

Making Dial Covers On The Cheap

By Larry Weide, CRC Member

How many times have you found a radio that you coveted yet knowing that it's not in the best of shape. However if you could buy it at the right price you're sure you can use your skills to bring it back to life. But dang, there's often one cabinet piece that can keep your project from turning out perfect, and that's the plastic dial cover. Often times these things are cracked, with pieces missing and can not be resurrected. Sometimes, if you're lucky, you can find a place that sells popular cover models. If not then it's time to think about making a dial cover yourself.

The best method of creating a dial cover replacement is to vacuum form it. Perhaps some of you may remember a demonstration I did some years ago of a vacuum forming machine that I made. It worked great but there were two major problems connected with it;

- ✓ I had to make a positive mold of the dial cover.

Usually I used the old cover as a model by patching it up as best as I could, using this to make the mold and then doing a lot of work on the mold to make it useable - polishing, removing blemished areas, creating a support surround, etc.

- ✓ Unless you just enjoy building this kind of stuff it's a lot of work for what may be very rare use.

So it happens that I recently restored an Echophone EC-3 communications receiver. Echophone merged into Hallicrafters in 1935 and became Halli's entry level

product line. In 1942 they made the EC-3 which had some of the features of Hallicrafter's more expensive products. It has a tuned RF stage, two IF stages with an adjustable crystal IF filter and an adjustable BFO oscillator. I think this is a radio worth saving.

The problem was that the dial cover was beyond saving, and without at least a close replica of it the radio would not be the same. I was not looking forward to the thought of the work that was going to be required in order to create a mold and vacuum form a new cover. Ah, but then I remembered a dial cover making concept that

I had once read about. At the time I didn't think much of it but now I was having second thoughts - the specter of hard work does that for you.

The basic idea is to let the deformation of the dial cover plastic, by heating it, sag into the shape that you need without a mold. The trick is how to control the sag.



As you know, most dial covers have a lip all around their edges that is used to fasten the dial cover to the inside of the front of the radio. The face of the cover then protrudes outward by at least the thickness of the radio front. So a two sided frame is used to clamp a plastic sheet by just the edges that will in turn form the cover's mounting lip. Then when the plastic is heated the dial cover face will sag (or protrude out depending on how you look at) without disturbing the flatness of the lip.

(Continued on page 3)

COLORADO RADIO COLLECTORS ANTIQUE RADIO CLUB

Founded October 1988

The Flash! © 2015, all rights reserved

Message from the President

Thank you all for a great March meeting. So much good information provided. Great stuff discussed at the show-and-tell portion of the meeting. Wayne Russert always brings interesting facts to the meetings. The research done and the talent of the group always amaze me.

Thanks to David Boyle for his continued help in running the meetings and his great article on the Hickok restoration for our Flash.

The Vintage Voltage show was great. Thanks to all for bringing in your radio stuff and providing to the public a great collection of what we are all about. I would especially like to thank those who created the great tube displays: Bill Dial, Bob Jensen, Rich Kuberski, and Robert Baumann.

The tube displays were definitely a hit with the club members and visitors. Merrill Campbell had a good year with his winning Spartan radio. His radio won as the People's Choice and Best Restoration. I definitely will have to step up

my game to even have a chance at ever winning in a category. But, that will require a lot of me since I couldn't even fill out my entry form correctly. My radio

was listed as "No Name."



Our May 17th meeting will be held at the Castle Rock Library. I checked out the Monument Library and while they advertise it as a 50-person conference

room, it would have been too tight to hold our meeting and have any room for show-and-tell and/or the raffle tables. I should have done more research on the Monument Library before setting it up. I will look into other Colorado Springs locations or we can just cancel the idea of holding meetings in the Springs. We will discuss at the May meeting. Hopefully, the change will not cause any problems for our members. I also want to thank David Boyle for getting the Castle Rock reserved for the May meeting.

Scott Thomas

CRC CONTACTS

President	Scott Thomas 719-640-3616 Tommyscott8820 at yahoo.com
Vice President	Tom Zaczek 303-665-3743 zacfam at comcast.net
Treasurer	Merrill Campbell 719-596-3482 Campbell321 at juno.com
Egroup Manager	Mark Dittmar (303) 877-0158 Mbdittmar at comcast.net
Flash! Publisher	Steve Touzalin (303) 988-5394 Stevetou at comcast.net
Flash Graphic Editor	Rich Kuberski ROKuberski at msn.com
Webmaster	Bill Grimm
Website	www.radioace.com

NOTE: at = @ in email addresses

Upcoming Events

5/5/1961	First American in Space
5/8/1945	V-E Day
5/10	Mother's Day
5/14/	1804 Lewis & Clarke depart

Meeting Locations

(Unless noted otherwise)

Littleton	Castle Rock
March	January
July	May
November	September

CRC MEETINGS

Meetings are held on the 2nd Sunday of every other month starting in January (except May is 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, discount book prices, participation in our spring show and Fall auction. Current annual dues are \$20. New memberships will be prorated to the following June.

(Continued from page 1)

You'll need to have four items for this projects. The first of course is a supply of thermal form plastic. I used a .020" thick PET-G sheet. I presume there are other plastic formulations that would work as well, but this was what was available at the time when I purchased it from Regal Plastics here in Denver. Next you will need some 1/4" plywood or equivalent in order to make a two-sided frame to support the plastic during the heating process. You'll also need a heat gun. If you don't have one Harbor Freight has an excellent one at a great price. Finally you'll also need a piece of glass to back up the plastic during the forming process - more on this later.

I made my frame by cutting out two squares of plywood that were a couple of inches larger on each side than the outside dimensions of the dial cover. In order to accurately cut both pieces of wood with the same size window in them I glued small areas of the corners of the two pieces together to work on them as one unit. The size of the window that you cut out must be large enough to expose the entire face of the cover and yet small enough so that the entire lip of the cover will be clamped by the frame. I started the frame opening by drilling holes in each corner so that the opening will have rounded corners. The exact size of the drill depends on your particular dial cover.

The next step is to drill two holes in the frame so that screws, washers and nuts (I used winged nuts) can be used to tightly clamp the two frame pieces around the plastic during the heating process. The holes can be drilled most anywhere so long as they don't interfere with where the plastic will go and the screws will evenly distribute pressure all around the frame. Then too, by drilling the holes before the frame pieces are separated

you will ensure that there's perfect mounting registration. Don't forget to counter sink the screw holes on one side of the bottom frame so that the frame will sit evenly on a flat surface. Finally, when this work is done, saw off the glued corners of the frames to separate them.



I mentioned above that I used 1/4" plywood for the frames. This creates a typical cover depth bulge. However, if you have a situation that calls for a significantly different bulge dimension you'll have to make at least one of your frame thickness' that same dimension as well.

So back to the piece of glass that you'll need. Heating the plastic while it's in the frame can be tricky. It's all in how the heat gets distributed and that's not as easy as it sounds. For one thing, even if you provide enough heat in the right place it's still hard to control how much sag you're getting, the shape of the sag and when enough heat is enough.



The solution to much of the heating difficulties is to have the frame, with the plastic mounted in it, sitting atop of a piece of glass. What happens now is that regardless of how much heat you apply the plastic can only sag until it meets the surface of the glass - in my case 1/4 of an inch. Since the glass has a highly polished surface the plastic will not adopt any anomalies because of what it's touching.

Things to consider: Warning, The frame, glass and plastic will get **very hot** and you must be **very careful**. You might also want to consider using a mirror for the glass. I found that this gave me a better view of what's going on as the plastic sags into place.

Still, much care is needed in the heating process and you may have to make two or three tries in order to learn

(Continued on page 4)

(Continued from page 3)

how get it right. You must be careful with how you distribute the heat, how you watch as the plastic lays down on the glass and how you apply heat to smooth out ripples that likely will form.

A problem I ran into when creating another dial cover was that the plastic wasn't forming into the corners close enough or producing sharp enough edges. I solved this by making a hand held pusher that I could use to press the plastic down on to the glass when the plastic is hot and pliable. This "pusher" tool must be flat, smooth and

have dimensions that allow it to be pressed down between the plastic on all sides of it. In any case, if you do a careful job you will get a pretty good dial cover.

I say "pretty good" because instead of relying on vacuum to fully pull in the plastic to conform to a mold, you are relying on the softened plastic to sag the way you want it. This process does work, it's as cheap and easy as you're going to get, and what small amount of ripple you might end up with is not going to be very noticeable due to the plastic being so close to the dial behind it.



Colorado Radio Collectors 2015 Annual Show and Contest

ENTRY CATEGORY

ENTRY DESCRIPTION	NAME	SCORE	PLACE
Accessories			
Radio Home Corresp. Course 1930-60	Bill Harris	470	1
Super Ball Antenna 1926	Bill Harris	370	2
Yahr Lange Antenna 5B 1925	Bill Dial	365	3
Jerrold Vitracon TCU 1959	Wendy Kuligowski	360	
Blonder Tongue BTC-99 UHF Convtr 1950	Mark Kuligowski	355	
Philco TB-2 Television Booster 1950s	Mark Kuligowski	345	
Bakelite			
Wilcox-Gay A-53 1938	Merril Cambell	415	1
Philco 49-501 1949	Jerry Tynan	395	2
Airline 94BR-1535A	Steve Touzalin	385	3
Belmont 6D111 1946	Jerry Waterman	350	
RCA 45X11 1941	Jerry Waterman	325	
RCA 65X2 1946	Mark Kuligowski	245	
Battery - 1926-1929			
Madison Moore Superhet 1926	Bill Dial	500	1
Radio Shop Regenerative 1923	Bill Harris	450	2
RCA Radiola 16 1927	Travis Ogden	425	3
RCA Radiola III 1924	Bill Harris	390	
Catalin			
Bendix 526C 1946	Jerry Tynan	410	1
Cathedral			
Majestic 50 1931	Merril Cambell	440	1
Philco 60B 1935	Jerry Waterman	375	2
Philco 70 1931	Jerry Waterman	375	2
Classic Audio			
HI-FI Heathkit Display 1950	Bill Dial	435	1
Philco 49-1401 1949	Mark Kuligowski	425	2
Stromberg Carlson Signet 22 Amp	Mark Kuligowski	365	3
Fanon- Masco 3311 Amp 1950s	Mark Kuligowski	295	
Communication Gear			
Civil Defense Educational Display 1950's	Neil Gallensky	475	1
Heathkit HW-30 The Twoer 1960s	Mark Kuligowski	350	2
Console - Full Length			
Grunow 589 1937	Tom Zaczek	415	1
Znith 6S-52 1936	Rich Kuberski	340	2
Crystal Set			
Hayner 1923	Bob Jensen	465	1
Kit			
MARSC Crystal Radio Kit 1998	Wendy Kuligowski	420	1
Velleman Kit K8060 Amps 2005	Wendy Kuligowski	350	2

Military			
Zenith R100 1945	Rich Kuberski	415	1
DMA Albany PRC-25 1960's	Bill Busch	390	2
Farnsworth BC-312-N 1943	Rich Kuberski	345	3
Novelty - Transistor			
ISIS Radio 20 1970	Merril Cambell	385	1
Novelty - Tube			
Kenro Audio Vista 1961	Tom Zaczek	345	1
Arvin 441T 1950	Travis Ogden	325	2
Guild Spicer Chest 1956	Alexis Alexandridis	305	3
Guild Buttons 'N Bows 1964	Alexis Alexandridis	305	
Guild Country Bell 1955	Alexis Alexandridis	305	
Guild Town Crier 1965	Alexis Alexandridis	305	
Sparton 557 1936	Merril Cambell	305	
Guild Buccaneer Chest 1965	Alexis Alexandridis	280	
Plastic - Tube			
Setchell Carlson 427 1946	Bill Dial	360	1
Continental 1600 1948	Merril Cambell	355	2
Zenith R511R 1955	Bill Kohl	335	3
Addison R5A1 1940	Jerry Tynan	335	
Setchell Carlson 416 (Frog Eye) 1946	Jerry Tynan	335	
Arvin 451-TL 1950			
Delco 1230 1947	Jerry Waterman	320	1
Motorola 6T26W 1958	Tom Zaczek	290	2
Zenith C519C 1952 Clock Radio	Rich Kuberski	240	3
Portable - Post 1938			
Zenith K-412Y 1953	Merril Cambell	300	1
Sentinel 316P 1948	Merril Cambell	280	2
Zenith J-402R 1952	Merril Cambell	260	3
Zenith 7G605 1942	Rich Kuberski	220	
Zenith 6G601 1942	Rich Kuberski	195	
Portable - Pre 1939			
Crosley 50-P 1924	Bob Jensen	500	1
Pre 1926			
David Grimes 5B 1925	Bill Dial	430	1
National Air Phone Monodyne GT1 1923	Travis Ogden	395	2
Freshman Masterpiece 1925	Merril Cambell	360	3
Atwater Kent 20 1924	Jerry Waterman	280	
Speakers			
Electro-Voice T35 1950's	Bill Grim	455	1
AK Speaker H 1924	Jerry Waterman	280	2
Specialty - Tube Display			
Vintage Vacuum Tube Display	Robert Baumann	500	1
Electric Tube Display	Robert Baumann	500	1
Various Shaped tube Display	Tom Zaczek	485	2
Miniature Tubes Box Display	Tom Zaczek	450	3
Zenith Service Man's Tube Supply 1960	Rich Kuberski	350	

Test Equipment

Bammet Instrument Co S352BU 1976	Rich Kuberski	430	1
Western Electric VOM D-166852 1943	Rich Kuberski	430	1
Circuit Analyst Various Test Instrum	David Boyle	420	2
Precision 10-12 1948 Tube Tester	Rich Kuberski	350	3
Heathkit IN-2215 1979-84	Bill Dial	350	

Tombstone

Coronado 6953-A 1936	Steve Touzalin	380	1
Imperial 801 1937	Yuriy Yedidovich	370	2
Stromberg Carlson 61T 1935	Cliff Shelby	365	3
RCA 118 1934	Larry Snyder	300	
Regency TR-1 1954	Jerry Tynan	425	1

Tube/Parts Display

Nixie Tubes 1950-60s	Bill Dial	500	1
Western Electric 211-D 1924	Bob Jensen	435	2

Wooden - Line Powered

Ge L-630 1940	Larry Snyder	460	1
Philco 57C 1933	Steve Touzalin	435	2
Stromberg Carlson 13DU 1937	Yuriy Yedidovich	420	3
Stewart Warner R1235A 1935	Jerry Tynan	395	
Packard bell 566 1946	Merril Cambell	370	
Zenith 7-S-530 1941	Jerry Tynan	370	
Stewart Warner 205GA 1941	Bill Dial	360	
Coronado 648 1938	Tom Zaczek	355	
AirChief S-7398-3 1942	Jerry Waterman	350	
Philco 41-603 1941 AM/RP	Rich Kuberski	335	
Telefunken Dpus6 1958	Yuriy Yedidovich	295	
RCA 142B 1933	No Name	255	

No Judging - Display Only

Kennedy V 1923	Merril Cambell	
Silvertone 2511 1940	Steve Touzalin	
Zenith 6B129 1937	Marty Philips	
Zenith 6-S-229 1937	Larry Snyder	
Zenith 6-S-330 1939	Merril Cambell	

Best of Show

Vintage Vacuum Tube Display	Robert Baumann
-----------------------------	----------------

Best Restoration

Sparton 557	Merrill Campbell
-------------	------------------

People's Choice

Sparton 557	Merrill Campbell
-------------	------------------

Most Educational (Combined member and visitor voting)

Vintage Vacuum Tube Display	Robert Baumann
-----------------------------	----------------

Number of Contestants - 24**Number of Entries - 98**

Photos from the last meeting.



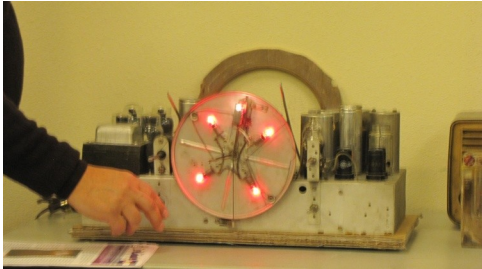
Great turnout for the meeting



Bill Busch gives update on the CRC Show



Dana Cain gives update on
Vintage Voltage/CRC Show



Yuiy Yedidovich demonstrates his radio
featured in the January Flash



Alexix talks about his German Radio



Dave Boyle describes his 1946 Philco cir-
cuit tracer



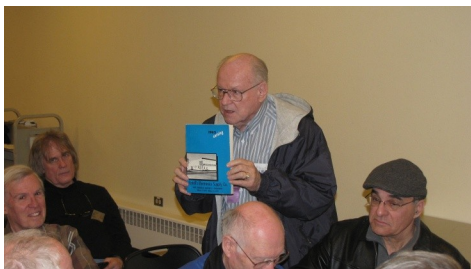
Merrill Campbell shows off his fine resto-
ration of a 1936 Sparton 557



Close up of Sparton Sled Radio



Dave Boyle's 1939 Philco circuit tracer



Barney Wooters with a "current" 1958
Fistel's catalog



Our Fearless Leaders



Wayne Russert with a 1928 Eveready
model #28 radio

Hey guys, some of you have web sites with very cool stuff. Send Rich Kuberski the link to your site with a brief description and he will publish the information in the newsletter so club members can admire your hard work.

His email address is listed on page 2



The Open Trunk

Member submitted advertisements



REPAIR SERVICE:

Radio repairs for club members. Reasonable rates. Good references.

Call David Boyle
303-681-3258

11/09

For Sale: by Dave Boyle

Most of the following instruments have been completely refurbished, repaired as needed, and calibrated

Most have manuals and test leads.

Prices are negotiable so please make an offer.

1) Philco Grandfather Clock Radio ..chassis and clock only.. Completely repaired/refurbished chassis with VG .original speaker. Works great, Clock has a new motor. Ready for installation. At give away price since customer did not ever pay for the repairs. **Make offer (cheap!)**.

2) HP 608 F VHF Signal Generator, with scope cart, also spare special tubes, and manual. **Free to a good home!**

3) Eico 5inch oscilloscope, Model 425 Completely gone-thru, new hi-voltage caps, all out of spec parts replaced,

NEW CRT!, etc. \$68.00

4) Eico "Professional" VTVM.6 inch wide meter. \$45.00

5) RCA Institute RF Signal Generator All standard frequency ranges and 400 Hz audio frequency too. \$30.00

6) Heathkit TV Alignment Generator, Model IG-52. \$25.00

7) Lamda regulated power supply. 0-14Volts. Solis state, 5 VDC @ 2 amp, as an example. 2 available. \$7.00 ea.

8) Ballantine Labs. Model 321 VTVM.true RMS and p-p measurements. Rack mounting with manual. **Make offer!**

9) Philco Model 91 *complete working* radio chassis with two good speakers and a working tuning shadow meter! Original VG 12 inch speaker. **(cheap!) Call with offer.**

Call David Boyle,
303-681-3258

01/15

Wanted: 1920's Wooden Horn Speakers and a Crosley Musicone Speaker.

Also 1920's battery sets, especially Neutrodyne sets, Pre 1930 AC Radios and a Crosley Widget Console Radio

Michael O'Leary 602-354-7011
moleary9@cox.net.

WANTED: To buy: 1948 Motorola 5A9B portable radio, Maroon color. Good condition only.

Dewey Reinhard 719-596-5516
deweyfly30@gmail.com

WANTED: Broadcast or recording mics, especially from 20's to 1950's.

Crosley Pup Info

NBC chimes, all eras.

Tom Keeton

303-797-8073

I have collected radios of all types for 30 years and now it is time to let them go to new homes.

Please call me for an appointment to see if any of them would fit in your collection.

I have tube radios including Tombstone, Cathedral, and Novelty etc.

I also have a large collection of transistor radios both shirt pocket and Novelty type.

Please call

Thanks in advance,
Ron Smith

303-238-1384

RADIOS4US@aol.com

For Sale: Rare 1927 Victor 9-54 Radio / Phonograph in a magnificent Walnut Cabinet.

Original, unrestored condition. For details and pictures please see this website:

www.pier52.net/victor954/

Mark Whalin

mark@pier52.net

Custom Embroidered CRC LOGO on Shirts and Hats.

Only \$7.00 +Tax per Garment

Choose LOGO size—up to 3"

Choose up to 4 colors

Add your name for \$1.00

For orders, catalog prices and further information contact Judy at:

Judy Houser

303-771-3577

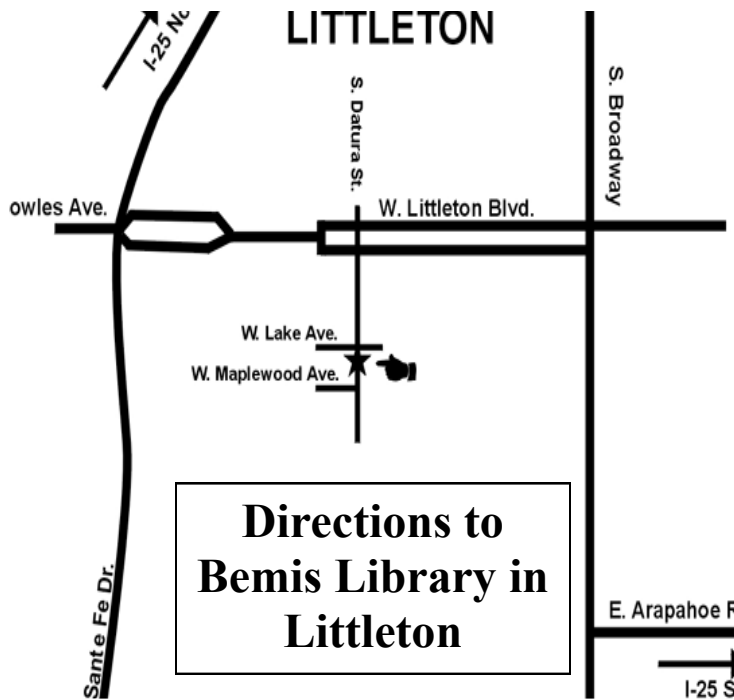
Castle Rock, Co.

SUBMISSION OF ARTICLES & 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, RTF, or as text cut/paste into your email. Submit to Steve Touzalin by email at: stevetou@comcast.net 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.

The March 17th 1:00 meeting will be at the Miller Library in Castle Rock



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.

Check out Gregory Malanowski's website It's in Polish, but you can select "Translate" to view in English
<http://telemuzeum.uke.gov.pl/index.php/kolekcjonerzy-i-kolekcje/grzegorz-malanowski>



Colorado Radio Collectors
Antique Radio Club
417 S. Queen Cir.
Lakewood CO 80226

FIRST CLASS MAIL