (leaving about 1/2 inch) before gluing the 2 flaps together with contact cement. I made a smaller, 3 inch cone, to fit inside the larger one. I glued that to the center of the larger cone to add some stiffness so the sound wouldn't be too tinny. There are other methods for making cones. Larry Weide had an excellent article in Flash vol. 30-5.



Because the frame was a little wider than tall, I had to trim a little bit to get it to seat properly. I finished by gluing a thin banding around the edge to protect it as well as giving it a more 'finished' look.

Typically at the back of the cone there is a small metal dome as well as a 'keeper' or cable stop that holds the cone against the rod from the driver. I had a small dome from another project, but I had to make the keeper. usually they're round, but not having a vise capable of holding a round small object reliably, I decided to use 1/4 inch square brass bar stock. I cut a 1/4 inch piece off the end, drilled a 1/16 inch thru hole for the rod, and tapped a 3-48 hole in the side for a small screw. I then fumed the parts with vinegar to give them some age, instead of the shiny brass look. Fuming involved suspending them in a small jar to which a small amount of vinegar was placed. They shouldn't be in direct contact with the vinegar, but placed on a small platform above the vinegar. Cover the jar. After a few hours, the effects were noticeable.



Pre Fuming



After Fuming

Sources:

Rub 'n Buff - various, Hobby Lobby, Amazon, ...

6-32 tap and #36 drill bit - various, Home Depot, Ace Hardware, Lowes,...

Phenolic 3mm - Amazon

1/4 square brass stock - Amazon

3-48 brass screws - McMaster Carr Product #92446a092

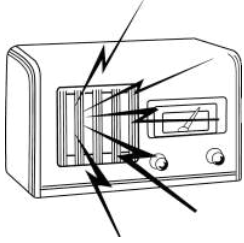
3-48 tap and #47 drill bit - various

1/16 brass rod - Ace Hardware

Posterboard- Hobby Lobby

Banding- Cotton twill heringbone ribbon 3/8 inch wide - Amazon and others

(by the way, the speaker works quite well)



The Latest CRC Club News

News Flash
March 8, 2026



Our last meeting was on March 8th at the Castle Rock Library. We had 23 attendees, including 2 visitors, Gary Wachter (a friend of Dan Beckman), and Dave Merrill from the Illinois Antique Radio Club. Paul Heller officiated.

First order of business was a further discussion of the Vintage Voltage Show, which is now past (results later in this issue). One notable topic was using a payment processing system like Square to handle any selling at the show and/or for use during the auction. Buyers would not need cash or checks to make purchases. Further discussion and investigation is warranted.

Matt Amaturio did some investigating of his own in regards to scheduling our meetings. David Boyle has been handling this for years, and would like to step away from this responsibility. Matt found that the library system offers a concierge service whereby you tell them what you want and they will set up the dates and locations before it is opened to the public. That was one of the difficulties in scheduling—competing with the public. The service costs \$100, but seems to be well worth the price. We're continuing to look for alternate meeting spots as well.

Bill Lettow brought up the idea of obtaining non-profit status (501c3). It has been looked at before by Merrill and Paul. There are pros and cons to going in this direction.

Merril stated that we had \$8975 in the treasury with 76 paid members. After the break, we had our usual raffle, followed by several show 'n tell items and a presentation by Larry Snyder.



Photo by Bill Kohl



(c) 1994 Creative Syndicate, Inc.

Raffle

Meters, books, transistor radios and a 1920's set, as well as some radio project kits

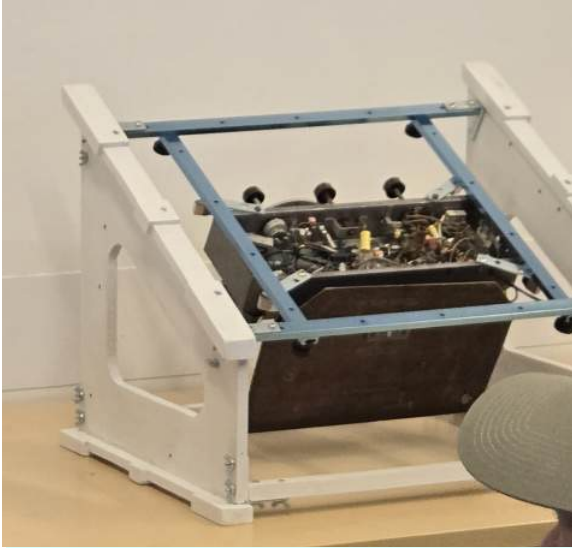


Show 'n Tell

Merril brought in his Truetone D636. He went into some detail about the connection and history of Truetone with Western Auto.

The factory ivory finish was not in good shape, so he removed it (with much effort) back to it's original bakelite (with the exception of the buttons and knobs which didn't react well with the paint stripper!)





Larry Snyder brought in the cradle mount that he designed and built to hold your radio chassis while you're working on it. He demonstrated how it could be used in various positions to allow access to your work. It's a very well thought out design. Larry wrote an article on the building process in Flash Vol 29-5.

If anyone is interested in building one of these, Larry would be happy to provide a parts list (all available from Home Depot) and drawing, and answer any questions about the build. Contact him at Lsnyder200@cs.com

Wayne Russert brought in the remnants of a radio he acquired from Lucille Hughes, who had donated several sets from her husbands collection at a previous meeting. No one wanted this set. It was a mouse hotel. Wayne took it apart and cleaned it up to be used in a demonstration elsewhere (not to be restored). One unusual note about this set is that it was built as the country was becoming fully electrified. A date on the set shows that it was built just before Pearl Harbor.



Ralph brand brought in a beautiful example of a Crosley E-15SL (Dashboard). He cleaned the metal bezel/grill using ammonia, and it turned out great.



Photos by Bill Kohl

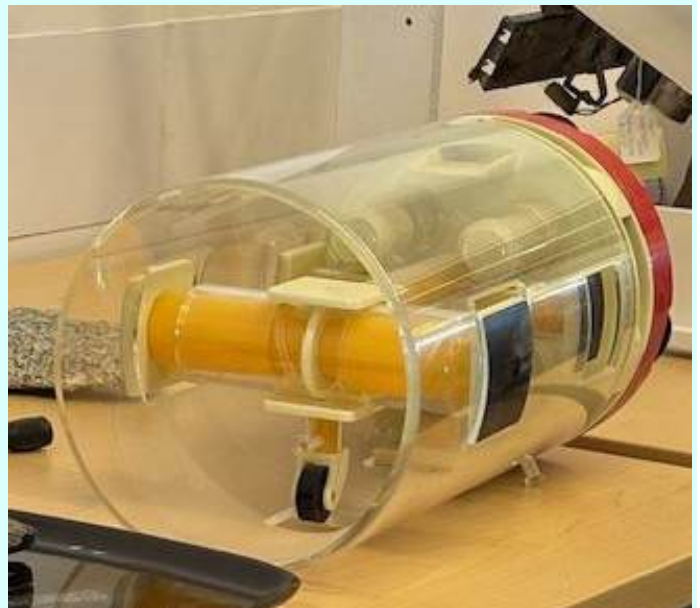
Presentation

This weeks presentation was made by Larry Snyder. For those of you unfamiliar with Larry, he is a mechanical engineer by training who specialized in tunnel boring machines (see 'Meet the collector' in Flash Vol 17-6).

He brought in several examples of materials that were brought up by the boring machines.



One of the multiple rings that do the cutting.



Miniature version of a boring machine

Larry began to show several videos of various boring operations. It's quite a process getting it started. The size of some of the machines is impressive. The largest machine that Larry has designed was 32 feet in diameter!



Debris is backloaded on a conveyor belt

Unfortunately due to time constraints (the library was beginning to close), Larry wasn't able to show more of his videos. Hopefully we will continue with this 'boring' (Ha) presentation in the next meeting.



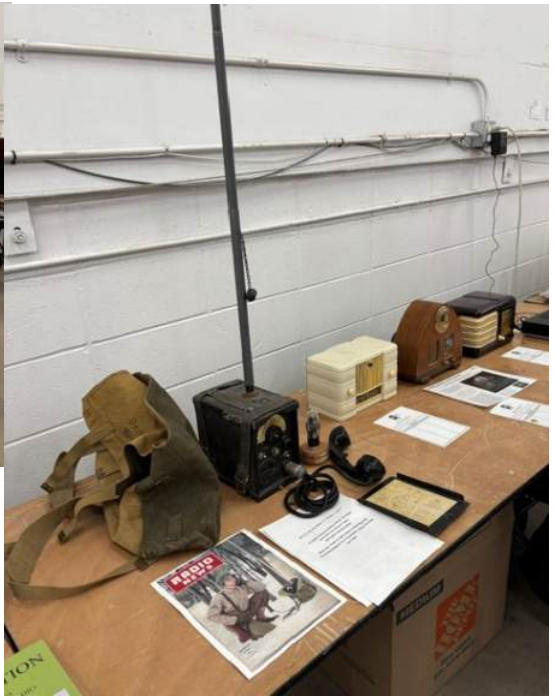
Vintage Voltage Show 2026

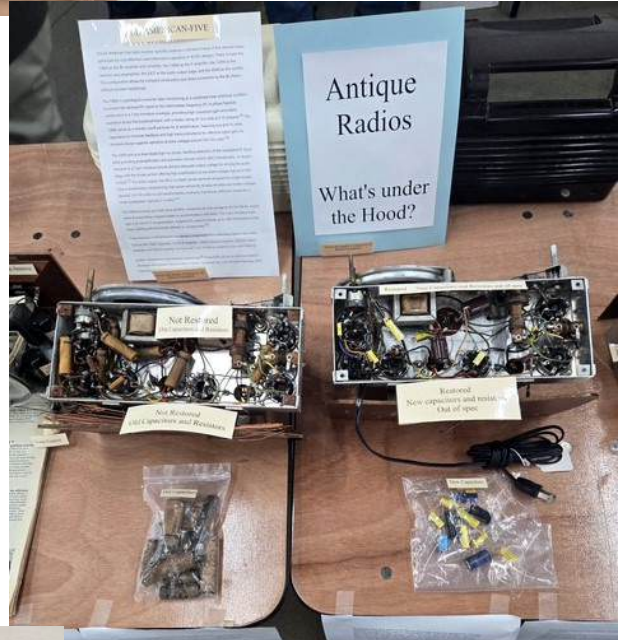
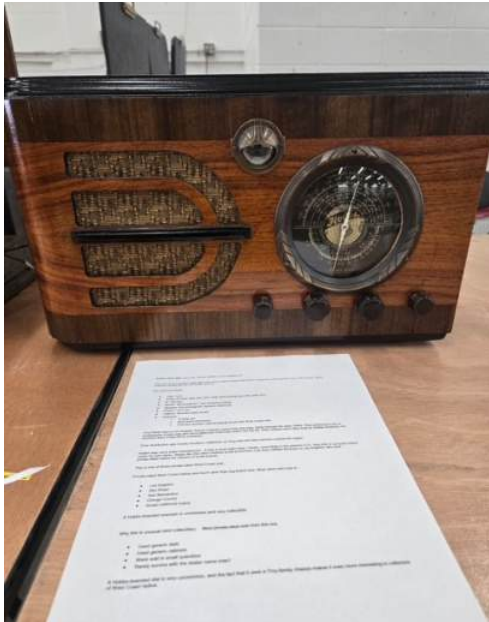


We had a very successful showing at this years event, held on April 19th at the National Western Expo Hall.

Thanks to the members who brought in a multitude of radios.









As part of the show, we awarded 3 plaques, 1 each for Best of Show, Best Restoration, and Most Educational. Everyone, including the public, were given 3 stars to vote for their favorites by placing a star on the forms that were present in the competing displays.

Here are the winners:



Best of Show
 Ralph Brands
 Stromberg Carlson 350R
 Playing old music from his
 transmitter



Best Restoration
 Steve Touzalin
 Serenado Radio
 Restoration

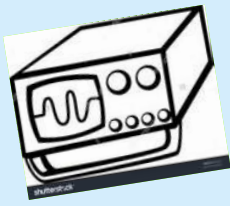


Best Educational Display
 Merril Campbell
 Large display of what makes a
 radio and the different types of
 cabinet materials

Thanks to everyone who participated to make the show a success. Thanks also to Bill Kohl for helping with the photos, and to Rich Kubersky who took care of tabulating the votes, supplying a few photos, and providing the video of the pigeon girl. It's always fun to people watch at these events. We had a great crowd of visitors who were appreciative of our efforts. Until next year....



<https://www.youtube.com/shorts/AC99OdMMv>



Classified Ads



Ads are free for CRC members. To place an ad send your ad description along with personal contact information to the Flash Editor or one of the CRC officers.

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



WANTED: Articles for the Flash. Long or short, please submit your articles to billpot@gmail.com

CRC Meeting - May 17th, Highlands Ranch Library 9292 Ridgeline Blvd, Highlands Ranch, CO 80129

