

# The Colorado Radio Collectors

Antique Radio Club

# FLASH

Volume 13

March

April

2002

Issue 2



**THE HALLICRAFTERS S-19R "SKY BUDDY"**

In this issue. . .

- ◆ The Restoration of a Hallicrafters S-19R
- ◆ Riders Manual-Philco Supplemental Data
- ◆ KPH - "Wireless Giant of the Pacific"
- ◆ Radio Web Site Review
- ◆ January Meeting Photos

# The Colorado Radio Collectors Antique Radio Club

**Membership:** Annual membership in the CRC runs from June to June. Members are requested to pay their \$12 dues at the May meeting. If unable to attend, please submit dues by mail to the treasurer. All payments should be made out to "Robert Baumann, CRC Treasurer." Annual dues entitles members to 6 issues of *The Flash!* and participation in club events such as the annual April show, midsummer picnic, September auction as well as meetings and swaps every other month. Also officer elections and the *Antique Radio Classifieds* annual subscription raffle every May!

New members are encouraged to join throughout the year. Only new memberships will be prorated to ensure renewal on the following June. New members who join from May to August should submit \$12; September & October \$10; November & December \$8; January & February \$6 and March & April \$4.

Renewing members who fail to submit dues in a timely fashion risk interruption in the delivery of *The Flash!* Upon payment of late dues, recent past issues may be requested from the CRC Publisher. Older issues require contacting the CRC Archivist. For bookkeeping reasons, all renewing memberships run June to June at the \$12 rate regardless of when one might realize their membership has lapsed.

**Article Contributions:** Submission of articles are always appreciated. This could include historical and technical items as well as stories about individual collections. Articles may be written or e-mailed, and need not be in final form. Submissions and requests for information should be directed to the CRC "Flash!" Publishers.

**Meetings:** Unless otherwise noted in this journal, regular meetings are held on the second Sunday of every other month starting with January (except: 3rd Sunday of May) at 1:00PM at the Museum of the Americas Bldg., 2nd floor. 863 Santa Fe. (between 8th & 9th Ave.'s). The meeting normally includes business items, discussions, "show and tell", a raffle and a swap meet.

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**Publishing Deadlines:** All submissions must be submitted by the 1st of Feb., Apr., Jun., Aug., Oct. and Dec. for publishing in the following months.

**Want Ads:** Submission of Sell/Want ads are always free to CRC members. Nonmembers may advertise in the Flash! for \$0.20 a word.

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**Thanks** to the **Pressworks** for printing the Flash! - (303) 934-8600



# *Colorado Radio Collectors Antique Radio Club*

Founded October 1988

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

**Volume 13, Issue 2**

**March/April 2002**

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### **ABOUT THE COVER**

On the cover is a picture of an Hallicrafters S-19R communications receiver restored by Doug Moore, KB9TMY. Read about his restoration experience on page 3.

## A LETTER FROM THE PRESIDENT

I have several things to report this time around. At the last meeting, Dennis Laurence volunteered and was unanimously accepted as the new vice-president ( and incoming president ) of the CRC. I would like to thank Dennis for accepting his new role. We also had a great turnout at the January meeting and everyone enjoyed Barney Wooter's fine slide show on the AWA museum. At the next meeting (March 10th), we will have two programs in addition to the usual club meeting activities- a video of "The Philco Story" courtesy of Dave Boyle ) to view and also we will be getting a tour of the Museum of the Americas, our new meeting facility, by a member of the museum staff. If you have any ideas for future meeting programs or have something you would like to present, let myself, Dennis, or Mike McCutcheon know, and we will arrange for whatever you might need ( like slide projectors, VCR, etc ). Slide shows/videos of your collection, restoration demonstrations, etc are all fair game and contribute greatly to the value and interest of the club meetings.

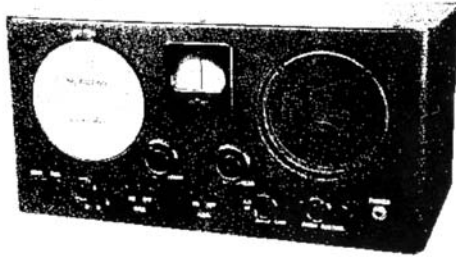
The March meeting will be an important one to attend, as we will be discussing our April show. Start thinking of a "theme" for this years show. Last year, it was "deco" radios, and the year previous it was "100 Years of Radio". Please bring up for discussion any suggestions/changes you would like to see for the show at this meeting. Also, there have been changes at our traditional venue at the Collector's Fair at the stock show complex, and we may be moving the show to a different location. We should know more by the time you read this.

We are still accepting the membership surveys that were distributed in the previous issue of the FLASH. Make an effort to bring it to the meeting or mail it in. Remember you get a free raffle ticket just for filling it out and sending it in, and the input we receive will help shape the direction of the club. We will publish the results of the survey in a future FLASH issue.

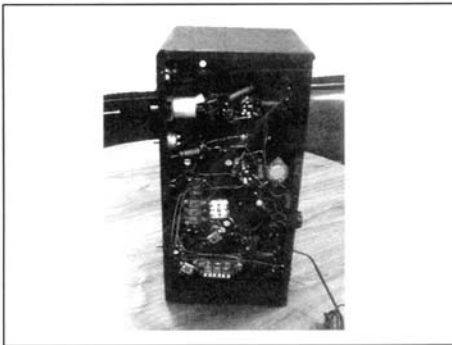
Mark Dittmar

# The Restoration of a Hallicrafters S19-R

*Contributed by Doug Moore  
KB9TMY, and Chief Engineer for Lowery Organs*



As received, the receiver appeared to have all the parts. The bandspread bezel and "glass" were loose, the two tube shields were loose inside the case, and the overall case and



chassis were very dirty.

Upon inspection of the under chassis, I found a kludge capacitor in parallel with the first section of the twistlock electrolytic, and there were quite a few spider webs. There were also lots of paper capacitors, (probably leaky), old style

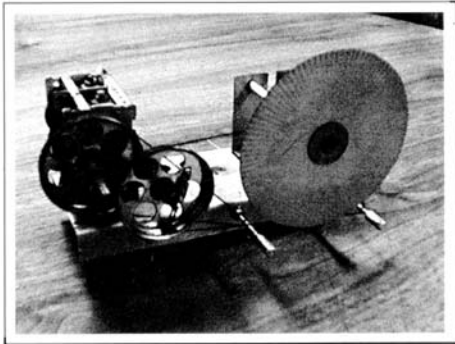
body/end/dot resistors and a piano tuning felt wedge jammed in the BFO coil.

Neither of the tuning dials worked due to the age of the dial cord, which though intact, was stiff and brittle. Since there is no removable panel, it appears the complete tuning assembly must be removed to restring the dial.

No attempt was made to apply power. It is a certainty that the twistlock can is bad, so this will have to be rebuilt or replaced. Not sure yet how to approach cleaning up this beast - maybe remove the tubes and tuning assembly, and start from there? The tuning capacitors, shafts and dial plates will need cleaning, and it will need new dial cords.

To start, the kludged add-on capacitor was removed, and most of the spider webs cleaned

out. A schematic was available on the BAMA website. This schematic was for the later S-19R production run, which appears nearly the same as the mine except for the tube complement. On my S-19R a 6K7 and a 6Q7 are used instead of the 6SK7 and 6SQ7 in the later BAMA diagram. I figured a logical place to start would be with the dial cords. Since the whole assembly was quite dirty, and had obviously had several "quickie" fixes applied, (like tape around the shaft) it looked easiest to remove the whole works. This is accomplished by unsoldering two wires from the tuning capacitor



on the bottom of the chassis, one ground braid on the top side, then removing the main dial, knobs and the mounting nuts holding the tuning assembly. Two of the mounting studs have ground lugs attached. These have two nuts, one holding the

tuning assembly, and one holding the lug. (Remember this when you re-assemble.) Once this is all loose, you need to loosen the setscrew on the bandspread dial and push it back slightly on the shaft, so it will clear the top of the case. The entire tuning mechanism can then be removed and serviced.

Once out of the chassis, I made a sketch of the dial cord stringing, such as it was. The old cord was removed, and the tuning assembly frame was stripped down to bare metal by removing the shafts and tuning capacitor. This frame was scrubbed with kitchen cleanser, rinsed and given a light coat of deoxit. The shafts were cleaned and polished, then trued up slightly. The tuning capacitor was sprayed with WD-40, scrubbed carefully with a brush, then rinsed and blown out with an air hose. A bit of deoxit was sprayed on the rotor wipers, and a drop of silicone grease was applied to the two bearings. The tuning shafts were then re-installed in the metal bracket, using a small amount of silicone grease in the bearings. The shorter, single diameter shaft goes in the top bracket, and the other two (which are identical) go in the bottom.

The tuning capacitor was remounted and checked to insure its shaft was parallel with all the other shafts.



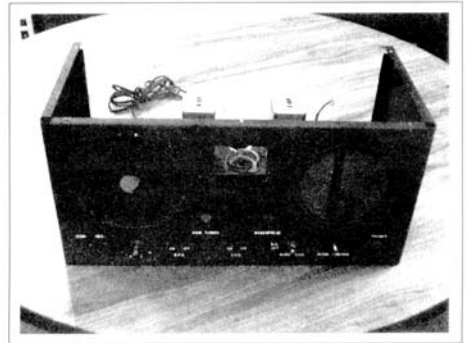
Next job was the restringing. For the cord I used my standard 45lb Dacron fishing line. I started with the main tuning, since it is strung behind the bandspread cord. Initially, I strung it exactly like the original, with both ends of the cord tied to the spring. After trying it out this way, I felt there was not quite enough tension, because one end wraps a full turn around the tuning capacitor pulley, while the other end only goes about a quarter turn around the pulley. The spring cannot take up the slack on the short end of the cord because of the friction of the long end around the pulley. So, I undid the thing, and re-strung it starting with a tied loop attached to the spring lug on the pulley, wrapping around the pulley one

and a half turns, then around the tuning shaft two turns, then back to the tuning condenser pulley, through the hole in the pulley then tied to the spring with as little slack as possible. After gluing the knot, the other end of the spring was attached to the spring lug, and the whole thing worked much better.

The bandspread cord was done in a similar manner. I was a little surprised that the cord in the original stringing did not do a complete wrap around the pulley on the bandspread dial. I tried stringing it with a full wrap but it seemed cumbersome and I wasn't sure I could move the dial back far enough to get the assembly back in the cabinet. So, I stuck with the original stringing, except for using a tied loop to the spring lug on the long end. This appeared to be the way Hallicrafters did it originally, and if it worked for them it should work for me. I figured the worst that could happen would be that the bandspread dial could slip, but it could be easily corrected by opening the top of the case and turning it slightly. On this receiver, the bandspread dial is not marked in frequency, but with just a 0-100 logging scale.

The tuning assembly was now ready to reinstall in the main chassis, but first I needed to do some cleanup. I removed the remaining knobs, and the old twistlock can. Due to the fading of the old wire colors, and my own partial color blindness, (I can't tell a 100 ohm resistor from a 1 meg without an ohmmeter.) I marked the removed wires with stick-on numbers, and made notes as to which section of the capacitor was connected to which number wire. I started the cleaning with a mild dishwashing soap and water, scrubbing the chassis with a brush and being careful not to get any water near the speaker, transformer or IF cans. There was a lot of "gook" around the area where the old twistlock had been mounted; indicating it had been leaking for some time. This stuff required a little more aggressive cleaner to remove, but Ajax seemed to work. The corroded spots on the top of the chassis and on one side of the chassis now became very visible. The front panel, however, looked reasonably good. I decided to address the cosmetic issues as needed during the re-assembly phase. After drying the chassis, I had a close look at the speaker. The

cone looked quite dry and brittle, and I made the mistake of touching it, only to have my finger go right through. Oh well, live and learn. Time to remove the speaker and have it reconed. The speaker is held to the panel by four ornamental screws, rubber



grommets and nuts. Six wires pass from the speaker and output transformer through the chassis. These were marked as described above, and then the entire speaker assembly was removed. All rubber grommets were either turned to goo or brittle. Fortunately, these are still readily available. I saved samples of the sizes I needed and tossed the rest.

Next I installed the new twistlock, and decided to replace all the old paper and wax capacitors. Most of these were no problem, with the exception of C4 and C5. One end of C4 connects to a terminal on the



front deck of the bandswitch, which was virtually inaccessible. The wiring is tight here and it did not appear feasible to remove or rotate the bandswitch. I elected to cut the bandswitch lead close to the capacitor, strip off a bit of the sleeving, slip on a piece of heatshrink tubing, then splice and solder the lead from the new capacitor to the stub. After this, the heatshrink was slipped over the splice, and a bit of heat applied. One end of C5 goes to a very crowded ground lug, the same one that carries a ground braid through the chassis to the tuning capacitor. Even the original assemblers couldn't get all the leads through the hole in this lug, but the real problem is the other end of C5, which goes to the bottom terminal of an antenna coil. Again, this connection is nearly inaccessible. Though this capacitor could be relocated, it's placement made sense RF wise, and I didn't want to second-guess the original designers. After some study I elected to temporarily remove one wire from the adjacent coil. This allows access to the lower coil terminal, providing you have a small pencil-tip iron. Capacitor C22, which goes from one side of the AC line to the chassis, was

replaced with a capacitor certified by UL/CSA for this type of service. A one lug terminal strip was mounted using one of the transformer mounting screws so that a fuse could be added in series with the hot lead from the line cord. The old line cord was replaced with a somewhat more rugged polarized cord. I checked the values of the old dog bone resistors, and amazingly, did not find any that were off by more than 20%, so I left them alone.

While the speaker was out for reconing, I did some touch up painting on the chassis and side panels using flat black Kryon spray. The front panel looked pretty good after a light rubdown with WD 40. There were some white paint specs here and there, which I touched up by spraying some Krylon on a Q-tip and dabbing it on. (Someone once said since these spots are so common on old radios, people must have used them in place of a tarp when painting.) I cut out a new bandspread "glass" from thin plastic, and scribed a line down the center. I tried inking this line, but decided I liked the scribe better. I then installed new grommets in the tuning assembly holes, loosened the setscrew on the bandspread dial and moved

it back a bit, then remounted the tuning assembly and reconnected the wires. Be sure to use plenty of heat on the shield braid connection, and don't forget the solder lugs that go on two of the mounting studs. After the tuning assembly is mounted, move the bandspread dial forward and tighten the setscrew. NOTE: Failure to move the bandspread dial back during tuning assembly removal and re-installation may result in cracking the plastic dial. Also, beware of the screw head holding the bandspread bezel, it can scratch the dial.

(The headphone jack is intended for high impedance headphones, being fed by C15 from the output tube plate. If you want to use low impedance phones, you will have to install a new headphone jack with an isolated SPDT switch, and do some rewiring. This is best done when you are reinstalling the speaker, as some connections between the output transformer and the speaker have to be rearranged.)

When the speaker arrived, I installed new grommets, mounted it back in the case, and reconnected all the wires. The knobs were cleaned up and

reinstalled. A bit of white crayon restored the white dots on the audio gain and BFO pitch knobs. I used Naval Jelly and fine steel wool on the main dial, with results that were fair. (Rock Sea is supposed to be working on a new dial for the S-19.) The plastic pointer and spacer washers for the main dial were reinstalled. The tubes were unwrapped and tested. Only the rectifier, (an 80) was reinstalled for now. The receiver was plugged into a variac and the B+ voltage monitored. The variac was turned up to the point where the rectifier became hot enough to do its stuff. Everything was carefully watched for signs of "spitzensparken and fusenblowen". So far, so good. With 70 volts AC from the variac, the B+ read about 130V. With 120V input, the B+ was reading almost 300V. The rest of the tubes were then plugged in, at which point I noted I had a metal 6K8 instead of a glass one. The converter tube shield was therefore not required, which is why it was loose when I first inspected the receiver. The shield IS required for the 6K7 IF amplifier.

I was now ready for the first test. I turned the radio on with the

variac set to 100V. After the set warmed up with still no smoke, I turned up the volume and touched a pencil to the top of the audio gain control. Some hum was heard, indicating the amplifier and speaker were working. I then switched to Band 1, jumpered A2 and GND on the antenna terminal strip, and connected about a 10 ft. piece of wire to A1. On tuning, several AM stations were heard and the sound quality was pretty good. Turning on the BFO switch, I was able to adjust for zero beat with no problem. Under these conditions, with the variac turned up to 120V, the B+ from the rectifier read 255V. No specific voltage is called out on the schematics I had, but the output of the optional vibrator supply was shown as 260V, so I figured I was close. I played the radio all day at 120V and all seemed to be in order. The transformer laminations read 58 degrees C after 7 hours. A bit on the warm side, but not what I would consider hot. It's a personal decision whether to run this receiver through a voltage reducer, setting the input voltage at 110V, which was probably its design center.

While "burning in" the radio, I cleaned, straightened and repainted the top and bottom cover panels. The "feet" on the bottom were replaced after the paint dried. Apparently, there was some kind of paper legend once attached to the bottom, which may have identified the trimmers, but this was missing on my particular set. It may be that the purpose of this was more to cover the access holes than inform, I really don't know. The trimmer information is included in the schematic and alignment instructions anyway.

Satisfied that nothing was going to burn up, I proceeded to align the set according to the instructions. This set uses "padder" capacitors to adjust the low end tracking on bands one and two, rather than adjustable inductors as used on later radios. High end tracking is set by trimmers as usual. There are no padders for bands three and four, so low end tracking is set by design, and hopefully will be pretty close. During alignment, keep the signal generator output as low as possible, and set the bandspread at MINIMUM capacitance. Mine tuned right up with little difficulty, although the tracking on band four was not

perfect. I adjusted trimmer CH for best compromise around the 10 meter area. The final alignment should be done with the bottom cover in place, as it influences the inductors.

After alignment, the performance of the radio was surprising, considering this model was made about 1938, and had all but one of the original tubes. Buttoning it up, I took it upstairs and hooked it to the attic dipole. The performance on bands 1 and 2 was just about the same as my SX-117, though not with as much selectivity. It was possible to copy sideband on 75 meters with good intelligibility. Tuning sideband with just a BFO is a bit tricky, but not impossible. Performance on band 3 was definitely poorer than the 117, but still not too shabby. Performance on band 4 was slightly better than poor. It could be that a new 6K8 would help, but since this receiver is to be used mainly for SWL, I wasn't too concerned. To me, it was amazing that it did as well as it did for a 1938 radio with no RF stage. The finished product didn't look like it just came out of the box, but it sure looked a lot better than it did when I started, and was quite presentable. The weak spot is the main dial. If a

replacement scale becomes available, I'll probably buy it.

It is my hope that these notes assist you in your restoration of a similar receiver. There is a lot of history in these early receivers. Who knows what sounds came out of its speaker? The celebrations on VE day? Truman's speech when he fired General McArthur? Cold war propaganda from Radio Moscow? I know I'll think about this every time I play this old Hallicrafters.

Doug

# KPH

## "Wireless Giant of the Pacific"

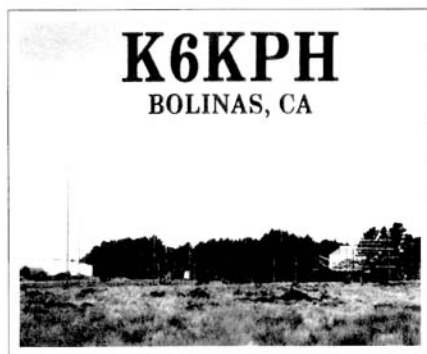
by CRC member Mark B. Dittmar

On December 12, 2001, in celebration of the 100th anniversary of Marconi's famous transatlantic wireless test, the historic maritime coastal station, KPH, was back on the air for the evening on the old commercial radiotelegraph maritime frequencies of 426 and 500 khz.

This article focuses on the current status of KPH, its history, and my experience of receiving the 500 khz transmissions.

This was quite an interesting event to me - I had never heard commercial CW in the old 600 meter maritime band before, immediately below the AM broadcast band, and was excited at the opportunity of being able to hear transmissions on these frequencies. Today, radiotelegraph operations on these frequencies has been superseded by modern satellite communications. The 600 meter maritime band has been essentially abandoned in the western hemisphere - after 1999, even the coast guard ceased monitoring the venerable 500 khz calling and distress frequency. Unfortunately, I had "missed the boat" on 600 meter radiotelegraphy, and have missed out on all of the interesting ship/shore traffic that must have occurred during the many years of its use. Fortunately, the Maritime Radio Historical Society (MRHS) was formed in 1998 with the objective of "preserving, documenting and restoring our maritime radio heritage and presenting that heritage to the public".

National Seashore, part of the National Park Service, the MRHS has taken on the job of preserving and restoring KPH, one of the most famous coast stations in the world. For special events, the MRHS puts KPH "back on the air", and also operates an amateur station, K6KPH, in the amateur CW bands on special event nights, such as the yearly "straight key night". The MRHS uses the original transmitters, receivers and antennas of the famous ex-RCA coast station KPH for both the commercial and amateur stations. The 500 khz operation runs 4300 watts to a Marconi T antenna. The transmitters are located at the transmitting station in Bolinas, CA. The receivers and operators work from the receiving station at Pt. Reyes, CA, about 20 miles to the north. I worked K6KPH on 40 meter CW during straight key night back in 2000, with their tremendous ear-pounding signal, and received the nifty QSL card shown below.



In cooperation with the Point Reyes

## A BRIEF HISTORY OF KPH

( from the MRHS web site  
www.radiomarine.org, with the  
permission of Dick Dillman and the  
MRHS):

“KPH began its life at the dawn of radio. Its first home was the Palace Hotel in San Francisco, from which it derived its first call letters, PH. After the 1906 earthquake and fire the station moved to several locations. These included Green Street in San Francisco (where the neighbors were kept awake by the crashing din of the rotary gap), Hillcrest in Daily City (where the operators were plagued by the local skunks) and Marshall, on the east shore of Tomales Bay at the long wave receiving station. Eventually the KPH transmitters found a permanent home on the mesa west of the small town of Bolinas while the receiving station and control point was established on the mesa of Point Reyes.

Along the way federal regulators added the K prefix to the original PH, creating KPH, one of the most famous radio call signs in the world.

Radio operators ashore and afloat came to regard KPH as "the wireless giant of the Pacific". Only the best operators worked at KPH. They were there 24 hours a day, ready to help with everything from the mundane messages of maritime commerce to urgent requests for assistance from ships in distress.

The KPH signal literally spanned the globe. Radio operators on ships in the far corners of the world were comforted by the steady signal of KPH in their earphones.

As technology progressed the end of Morse code was predicted many times.

But KPH soldiered on providing good, reliable service to the maritime community. The end came at Bolinas in 1997 when Globe Wireless purchased the license and the big transmitters were finally shut down. On July 12, 1999 Globe Wireless sent the last commercial messages in Morse code from KFS, their master station near Half Moon Bay. It was the last time the famous call KPH would be heard on the air - or so it was thought.

Today the former KPH facilities are part of the Point Reyes National Seashore which has a strong interest in the important role the station played in the history of radio communications. The Maritime Radio Historical Society has been working with the Point Reyes National Seashore to preserve and restore KPH with the goal of eventually creating a museum dedicated to this great station that was once heard throughout the world.

On 12 July 2000 KPH returned to the air from its original location, using its original equipment and its original frequencies - generously made available by Globe Wireless, the current owner of the KPH license and operator of the equally famous KFS from which the last commercial Morse message was sent.

Veteran operators, radio engineers and those with an interest in radio history gathered at the Bolinas transmitter building to watch the station come on the air one year and one minute after the last Morse transmission from Half Moon Bay. Commemorative messages were sent by hand by the operators who once stood watch at the station. Contact was made with several of the last remaining ships still equipped for Morse transmission.”

## The MRHS Web site

The MRHS has a web site at [www.radiomarine.org](http://www.radiomarine.org) if you are interested in getting more details on KPH, the MRHS, and maritime radio in the "good old days". The site features a great a collection of photographs showing KPH at various points in its history from 1919 through the 1970s. The buildings, equipment, personnel, and antennas are shown thru the years. There are also current photographs of the KPH station, along with operational schedules for KPH and K6KPH. My favorite section of the web site is entitled "Incredible Radio Tales", along with "Jack Martini's journals" (Jack Martini "DM" was the last manager of KPH). There is also a fascinating and very detailed 7-part article by Jeff Herman on his experiences at the USCG station NMO and 500 khz radiotelegraph procedures.

### The December 12, 2001 500 khz transmissions

To receive the 500 khz transmissions, I used an old WWII vintage "portable" receiver, a CAY-46076, part of the Navy RBM-4 semi-portable receiving equipments. The CAY-46076 that I have was made by the Westinghouse Electric Company, and has an acceptance date December 15, 1943 printed on its ID plate. The CAY-46076 is an 11 tube superheterodyne AM/CW receiver and covers a frequency range of 200 khz to 2000 khz in 4 bands. It is the MF ( medium frequency ) receiver of the RBM-4. I used my 70 foot long inverted L with a custom-built homebrew antenna tuner to resonate my antenna to the 500 khz frequency.



I will note here that reception of 500 khz can be difficult in a residential area for two reasons- the first is simply man-made noise, in particular those nasty light dimmer lamps of which my neighbors seem to be fond, that generate strong harmonics in this frequency range. Secondly, in a large metropolitan area like Denver, there are numerous strong AM broadcast stations. Even with a very selective receiver front end and an outboard antenna tuner, I have found that mixing products from various broadcast stations can form and be heard as either heterodynes or garbled speech right in the range of 400 to 500 khz. Fortunately for me, 500 khz did not have such a spurious signal.

I started listening around 0400 UTC, and what follows are my exact transcriptions of the CW telegraph broadcasts. The signals were consistently very strong and easy copy. I left off the specific times of reception. Throughout the evening, this paragraph was broadcast a number of times in what sounded like machine-sent CW:

" VVV VVV VVV VVV DE KPH KPH  
KPH - KPH IS ON THE AIR IN  
COMMEMORATION OF THE 100TH  
ANNIVERSARY OF THE FIRST  
TRANSATLANTIC WIRELESS  
SIGNAL RECEIVED BY GUGLIELMO  
MARCONI AT ST JOHNS,

NEWFOUNDLAND ON 12  
DECEMBER 1901. KPH USES THE  
TRANSMITTERS, RECEIVERS AND  
ANTENNAS OF RCA COAST  
STATION KPH. WE ARE  
TRANSMITTING FROM THE  
BOLINAS, CA SITE ESTABLISHED  
BY THE AMERICAN MARCONI  
COMPANY IN 1913 AND RECEIVING  
AT POINT REYES, CA. KPH IS  
OPERATING ON 500 AND 426 KCS. -  
DE KPH AR "

Traffic lists were broadcast occasionally.  
Here is one:

"TRAFFIC FOR THE FOLLOWING  
SHIPS IS ON HAND AT KPH AS OF  
1700 12 DEC GMT- KHJL KHJL KHRC  
KHRC NLIT NLIT WRXN WRXN - DE  
KPH AR"

4 ships! Not too much CW  
traffic on hand these days I guess.

"VVV DE KPH KPH KPH PLEASE  
STANDBY FOR A SPECIAL  
MESSAGE QSW 426 KCS"

The QSW here is a Q signal  
which means that they are about to  
transmit on 426 khz. I neglected to shift  
my frequency down, and chose to  
continue monitoring 500 khz.

Soon after this, in what was definitely  
CW sent by a straight key, I copied the  
following "prayer":

"CQ CQ DE KPH KPH KPH - OH  
GREAT GODDESS, WE BESEECH  
YOU TO BLESS THE HEARTS,  
HANDS, AND EARS THAT  
PERPETUATE THE DOTS AND  
DASHES THAT THEY MAY BE

REMEMBERED THROUGHOUT TIME  
STOP BLESS THE CONGREGATION  
AND HUMBLE SERVANTS OF THE  
CHURCH OF THE CONTINUOUS  
WAVE STOP ZUT 73 / 88 DE DA. AR"

I thought this was pretty cool.  
The "73 / 88 DE DA" basically means  
"best regards/hugs&kisses from DA."  
DA is an operator's "sine", some research  
might bring up who this is! "ZUT" I  
believe is used fraternally among  
professional CW operators. I'm not sure  
what it means exactly, but seems to be  
used in the context of "CW FOREVER."

I was able to get about 30 minutes total of  
the broadcast on audio tape. It was a truly  
historic and unusual broadcast. I would  
like to thank the MRHS for bringing KPH  
back to my life and for making the  
opportunity available to hear morse on the  
old maritime bands once again. Visit the  
MRHS web site occasionally to find out  
about future broadcasts.



# Radio Web Site Reviews

by CRC member Mark Gibson



<http://members.aol.com/djadamson/arp.html>

Entitled simply the **Antique Radio Page**, this site starts out with an attractive and clever photo (shown above) to help you navigate through the site. Each section of the site is just a click away from this image; and each page has an eye tube in the upper left corner to take you back to the main page.

The *Articles* section has some interesting material written by the web master, Don Adamson, or reprinted from other sources. Included are instructions on how to build a “foxhole” radio and a linen diaphragm speaker, and a VT tube cross reference list with common equivalents for tubes made for the US government.

*Reference Books* lists many radio related books with brief descriptions, categorized as Price Guides, Reference, Restoration, History, etc.

The *Book Store* provides links to Amazon.com (an online bookseller) for many of the books listed in the previous section in case our own Club archivist can't get them for you.

Perhaps the most useful and satisfying portions of the **Antique Radio**

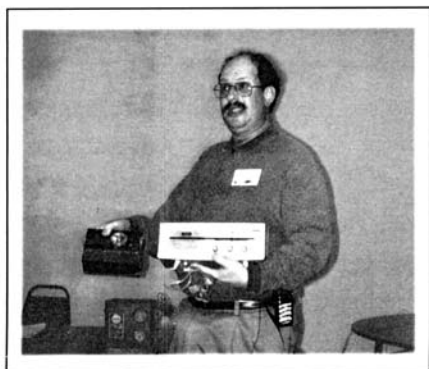
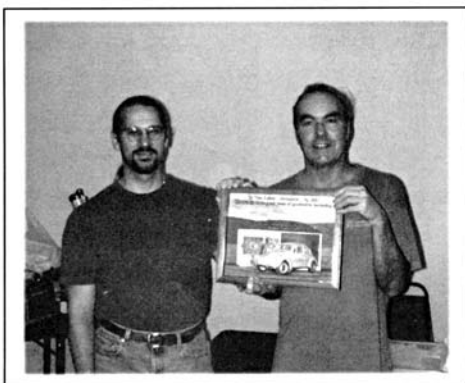
**Page** are the images of radios and related items. The images are grouped into time periods (*20s & 30s to Transistors*) and radio types (*Cathedral to Plastic*) which makes it easier to find radios that suit your tastes; and the quality of the images is generally very high. Within each category are small images of radios, sorted by manufacturer, with model numbers, dates and descriptions of each radio. You can click on any of the smaller images for a larger, more detailed view.

And if you cannot find what you are looking for among the 200+ images on this site, the *ARP Directory* section provides an invaluable index of radio images from across the web. This index is sorted by manufacturer, and links to over 1500 radio images on other web sites. (Beware that given the dynamic nature of the web, some of the links may be broken. Most though do seem to work.)

Stop on by and feast your eyes...

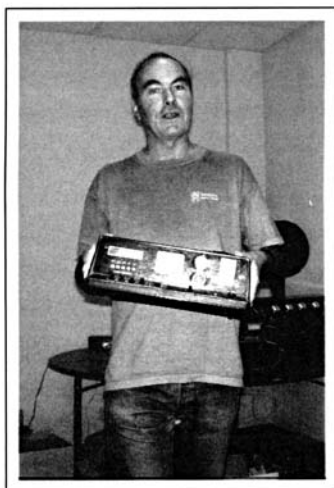
## Colorado Radio Collectors Antique Radio Club

Tom Kelley receives his well earned award, from Mark Dittmar, for three years of CRC leadership.

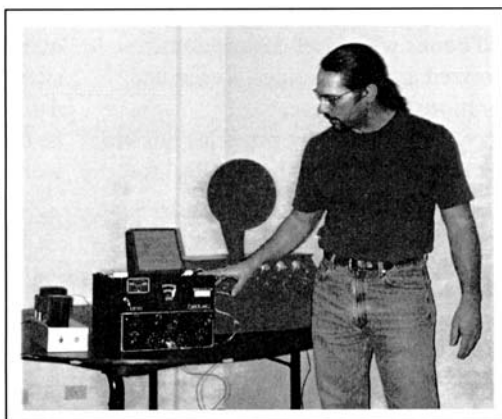


Neil Galinsky displays a recent find of an RCA tube portable and a Toshiba BC/SW 5YC-606 transistor set.

Tom Kelley shows off his latest clock radio find. This one has a TV in it as well. The logo says "Chason"

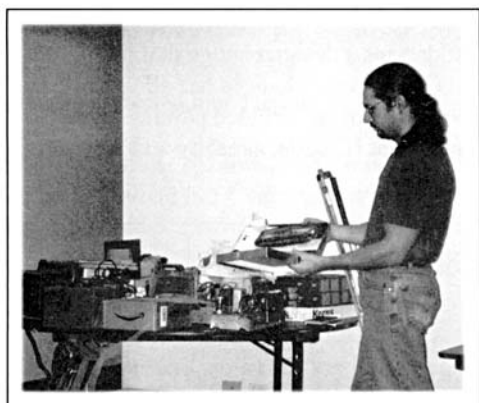
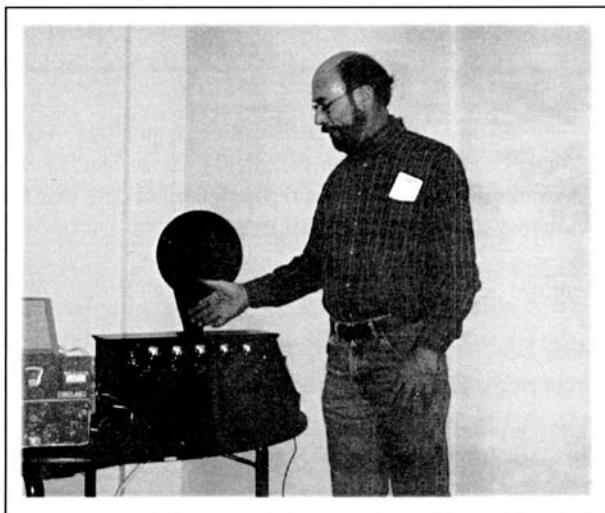


Mark Dittmar demonstrates a RBM-4 WWII "portable" military receiver.



## January 2002 Club Meeting

Tom Poliout demonstrates his Kennedy 430. It was advertised as a TRF receiver but it turned out to be a regenerative set.



Mark Dittmar goes over the donated items for this month's raffle.

Merril Campbell holds his Koldar AC to DC power converter. This one has a synchronous AC vibrator for a rectifier.



# Riders Manual - Philco Supplemental Data

by CRC member David Boyle

As an avid Philco radio collector and "restorer" many occasions arise when Philco schematics and other technical information is needed. This article is a compendium of Riders Manual supplemental data that is not readily available or obvious when reviewing the Riders Index.

Literature Search of Rider Volume I through Rider Volume 12 (Approx. 1941):

## Riders 2-6

Numbering of Philco coils and standard compensating condensers

Philco coils are being numbered. This is a cross reference between code numbers, Philco part number, model used and the a key number referenced on schematics. References 47 different code numbers. Dated January 1932. Some Philco Radio models, are 511, 86, 20, 70, 50, 51, & 90 and a host of others.

Standard Compensating condensers (IF). Addresses a design change that includes a bakelite mounting board with code number. Capacitance changes has allowed certain compensating condensers to now be produced without an included parallel fixed condenser. Lists 9 new part numbers with pertinent ID code, capacity and model using.

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## Riders 2-14

Standard By-Pass Condenser Data

This table lists 4 bakelite "block" container part numbers with a pictorial that designates lug numbers. 43 p/n and dash numbers are listed. Pervious article in our "Flash" went into detail on this table.

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## Riders 2-17

Adjusting Philco Superhetrodynes

This full page bulletin explains the necessity for adjusting compensating condensers in Philco superhets. Explains when alignment is appropriate, the equipment required, and the how to of IF, model 51 coupling condensers, high frequency, antenna, detector, RF, and low frequency adjustments.

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## Riders 2-25

### Internal Connections of Condenser Banks

Shows diagrams with internal connections for 5 different metal cased multiple condensers along with capacitance values and color coding of wires. Also has a table listing additional condenser part numbers and pertinent data.

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## Riders 2-45

### Philco "Special Notice"

These 4 pages of chassis photographs follow Riders 2-45 and are not page numbered and not found in the Riders index.

Photos of Philco chassis for models 51, 52, 71, 90 with P-P 45's, 86, 82, series 5, 65, 87, 95. Most photos show both sides of the chassis with the appropriate part designators.

### "GENERAL NOTE ON BULLETINS AND NOTICES"

I suspect these were Riders publications that were issued as factory updates and not all Riders manuals may contain them. It was up to the discretion of the manual owner to post these bulletins and notices. Sometime they may be found throughout the Philco section, in the back of the entire book, or in deed, in another writers manual!

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## Riders 3-38

### Adjustment of Shadow Tuning

Positioning of the shadow tuning box and the back lighting pilot lamp. Includes focusing. Several radio adjustment are included to optimize the response of the shadow tuner.

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## Riders 3-44 (not in index)

An entire page devoted to a cross reference table listing radio model, tubes used, speaker assembly part number, volume control part number and resistance, and tone control part number capacitance values.

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## Riders 3-46

### Increasing tuning range and interference notes

A number of changes have been made in the models 52, 71, 91 and 47. To extend the low frequency range. Also includes other changes and suggestions for model 15 tuning condenser, correcting radio beacon interference, etc.

Changes in models. Factory bulletin Info.

Lists technical changes for the following radio models: 14LZX, 91, 23, 14LZ To 19LZX, 37, 220A.

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Riders 3-53, 3-54  
Philco Tubes

2 pages of tube, pilot lamp, and ballast tube data. Quite a compendium of characteristic data, envelope illustration data, and more info than you probably need to know.

Riders 4-44 (1934 Publication Data)

Philco Speakers

A 3 page offering of all Philco radio speakers. Essentially a table listing speaker model number, radio model number, output tubes, speaker field numbers, voice coil and field coil resistance values, output Xfmr data, number and resistance value. Lots of good data.

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Riders 4-58  
Wiring changes in model 112-X

Philco Service Bulletin number 101. Self explanatory

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Riders 5-15, 5-16 (not in index)  
Philco factory notices and "correcting intermittent operation"

Lists changes for models 16, 18-124, model 29 (code 123-TX) and model 29, and 45. Riders page 5-16 offers a bunch of technical problems and suggested fixes for models 19, 38, and 89. Page 5-17 has an interesting note for nostalgia info. only. Why not go and find out what it is!

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Riders 5-24 (not in index)  
Philco service bulletins 1934/1935

Lists changes for model 32, 34, 38-122, 45 and 29

Riders 5-33, 5-34

Lists changes for models 49, 66, and 118

Riders 5-40

Lists changes for model 60, 89, and 144

1935-1936

PAGE: 20

Lists changes for models 29, 54, 60, 116 code 121 & 122, 116X & 116B, 610 series, 611 code 121, 620 series, 623 series, 630 series, 640 series, 641, 642, 650, 660, 680.

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Riders 7-151 & 152  
Dial Drive Assemblies

Data and illustrations of many popular Philco radio dial drive assembly's of models built through January 1936.

Riders 8-1 and 8-2 (1936)  
Automatic tuning notes and parts

Everything you might want to know about Philco automatic tuning. Replacement parts, changing dial settings, adjustments and repair. These radios were introduced in the 1937 model year.

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Riders 8-87, 88, & 89  
Philco Service Bulletin

Location of alignment trimmers accompanied with alignment data/tables for the following radio models: 47, 48, 90, 90A, 70, 270, 80, 81, 95, 96, 296, 503, 504, and 505.

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## AUTHOR NOTES

In the last pages of Riders Volume 8 you will find changes that did not make it to print on time. "Changes" pages 8-3 contains almost a full page on various Philco models: 37-600, 37, 116, 37-38, 37-60, 37-61, 90 & 90A.

The same applies to Riders Volume 9. "Changes" page 9-3 to 9-4 contain info for the following models: 602, 270, 116, 166 X, 37-9, 38-39, 38-4, 38-5, 38-7, 38-8, 383-38, 511, and 512.

Like wise in Riders volume 10 "Changes" page 10-3 lists changes for models: 38-12, 38-14, 38-4, & 38-33

Same for the Riders Volume 11 "Changes" page 11-3 lists changes for the models: 6-30, and 37-62

# Collector Books for Sale

Special CRC prices. Order at club meetings. Mail order shipments: add \$1.75 postage for each book ordered. Info/order: Charles Brett, 5980 Old Ranch Road, Colorado Springs 80908, (719) 495-8660, brett3729@aol.com. *void all other listings.*

	<u>Retail</u>	<u>Club</u>
<b>RADIOS, (GENUINE PLASTIC) OF THE MID CENTURY</b> Jupp & Pina, hard bound, 219 pgs, 1998 PG, 450+ color pics	\$39.95	\$28.00
<b>ANTIQUA RADIO, COLLECTOR'S GUIDE - 4th EDITION</b> Bunis, 1997 values, revised & updated, new photos, 248 pgs	\$18.95	\$15.00
<b>GUIDE TO OLD RADIOS, POINTERS... - 2nd EDITION</b> Johnson, 277 pgs, 1995-96 prices	\$19.95	\$15.00
<b>ANTIQUA RADIO RESTORATION GUIDE - 3rd EDITION</b> Johnson, 144 pgs, repairing, refinishing, cleaning	\$14.95	\$12.00
<b>RADIO, EVOLUTION OF THE - VOLUME ONE</b> 227 pgs, 118 in color, More than 800 radios pictured, 1992	\$22.95	\$18.00
<b>RADIO, EVOLUTION OF THE - VOLUME TWO</b> 226 pgs, Radios of the 1920s to 1960s, with 93-94 values	\$24.95	\$19.00
<b>TRANSISTOR RADIOS, COLLECTOR'S GUIDE VOL II</b> Bunis, 1996 prices, Full Color	\$16.95	\$13.00
<b>ZENITH TRANSISTOR RADIOS, 1955-1965</b> Smith, 1998 PG, 160 pgs, 226 color pics, info, descr.	\$29.95	\$22.00
<b>THE ZENITH TRANS-OCEANIC (THE ROYALTY OF RADIOS)</b> Bryant and Cones, 160 pgs, 1995	\$29.95	\$22.00
<b>ZENITH RADIOS THE EARLY YEARS 1919-1936, Cones</b> 1997-98 Price Guide, 223 pgs, 100's Photos, Desc., Hist.	\$29.95	\$22.00
<b>RADIOS BY HALLICRAFTERS, revised 2nd edition</b> Dachis, 1999 values, 220 pgs, 1000+ pics, id's, history	\$29.95	\$22.00
<b>CLASSIC TVS, PRE-WAR THRU 1950S</b> 86 pgs, color & b/w pics, descriptions, etc.	\$18.95	\$15.00
<b>Machine Age to Jet Age, Radiomania's Table Radio Guide 'III, '33-'62</b> Stein, 256 pgs, 100's of b/w photos	\$29.95	\$24.50
<b>TRANSISTOR RADIOS, 1954 TO 1969</b> Norman Smith, with prices, 160 pgs, 1000 photos, 1998	\$29.95	\$22.00
<b>PHILCO RADIO: 1928 - 1942</b> Ramires & Prosis, 160 pgs, 828 pics & drawings, 1993	\$29.95	\$22.00
<b>RADIO AND TV PREMIUMS</b> Jim Harmon, 256 pgs, 200+ photos, 1997	\$24.95	\$19.00



<b>RADIO MANUFACTURES OF THE 1920'S VOL I</b> Alan Douglas, 225 pgs, 1988	<b>\$24.95</b>	<b>\$19.00</b>
<b>RADIO MANUFACTURES OF THE 1920'S VOL II</b> Alan Douglas, 266 pgs, 1989	<b>\$29.95</b>	<b>\$22.00</b>
<b>RADIO MANUFACTURES OF THE 1920'S VOL III</b> Alan Douglas, 285 pgs, 1991	<b>\$29.95</b>	<b>\$22.00</b>
<b>CRYSTAL CLEAR VOL 1</b> Maurice Sievers, 282 pgs, 1991	<b>\$29.95</b>	<b>\$22.00</b>
<b>CRYSTAL CLEAR VOL 2</b> Maurice Sievers, 252 pgs, 1995	<b>\$29.95</b>	<b>\$22.00</b>
<b>RADIO TUBES AND BOXES OF THE 1920'S</b> George A Fathauer, 112 pgs, 1999	<b>\$26.95</b>	<b>\$20.00</b>
<b>70 YEARS OF TUBES AND VALVES, 2ND EDITION</b> John Stokes, 264 pgs, 1997	<b>\$29.95</b>	<b>\$22.00</b>
<b>RADIO DIAGRAM SOURCEBOOK</b> Richard Gray, 264 pgs, 1996	<b>\$18.95</b>	<b>\$15.00</b>
<b>THE RADIO COLLECTOR'S DIRECTORY AND PRICE GUIDE, 2ND ED.</b> Robert Grinder, 524 pgs, 1995	<b>\$26.95</b>	<b>\$21.00</b>
<b>COLLECTOR'S GUIDE TO VINTAGE TELEVISION</b> Durbal & Glenn Bubenneimer, 200 pgs, 1999	<b>\$15.95</b>	<b>\$13.00</b>
<b>NOVELTY RADIOS, VOLUME 1</b> Marty Bunis & Robert Breed, 223 pgs, 1995	<b>\$18.95</b>	<b>\$15.00</b>
<b>NOVELTY RADIOS, VOLUME 2</b> Mary Bunis & Robert Breed, 199 pgs, 1999	<b>\$19.95</b>	<b>\$15.00</b>
<b>COMPLETE PRICE GUIDE TO ANTIQUE RADIOS: PRE-WAR CONSOLES</b> Mark Stein, 235 pgs, 100's of b/w photos	<b>\$29.95</b>	<b>\$22.00</b>
<b>TUBE TESTERS AND CLASSIC ELECTRONIC TEST GEAR</b> Alan Douglas, 166 pgs, 2000	<b>\$25.95</b>	<b>\$19.50</b>
<b>RADIOS - THE GOLDEN AGE</b> Philip Collins, 119 pgs, 1987	————	<b>\$15.00</b>
<b>COLLECTOR'S VACUUM TUBE HANDBOOK, VOLUME I</b> Robert T. Millard, 196 pgs, 2001	<b>\$25.95</b>	<b>\$19.50</b>
<b>THE PLATING MAN'S ELECTROPLATING MANUAL, 2ND EDITION</b> Don Culver, 38 pgs, 2000	————	<b>\$10.00</b>
<b>TUBE DATA ON CD ROM</b> Holm, 27,000+ tubes, for Windows 95/98	<b>\$39.95</b>	<b>\$28.00</b>
<b>SILVERTONE ANTIQUE RADIOS 1930 - 1942</b> Stein, 239 pgs, 2001	<b>\$34.95</b>	<b>\$25.50</b>
<b>ANTIQUe RADIOS COLLECTOR'S GUIDE 5th EDITION</b> John Slusser, 264 pgs, 2001	<b>\$19.95</b>	<b>\$15.00</b>

# "The Open Trunk" Classified Advertisements

◆ See IFC for ad details ◆

FOR SALE: Reproduction Philco Cathedral cabinet parts. Front panels, rear arches, bottom moldings. Grandfather clock finials, colonial clock top trim and finials. Reproduction 90, 70 and 20 (std) cabinets. Other needs such as other style moldings from your sample. Inquire. **Dick Oliver**, Antique Radio Svc., 28604 Schwalm Dr., Elkhart IN 46517. (219) 522-4516

WANTED: The female power (battery) plug for a Kemper portable K-52. Similar to octal except has 7 pins and two round locating pins (edge and center). w Knobs for a Crosley 601 bandbox.

**Mark McKeown**, (303) 278-3908  
mmckeown@tde.com

WANTED: Stewart-Warner model R-123 chassis, used in receiver models 1231 to 1239 (see Riders volume 6 page 6-2 for picture of chassis). w Chassis for AK 217, and Majestic 371.

**Jerry Tynan**, (303) 642-0553  
jtynan@worldnet.att.net

WANTED: GE clock radios, models 935 & 936. **Tom Kelley**, 971-1/2 Pleasant St., Boulder, CO 80302 (303) 444-1837

WANTED: White or beige knobs for a GE 401, 410 or 411. They look like the smaller size of Reese's Peanut Butter Cups.

**Mark Gibson** Loveland, CO (970) 593-3032, mark\_gibson@hp.com

FOR SALE: Copper Rod, several diameters available to make your own soldering iron tips (or I can for you). w Radio repair and restoration service. **David Boyle**, 1058 Colt Cir., Castle Rock, CO 80104 (303) 681-3258

WANTED: Novelty **tube** radios, such as books, horses, lamps houses, kegs etc. **Ray Windrix**, 617 N. Murray Bl., Colorado Springs CO 80915, (719) 597-5098 or (719) 596-7196

WANTED: Old horn speaker parts, drivers and incomplete units. Also, old light bulbs with tip and good filaments. **Charles Combs**, 508 E. Daniel St., Albany MO 64402 phone/fax (660) 726-3038

WANTED: Old Radio magazines for my research library in Antique Radio. Need pubs like Radio Design, Radio Age, and Radio Craft -1920's thru 1940's. Will provide home, or purchase singles or full sets at a fair price. Also interested in publications from various companies; Aerovox, RCA, Sylvania, Bell Labs, etc. Likewise, need old test equipment literature and manuals. **Charles Brett**

5980 Old Ranch Rd., Colorado Springs CO 80908 (303) 495-8660

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WANTED: Novelty radios: Mountain Dew - BB-92 w Mr. & Mrs. "T" BB-106 w Shell - Breed 296 w Coke - Breed 387 w Coke - Breed 388 w Slot Machine - Breed 435 w Light Bulb - Breed 494  
**Ron Smith**, 145 Carr St., Lakewood CO 80226, (303) 274-7522

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WANTED: "Heavy metal" radios, accessories & literature. Communications gear from manufacturers such as Hallicrafters, Hammarlund, Collins, National, etc. Also Allied Radio/Knight-Kits and anything related to telegraphy. Cash or trade. **Robert Baumann** 303-988-2089 [rgbdenver@att.net](mailto:rgbdenver@att.net).

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FOR SALE: 2 TRF radios - brands unknown. One is complete and in very good condition, the other is missing the top but otherwise appears complete. Both for \$120.  
**Bob Schineller**, (303) 682-1749 [rgschin@aol.com](mailto:rgschin@aol.com)

-----  
WANTED: Hoffman Nugget pencil tube pocket radio w Japanese WWII morale receiver. Will pay your price.  
**John A. Miner**, (303) 759-9152 [hohum@qwest.net](mailto:hohum@qwest.net)

-----  
WANTED: KLH model 8 receiver with or without the matching speaker. w Parts for 1934 Zenith 880 console (835, 880, 881 parts will work): dial glass, black Z pointer, knobs (round wood, no Z), 5 tube shields. w Also, plastic dial strip (with frequency) for Philco 89

and 19 with separate shortwave band (late version)

**William Hinkley** at (303) 730-8539, [philcobill@aol.com](mailto:philcobill@aol.com).

-----  
FOR SALE: Zenith console cabinet only, 10S669, faux finish bad, wood ok, \$25

WANTED: parts for 1934 Zenith 880 console (or 835, 880, 881); dial glass, black Z pointer, knobs (round wood, without the Z), tube shields (5). Also need plastic dial strip (with frequency) for Philco 89 and 19 with separate shortwave band (late version).

**Dan Busetti**, (719)473-2443, [menwagoh@msn.com](mailto:menwagoh@msn.com)

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WANTED: Super Heterodyne radios (any condition), literature, books, and parts prior to 1930. Writing a book on the subject. Thanks!

**Rick Ammon**, 2518 Wyandotte Drive, Fort Collins, CO 80526-1462, or "oldradios2@attbi.com" or 970/221-4001.

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WANTED: Amateur (ham) transmitters by Aero Products, Globe (WRL), Gross, Harvey Radio Labs, Leeds, Stancor, Thordarson, Utah. **Mark B. Dittmar**, 8651 W. 95th Dr, Westminster CO, email: [dittmar@bwn.net](mailto:dittmar@bwn.net), (303) 403 0669

Colorado Radio  
Collectors  
Antique Radio Club  
5270 E. Nassau Cir.  
Englewood, CO 80110



**FIRST CLASS**

STAMP

The March meeting will be held on Sunday the 10th at 1:00pm, at the  
Museum of the Americas, 863 Santa Fe (between 8th & 9th Ave's.)