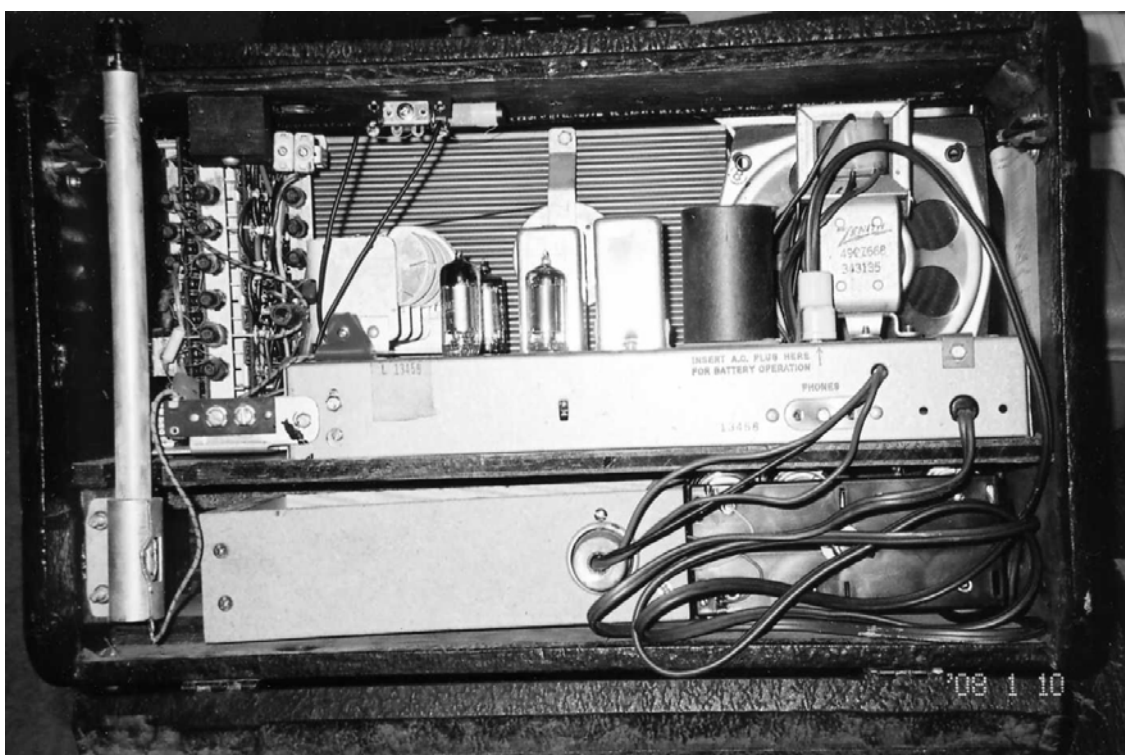




Dedicated to the Preservation and Education of Wireless, Radio, Television and Associated Equipment



Joe Kiser explains how to construct a new antenna for the Zenith Trans Oceanic H-500

Also inside:

Meet the Collector

COLORADO RADIO COLLECTORS ANTIQUE RADIO CLUB

Founded October 1988

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Volume 19, Issue 5

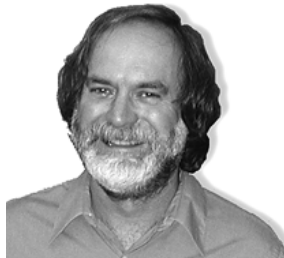
September/October 2008

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MESSAGE FROM THE PRESIDENT

I am pleased to most recent, meeting did not depressed we have during July in **Steve Bill Grimm** presentations radio web sites. made an



report our mid-summer reflect the attendance experienced years past. **Touzalin** and made regarding (Steve has updated CD

directory of sites available to members for a \$1 donation.) An unanticipated bonus was provided when member **Yuri Yedidovich** gave us a tour of his extensive Silvertone web site. **Bill Grimm** brought out yet another donated radio to support our treasury and **Tom Pouliot** successfully auctioned it and others off. Several collectible radios found new homes during our last meeting. "Show and tell" was once again a highlight, thanks to enthusiastic member participation.

Please do mark your calendars now and plan to attend the three remaining CRC events of 2008: **September 14 meeting** in Littleton, **September 28 auction/BBQ** in Wheat Ridge and don't forget the **20th anniversary celebration** at the **Wings Over the Rockies Museum** on **November 9**.

Unfortunately, longtime member and current vice president **Bob Cofer** has announced his plans to move across the country. He will be missed. Please give some thought to volunteering more of your support or encourage someone else to consider your nomination to fill this vacancy.

If you hear friends mention they stopped receiving their newsletter, it's most likely because their dues have lapsed. Please remind them membership renewal began June 1 and the July issue was the cut off. I hope you feel as I do that CRC membership provides the greatest return of all of my annual hobby expenses. As always, I welcome your comments on what you think could be done differently and also what we're doing well.

Mark your calendars and start piling up all those dusty radio-related items you wish to find new homes for at our auction/BBQ in just a couple of weeks!

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Upcoming Events - Mark Your Calendars!

Sept. 14th Meeting in Littleton
Sept. 28th Auction/BBQ in Wheat Ridge (same location as past three years.)
Nov 9th -Meeting, Wings Over Rockies Air & Space Museum (Old Lowery AFB.)

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 \$12. New memberships will be prorated to the following June.

CRC MEETINGS

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

A NEW ANTENNA FOR THE H-500 TRANSOCEANIC

Written by Joe Kiser, CRC Member

The Zenith H-500 transoceanic receiver was designed with an air coil (plastic covered) wave magnet broadcast band antenna similar to that used on the model G-500 and 8G005 Transoceanics. All of these were connected to rotating (sliding) pivots and wired through a channel in the wood cabinet to the radio. This connection method had some real draw backs of design as follows:

1. The connecting wire is often twisted each time the radio door is opened leading to fatigue failures of the wire
2. The hinge pivots are subject to substantial resistance increase as the pivot connections got dirty or corroded, this the loop (Q) efficiency.
3. Air coil loops tend to be much more of an (e-field) manmade noise collector when compared to a (magnetic ferrite) cored loop design. Probably about a 10 db reduction in manmade noise pickup can be expected.

Based on the above limitations a modification to the H-500 antenna loop was envisioned. Since I had on hand an H-500 with a broken pivot wire (stress break, as discussed) I decided to work with this idea on this radio prior to full restoration. In all other respects this radio was fully operational (dirty, but operational.)

The first step was to determine the L, R and Cd of the existing loop. The wave magnet was removed from the radio and wire leads about 20 inches long were attached to the wave magnet to simulate full in circuit inductance. A Hewlett Packard 4342A Q meter was used for all measurements and the following raw data was obtained:
(Note: wave magnet suspended on a cardboard box during measurement)

Li=132uh measured @ 800KHZ----Li=L indicated

Cd= 15.9 pf measured per Q, meter handbook.

Cd=distributed capacity.

DCR=.7ohms (from schematic) ---DCR=DC resistance

C=303pf@ test frequency=800KHZ

$L_t = \frac{L_i(C_{tune})}{(C_{tune} + C_d)}$ ----Lt = True inductance
@800 KHZ

$L_t = \frac{132 (303)}{(303 + 15.9)}$

Lt = 125.4 UH

Qi = 175 @ 800 KHZ----Qi = Q Indicated

$Q_t = \frac{Q_i (C + C_d)}{(C)}$ ----Qt=Q true

$$Q_t = \frac{175 (303 + 15.9)}{(303)} = 184.2$$

Next the ferrite manufactures were surveyed and Phillips 4B110 mm diameter x 50 mm long rod was selected for best broadcast band performance. Permeability (^c= 250) effective perm = 100. At this point I noted that the inductance of the loop was much too low to resonate with a standard tuning capacitor over the broadcast band. A quick check of the radio schematic indicated a loading coil in the radio hooked in series with the loop. Hence the actual external loop is only part of the total antenna circuit inductance.

Several types of LITZ wire were evaluated with the winner being 30/44 SPSN which strips and solders easily with a good hot iron. The final coil, 52 turns of wire was wound on top of 2 layers (.002") per layer of kitchen wax paper as a spacer from the ferrite core. The final constants were measured as:

Li=126.5uh

$$L_t = \frac{126.5 (317)}{(317 + 2.0)} = 125.6uh$$

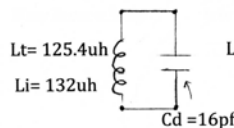
Cd =2.0PF

DCR=.4 ohms [measured]

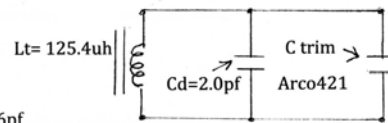
Freq	Q indicated	Note: Q true is a little higher yet
700 KHZ	472	
800	485	
1000	490	
1400	465	
1650	440	

Obviously the loaded Q will be much lower, but the higher the ratio of unloaded to loaded Q, the better the efficiency. Therefore this should be a very efficient loop compared to the original. So now we need to add a fixed capacitor to compensate for the higher Cd of the original loop.

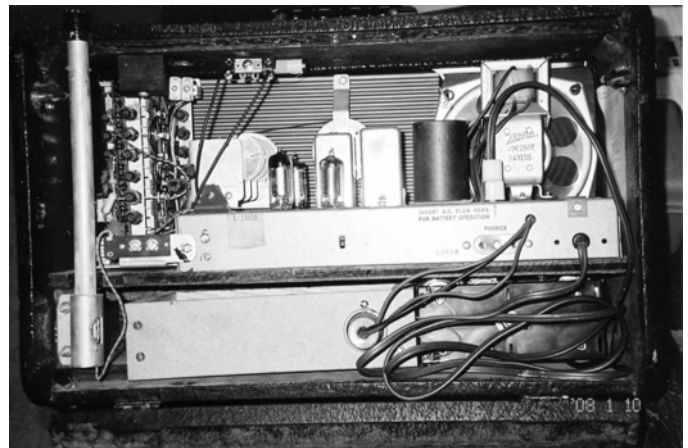
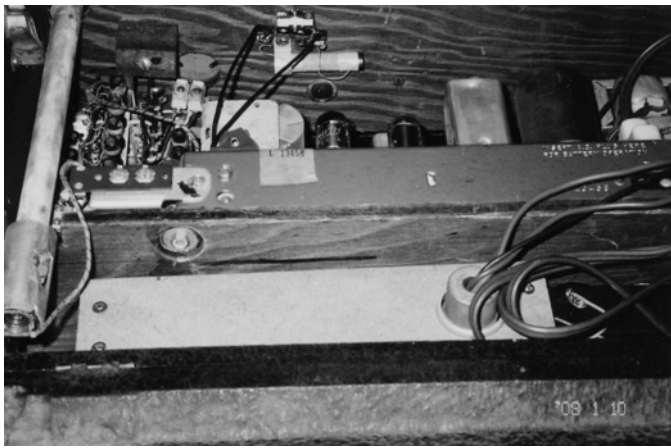
Original loop



New loop



Such that Cd+C trim=16pf, i.e, C trim=14pf



Note: the trimmer was set @ 14.0pf using a substitution method on the Q meter. Next the new loop had to be installed into the radio as far from metal as possible. The solution was a 3/8" nylon cable clamp on the rod (one end, not on the winding) wood screwed to the inside of the top cover. This same screw holds a low loss Bakelite terminal strip to tie the antenna coil, trimmer, and antenna plug leads in stress free fashion.

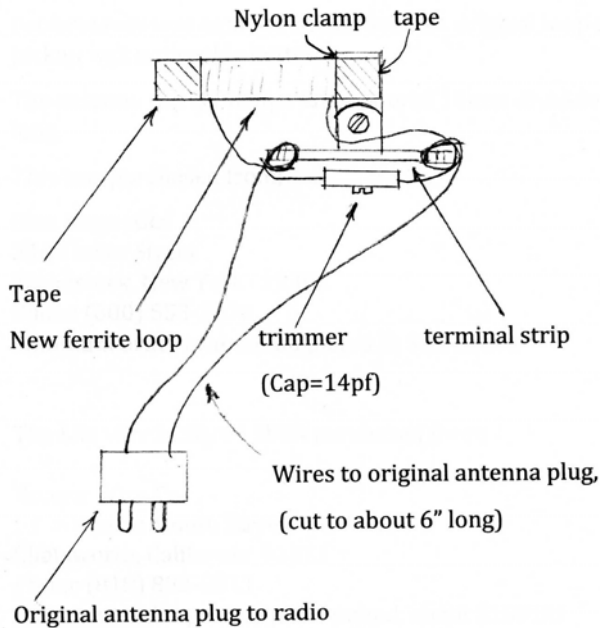
Note: Ferrite rods are shock and high magnetic field sensitive. A dropped rod or one hitting a speaker magnet is useless and must be replaced.

Actual results in the radio required the trimmer cap to be increased slightly to achieve proper high frequency alignment. The error was probably due to measuring the wave magnet out of the radio and hence without the added capacitance of the loop to the case.

Performance was equal or better than the original loop and noise pickup was noticeable better. The antenna rod is Phillips 4B1 material 10mm diameter x 50mm long. This was purchased from; Eina Magnetics 2 34 Tinker Street Woodstock, New York 12389 Phone (800) 553-2870 Minimum order is about 30 pieces @ \$1.24 each

The Litz wire is 30/44 SPSN purchased from; Kooner Wire Co 9265 Owens Mouth Street Chatsworth, California 91311 Phone (818) 882-8311 Minimum order probably one pound, about \$100.00

Note: Both companies require a company name and address. If you need a company, mine is Kiser Electronics which is out of my home.



This month I have the pleasure of introducing the Flash audience to Rich Kuberski. Most of us know Rich and his employer, Tectonic Management Group, Inc., by their generosity in providing the location for our annual fall auction.

Rich has been interested in old radios for quite some time. Not long after he and his wife, Rena were married, Rich began a search for his first radio - a Zenith console. "Since I didn't have a clue about radio restoration, my search was confined to a radio that both looked good and was in good working condition at a good price." I started my search in 1972; it took about a year to find something that met my criteria which turned out to be a Zenith 6S556. It was in excellent playing condition (well sort of) and only cost \$35. Later on I found an "old" radio repairman who tested and replaced several of the tubes. I played it over the years and just recently did a little work on the chassis including recapping.

What really got Rich interested in Radios was a trip to Illinois when he spent a few nights at a B&B in Springfield, IL. "Our room was full of old radios which got me to thinking that perhaps I should expand my collection." Not long after that, Rich added an AK 40 and a small Admiral plastic radio for

what seemed like a good price and managed to get both working. Then, came a flood of radios. For about a year, I acquired on average a radio per week. I was looking for cheap junk that I could practice and learn

and most of my repairs relied on a good percentage of luck. Rich joined the club in 2002 and at his first club meeting, bought \$5 worth of raffle tickets and had 4 winners. "I took home a batch of radios to work on and finally restored all of them."



At this point Rich has about 90 radios, with perhaps 1/2 of them restored including the complete collection of Zenith Trans-oceanic tube models as well as a dozen consoles and a few military radios. "I work on them whenever the spirit moves me. Mostly I do the electronic work in the winter and refinishing in the warmer months."



Rich does have other interests; he is an avid reader of history, science and WWII war novels. He and his wife love to travel, they've been to Europe four times now. "It seems that we are always planning our next trip." We also get around the US quite a bit too. I have managed to visit 45 states and 18 foreign countries. As long as our health and \$\$\$ hold out, we will continue to travel.

"I have always been interested in WWII.

on. Then, as my skills increased, I began to look for better "junk." It was at this time that I found Larry Weide and the Wednesday lunch bunch (aka "The Old Farts".) The guys were a huge help since I have a limited background in electronics

When I was growing up, it seemed that all of the people my parent's age were involved in the war. As you know from the article I wrote for the flash a few years ago, both my parents were involved." Rich has a collection of WWII infantry rifles,

one from each of the major warring countries, all in firing condition. "Every few years, I take them out and give them a workout."

This past November, Rich fulfilled a long sought passion - a '37 Chevrolet Master Deluxe Sport Sedan is now sitting in Rich's garage. "Of course this is what is taking up a lot of my spare time and money lately." The previous owner had been restoring this car since 1979; at least he has receipts going back that far. "I am making real good progress now adding missing parts and should be ready to start the engine for the first time in perhaps 30+ years. My goal is to drive the car by this summer. Not to say the project would be



complete, just far enough along to give it a road test". "I think everyone knows where I work. Our firm specializes in general aviation projects around the country. I am a senior project manager

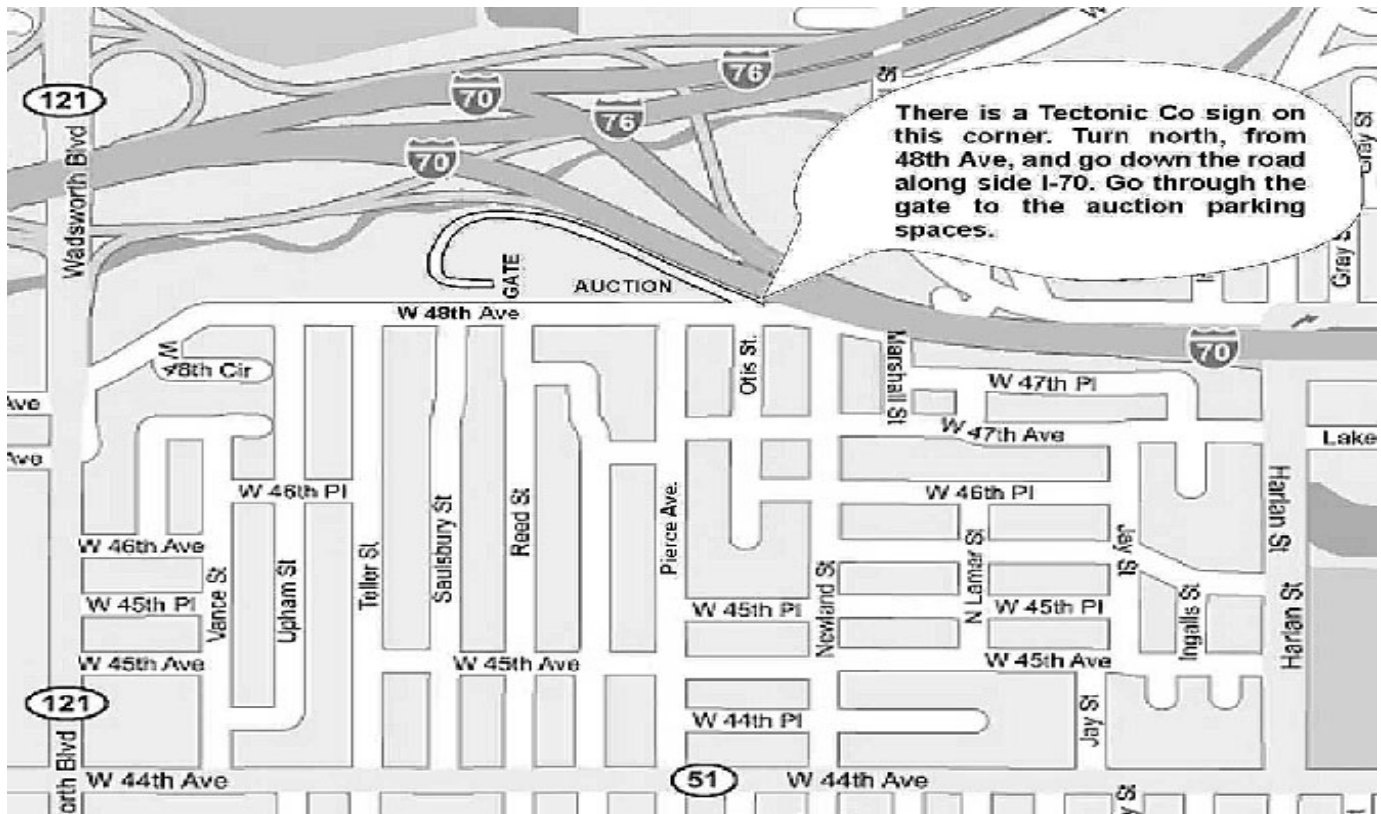
(means that I have gray hair) and manage these projects from concept through completion. We build maintenance and completion centers as well as high end storage hangars. Maintenance centers start at \$25M

and go up from there, storage hangars range from \$4M to \$8M".

Footnote: The car is now running well (I have put over 500 miles on it so far) and Rich retired July 4th, 2008 – Independence Day!

And to answer the question, Yes, we can still use the picnic facilities at my former employer's office for our annual Picnic/Auction

DON'T FORGET – CRC Annual Auction September 28, 2008



CRC Auction Schedule:

Check in 10:00 am – 12:30 Don't wait until the last minute. There will be a new computer operator this year (Rich Kuberski.) Take pity and don't put any undue pressure on him.

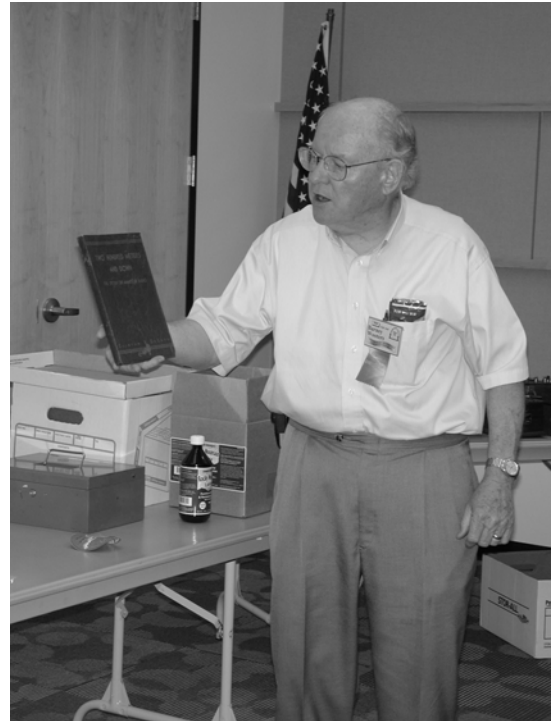
BBQ 11:00 am – 1:00 pm

Auction Start: 1:00 pm promptly

Check out when auction complete, about 4:00 pm



Tom auctions off a Philco 80, Halicrafters S85 and a Pilot T-133



Barney Wooters talks about "200 Meters & Down"



Steve Touzlian explains web site navigation



Marty Philips asks for information on a radio

Special CRC prices. Order at club meetings. Mail order shipments: add \$2.00 postage for each book ordered. Info/order: Charles Brett, 5988 Old Ranch Road, Colorado Springs 80908, (719) 495-8660, brett5729@aol.com. void all other listings

Radio Club

RADIOS (GENUINE PLASTIC) OF THE MID CENTURY Jupp & Piss, hard bound, 219 pgs, 1998 PG, 404 color pics \$19.95 \$18.00	THE FABULOUS VICTROLA '45" Phil Younk, 176 Pgs, 1992 \$29.95 \$22.00
ANTIQUERADIOS, COLLECTOR'S GUIDE - 4th EDITION Banks, 1997 values, revised & updated, new pb cover, 2-48 pgs \$18.95 \$15.00	ZENITH RADIOS THE GLORIOUS YEARS 1936 - 1945 Cowan, Bryant & Blinnkamp, 256 Pgs, 2003 \$24.95 \$25.50
GUIDE TO OLD RADIOS, PORTERS... - 2nd EDITION Johnson, 277 pgs, 1995-96 prices \$19.95 \$15.00	ZENITH ILLUSTRATED CATALOG AND DATABASE 1936 - 1945 Cowan, Bryant & Blinnkamp, 182 Pgs, 2003 \$29.95 \$22.00
ANTIQUERADIO RESTORATION GUIDE - 2nd EDITION Johnson, 144 pgs, repairing, refurbishing, cleaning \$14.95 \$12.00	THE ALL AMERICAN FIVE RADIO Richard McWhorter, 95 Pgs, 2003 \$19.50 \$15.00
RADIO, EVOLUTION OF THE - VOLUME ONE 227 pgs, 118 in color, More than 800 radio pictures, 1992 \$22.95 \$18.00	E.H. SCOTT... THE DEAN OF DL 2ND EDITION Maurice Hobbs, 240 Pgs, 2003 \$29.95 \$19.50
RADIO, EVOLUTION OF THE - VOLUME TWO 226 pgs, Radio of the 1920s to 1960s, with 93-94 values \$24.95 \$19.00	ANTIQUE RADIOS 6TH EDITION John Stauner, 220 Pgs, 2004 \$19.95 \$15.00
TRANSISTOR RADIOS, COLLECTOR'S GUIDE VOL. II Banks, 1996 prices, Full Color \$16.95 \$13.00	OLD TIME RADIOS Joseph Carr, 256 Pgs, 1991 \$19.95 \$15.00
ZENITH TRANSISTOR RADIOS, 1955-1965 Smith, 1998 PG, 160 pgs, 226 color pics, tabs, descr. \$29.95 \$22.00	The Early Development of Radios in Canada 1900-1930 Murray Editor, 154 Pgs, 2005 \$27.95 \$26.25
THE ZENITH TRANS-OCEANIC (THE ROYALTY OF RADIOS) Bryant and Cowan, 160 pgs, 1995 \$29.95 \$22.00	Novelty Radio Handbook Wagner, 160 Pgs, 2006 \$29.95 \$22.00
ZENITH RADIOS THE EARLY YEARS 1915-1936, Cowan 1997-98 Price Guide, 222 pgs, 100% Photos, Desc, Hb.s. \$29.95 \$22.00	PHILCO RADIOS 1928-1942 Buntine & Prokes, 192 Pgs, 1992 \$29.95 \$22.00
RADIOS BY HALLICRAFTERS, revised 2nd edition Beckie, 1999 values, 229 pgs, 1000+ pics, 817, history \$29.95 \$22.00	CLASSIC CHRYSLER Bulford & Jane Childs, 122 Pgs, 2001 \$25.95 \$19.50
CLASSIC TV'S, PRE-WAR THRU 1950'S 86 pgs, color & b/w pics, descriptions, etc. \$18.95 \$15.00	TUBE LORE Ladewig Silvio, 1987 pgs, 1996 \$29.00 \$15.00
Machine Age to Jet Age, Radiofonos's Table Radio Guide II, 33-62 Scott, 256 pgs, 100% of b/w photos \$29.95 \$24.50	ARTURICOLLINS SRADIO WIZARD Sam Sarnon, 294 Pgs, 2002 \$18.95 \$14.00
TRANSISTOR RADIOS, 1954 TO 1969 Norman Smith, with prices, 160 pgs, 1000 photos, 1998 \$29.95 \$22.00	MACHINE AGE TO JET AGE - VOL I Mark V. Sabin, 256 Pgs, 1998 \$24.95 \$21.00
PHILCO RADIOS: 1928 - 1942 Buntine & Prokes, 192 pgs, 828 pics & descriptions, 1992 \$29.95 \$22.00	MACHINE AGE TO JET AGE - VOL II Mark V. Sabin, 256 Pgs, 1997 \$28.95 \$22.00
RADIO AND TV PREMIUMS Jim Harrison, 256 pgs, 200+ photos, 1997 \$24.95 \$19.00	TABLETOP RADIOS - Vol I Mark V. Sabin, 240 Pgs, 2002 \$29.95 \$22.00
RADIO MANUFACTURES OF THE 1920'S VOL. I Alan Douglas, 225 pgs, 1988 \$24.95 \$19.00	A. ATWATER KENT Williams & Woltoner, 168 Pgs, 2003 \$25.95 \$19.50
RADIO MANUFACTURES OF THE 1930'S VOL. II Alan Douglas, 266 pgs, 1989 \$29.95 \$22.00	THE WOOD FINISHER Bruce Johnson, 241 Pgs, 1993 \$12.00 \$10.00
RADIO MANUFACTURES OF THE 1950'S VOL. III Alan Douglas, 285 pgs, 1991 \$29.95 \$22.00	THE WEEKEND REFINISHER Bruce Johnson, 256 Pgs, 1989 \$12.00 \$10.00
CRYSTAL CLEAR VOL. I Maurice Stevens, 232 Pgs, 1991 \$29.95 \$22.00	THE PLATING MAN'S MANUAL John Cox — \$10.00



The Open Trunk

Member submitted advertisements



WANTED: Morse keys/bugs/paddles, Allied Radio/Knight Kits, "heavy metal" communications gear (Collins, National, Hallicrafters, Hammarlund).

Robert Baumann, (303) 988-2089
HQ180A@aol.com **03/08**

WANTED:: 50,000 ohm resistor, 50 watts or more.

Mark McKeown 303-278-3908
Mmckeown@hughes.net **05/08**

WANTED: Broadcast reception letters and/or EKKO stamps.

Wayne Gilbert 303-431-6774
wagil@aol.com **05/08**

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

David Boyle (303) 681-3258 **03/08**

For Sale: RCA Super Hydra-Dyne wooden cabinet Hi-Fi console, Model

U-46. Can provide photos.

Bill Kohl 303-761-0911
squidgobbler@yahoo.com **05/08**

FOR SALE:The following test instruments:

Hickok # 209 VTVM and multimeter with capacitance measurement. 8 inch large dial, like new, rebuilt and fully calibrated. Includes manual and new test leads. Top of the line in its day. \$85 obo.

RCA WO505, 5 inch 'scope, professional radio and TV repair model. Solid state, AC/DC. Looks and performs like new. Refurbished and ready for repair or experimental needs. \$65 obo.

Heathkit # O-12, 5 inch "Professional" scope built by myself. Hardly used and in VG condition, still meets original specs. \$30.00. RCA WA-44C audio oscillator. VG, refurbished and tested. \$30.00. BK #801 Capacity Analyzer with 5" meter. A beautiful looking and sensitive capacitor tester, all parameters. With manual, fully rebuilt and calibrated. Every radio hobbyist needs one. NOTE: Today's modern capacitance testers may not test for leakage, which is so important in repairing old radios. \$60 obo.

David Boyle 303-681-3258
03/08

FOR SALE: Several 1920's battery sets and communications gear priced to sell. Contact Don Wick at 719-488-9469 or dowick@prodigy.net for a list.

WANTED: One each 4 and 5 pin globe tubes for museum display. Dudsfine, type unimportant. No grid caps. Don Andrus 303-270-8807
DWAndrus@aol.com
07/08

Radiola
The Golden Age of RCA
1919-1929
Eric P. Wenaas
Available now from Charles Brett

NOTICE:

A reward of 500 microfarads is offered for the arrest and conviction of the desperate criminal Hop-A-Long Capacity.

This un-rectified criminal escaped from a primary cell where he had been clamped in ions, awaiting the gauss chamber. He is charged with the induction of an 18 turn coil named Millihenry, who was found choked and robbed of valuable joules. He is armed with a carbon rod and is a potential killer. Capacity is also charged with driving a dc motor over a Wheatstone bridge and refusing to let the band pass. If encountered, he may offer resistance. The electro-motive force spent the night searching for him in a magnetic field, where he went to ground. They had no success and believe he returned ohm via a short circuit. He was last seen riding a megacycle with his friend Eddy Current, who was playing a harmonic.

*For our September 14th, 1:00pm meeting.
We will be meeting at the Bemis Public Library, Littleton*



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

FIRST CLASS MAIL