Colorado Radio Collectors Antique Radio Club

# The FLASH!

Colorado Radio Collectors Antique Radio Club

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

**Volume 13, Issue 6** **November - December, 2002**

# Flash - The Flash! Changes Format

**(see the President's message - page 2)**

## The CRC 2002 Annual Auction

**by Larry Weide, CRC Member**

On Sunday October 7th, on a glorious Denver Autumn afternoon, the CRC held it's annual auction in the courtyard of the Museo De Las Americas museum. We thank the museum not only for allowing us to hold our auction at their facility, but also for accommodating us here for our membership meetings as well.

For the first time ever we engaged one of our own members to be our auctioneer. It's obvious to us all that Tom Pouliot has missed his calling in life. Tom, thank you for such a great job!

An event like this takes more than just one person to bring it all together. We would also like to thank Robert Baumann, Mark Gibson, Jerry Tynan, Larry Weide and Barney Wooters for their efforts. We would also like to pass along a very special thanks to Mike McCutcheon for the use of his shade tents and especially for his coordination with the museum which makes it possible for us to use their very fine facilities.

As most members know, this year we changed the minimum bid rule to be a silent reserve (eBay style, if you will). As predicted, this kept members from shying away from bidding, and at the same time allowed sellers to accept the highest bid even if it didn't met their minimum - but only if they chose to.

The total sales figures weren't as high as we would have liked. There were a total of 85 lots entered in the auction with six of them not selling. The total sales was $2,339, down from about $3,000 last year. Of course the reasons have been well discussed; the economy, eBay and a limited number of high quality items. Perhaps all of these areas were factors.

In any case, the event went very smoothly and the consensus is that the annual auction continues to be one of the CRC's highlight events of the year.

left to right - Mark Gibson, Jerry Tynan and our auctioneer Tom Pouliot

**Auction Results on Page 3**

# COLORADO RADIO COLLECTORS ANTIQUE CLUB

**Founded October 1988**



**Volume 13, Issue 6** **November/December 2002**

## IN THIS ISSUE



## MESSAGE FROM THE PRESIDENT

I am sure you have noticed that this issue of the FLASH looks quite a bit different than in the past. Due to circumstances beyond our control, the PRESSWORKS will no longer be able to print the FLASH. The costs of printing and mailing the previous format were also rapidly escalating. Therefore, a new format and a new printer was required. Fortunately, Larry Weide was able to quickly find a replacement printer for this issue. The new format greatly reduces costs of printing and mailing.

We had beautiful October weather for this years auction. There were some interesting items on the auction block and the entire event ran very smoothly. Many members pitched in to help make this auction possible. I would like to extend a special thanks to Tom Pouliot our auctioneer, Larry Weide our computer guru, and Mike McCutcheon our museum liason.

Also at the auction, we formally awarded Barney Wooters the CRC "Lifetime Achievement Award" for his many past and continuing contributions to the CRC. Barney is a real asset to the CRC and we are very fortunate to have him in our organization.

**See you at the November 10th meeting,**
Mark



**CRC MEMBERSHIP**

Annual membership in the CRC runs from June to June. Annual dues entitles members to a full year (6 issues) of the club publication "The Flash!". Membership provides participation in club events such as the annual April Show, mid-summer picnic, September auction as well as our semi-monthly meetings and swap meets. Dues also entitle you to club officer elections, excellent discount prices on current hobby publications and the Antique Radio Classifieds annual subscription raffle every May!

New memberships will be prorated to renewal on the following June, i.e new members joining in May should submit $12, in December $5, etc.

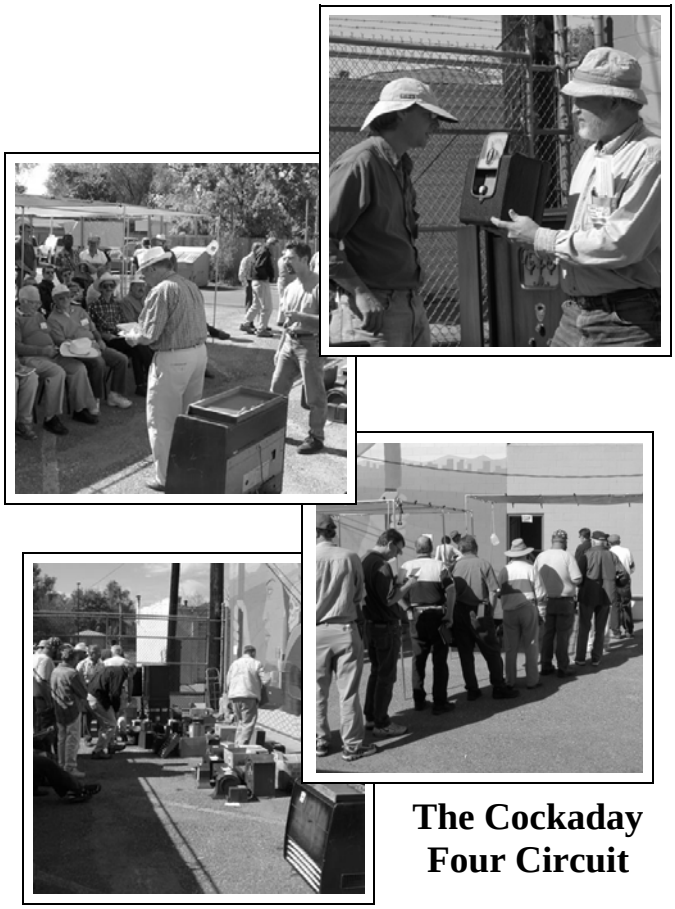
**CRC MEETINGS**

Meetings are held on the second Sunday of every other month starting in January (except 3rd Sunday of May) at 1:00pm at the Museum of the Americas Bldg., 2nd floor, 863 Santa Fe (between 8th & 9th Aves.). The meetings consist of business, "show & tell", raffles, swap meets and discussions of technical and other subjects of interest.

# CRC 2002 Auction Results

Note: Min.=Seller Reserve, Ham.="Hammer" or Selling Price, 0 Ham.=No Sale

| Description | Min. | Ham. |
|---|---|---|
| 2 Meter Collinear antenna - Cush Craft CL116 | 5 | 5 |
| midgets + 1 intercom | | 60 |
| Admiral portable TV & B&K Analyist | | 5 |
| Airline 8A47 1940's BC/SW wooden table | 20 | 20 |
| American Rail. - Teleg course, key, code mach | 50 | 0 |
| Antique cattle prod - from Ford spark coil | | 5 |
| Apx 200 TV knobs and parts | | 60 |
| Atwater Kent 42 1928 with E2 Speaker | 50 | 80 |
| Atwater Kent F4A Speaker | | 70 |
| B&K Tube Tester | | 5 |
| Bakelite radio | | 15 |
| BC-348R Speaker Power Supply and manual | 75 | 75 |
| Bell-Howell 4540 - oscilloscope | | 10 |
| Cabinets, test equipment, B&H bread Bd tester | | 2 |
| Crosely Ace 3 1923 | 130 | 150 |
| Day Fan OEM-7 1925 | 40 | 45 |
| Delco R-1238 1948 BC table top | | 25 |
| DeVry 5" Oscilloscope | | 1 |
| Eico 147A Signal Tracer | | 2 |
| Eico CRT Checker | | 2 |
| Exact 255 Function Generator | | 15 |
| FM Signal Gen 27-240MHz | | 10 |
| Freed 90-S 1929 - Globe 45's & 80 | 150 | 0 |
| Freed Eismann NR7 1925 | | 50 |
| General Radio 1390-B Noise Generator - manual | | 5 |
| General Radio 1611-B Cap. Bridge | | 10 |
| General Radio Osc/Pwr Sup - 900M-2GHz | | 5 |
| General Radio Osc/Pwr Sup - works, 2 units | | 5 |
| Gloritone 27 1930 | | 35 |
| Grundig Majestic 7028 Console | | 2 |
| Guild 380T "Town Crier" 1956 | 60 | 75 |
| Guild 556 "Country Bell" 1956 | 40 | 40 |
| Hallicrafters S40-A | | 35 |
| Hallicrafters S41-G | | 50 |
| Hallicrafters S72 Portable | | 45 |
| Hallicrafters TW500 | | 30 |
| Heathkit C-3 Capacitor Checker | | 5 |
| Heathkit Cap tester | 10 | 0 |
| Heathkit Capaci-Tester | 5 | 5 |
| Heathkit IM-58 Distortion Analyzer | 30 | 0 |
| Heathkit IT-17 Tube Tester | | 30 |
| HP 302A Wave Analyzer - manual | | 2 |
| HP 8551B/851B Spectrum Analyzer - cabls/man. | | 20 |
| Jackson 648R Tube Tester | | 10 |
| Jackson Sweep Gen 30-220MHz | | 5 |
| Knight "Star Roamer" Receiver | | 15 |
| Magnavox 372 1950's Console | | 20 |
| Majestic 20 1932 | | 40 |
| McMurdo Silver Wavemeter w/coils | | 25 |
| Misc. Parts | | 5 |
| Monarch Stereo Tuner - two tuning eyes | | 5 |
| Patterson 308 1938 | | 40 |
| Peerless "Reproducer" 1925 speaker | | 40 |
| Philco 37-62 1937 | 40 | 80 |
| Philco 37-630 193 | 60 | 90 |
| Plastic - Sears, Admiral, Truetone, Motorola | | 10 |
| Plastic Radios - Misc | | 10 |
| Portables - Knight, Airline, Alvin | | 15 |
| Radiola 18 1927 | 50 | |
| RCA 100-A 1920's speaker | 10 | 10 |
| RCA 16X13 1040 BC&SW table top | | 25 |
| RCA 9K3 1937 Console | | 65 |
| RCA 9TX 1939 wood table | | 30 |
| RCA R-32 1929 | 50 | 50 |
| RCA Radiola 17/18 & 100A Spkr & spare parts | | 60 |
| RCA T6-1 1935 | | 50 |
| Rola 30 self-powered speaker, late 20's | | 25 |
| Simpson Signal Generator 315 | 5 | 5 |
| Sony 200 Tape Recorder with box of tapes | 25 | 0 |
| Sparton wood table - late 40's, tubes | 20 | 20 |
| Sprauge 16 Capacitor Tester | 5 | 10 |
| Stewart Warner - wood table | | 30 |
| Stewart Warner 07-5R3 1940 Bakelite | | 35 |
| Stromberg Carlson 68-F Console | | 10 |
| Table radios - Coronado, Zenith | | 20 |
| Tungar Bulb rectifier NOS | 5 | 10 |
| Tungar Bulb rectifier NOS | 5 | 10 |
| US Radio 25A - restored | | 40 |
| Webster 1960's intercoms (two) | | 3 |
| Zenith 5G41 flip-up dial | 20 | 50 |
| Zenith 7H02Z BC/FM table | | 20 |
| Zenith Bakelite table | 10 | 0 |
| Zenith H500 Transoceanic | | 90 |
| Zenith transistor radio | | 10 |
| Zenith Transoceanic | 65 | 90 |
| **Description** | **Min.** | **Ham.** |

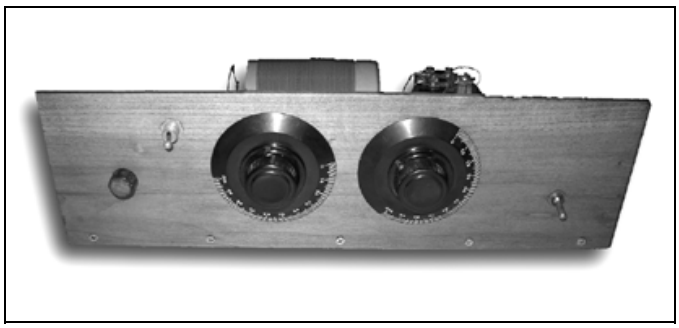


**The Cockaday Four Circuit**

# Tuner

## and its evolution into a circuit that actually works

**By Mark Dittmar, CRC Member**



In 1923, Laurence M. Cockaday published a "new" design for a regenerative receiver in the pages of QST magazine. Cockaday's circuit, dubbed the "Cockaday Four Circuit Tuner", essentially consisted of Lee Deforest's "ultra-audion" regenerative circuit with an additional tuned circuit placed in proximity to the main tuning coil. The purpose of the coil was to absorb energy from the grid circuit and hence control regeneration. This method is called "absorption control of regeneration" and never really gained popularity. Cockaday's circuit also shows up in a couple of other publications of that era ... Henley's 222 Radio Circuits and A.F. Collins' (the self-proclaimed "inventor of the radiotelephone") "Radio Amateurs Handbook".

I have built a number of regenerative receivers in the past, but none that used the absorption method of regeneration control. I determined that the "Four Circuit Tuner" would make an interesting project and set out to construct the circuit as described in the early literature with a few minor non-critical modifications. Unfortunately, the tuner did not meet my expectations and was converted over to a standard grid leak detector design. In this article, I will describe the basic idea behind the 4CT, construction of my 4CT, and the subsequent SIMPLE conversion to the "tried-and-true" grid-leak detector.

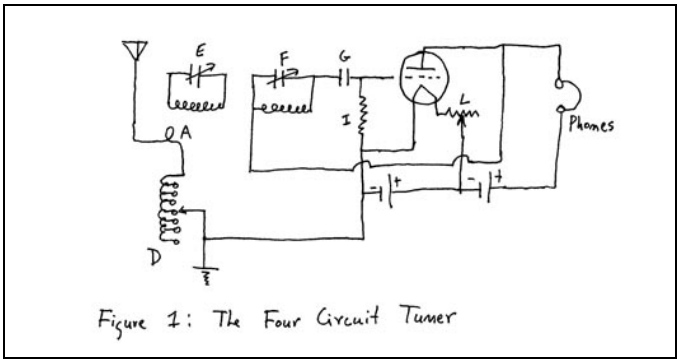



Figure 1: The Four Circuit Tuner

## Original Circuit and Description

The schematic of the detector portion of the 4CT is shown in Figure 1. Looks pretty simple, right? The original (1923) component specifications are as follows:

A: Primary winding, one turn of heavy copper wire wound directly over the secondary 1/4" from the outer end
B: Secondary winding, 65 turns #18 scc wire on one end of tube, 3.25" in diameter by 5 5/16" long
C: Absorption winding wound on the other end of same tube as "B"; 34 turns #18 scc
D: Antenna loading and tuning coil. The original has a rather complicated bank-wound coil. Many different forms can be used here.
E,F: Air variable capacitors, 350 pf
G: Fixed mica condenser 250 pf
I: Grid Leak, 1-2 Megohms
L: rheostat

The detector tube, although not specified, could have been an early '01A variant, WD-11, 199, etc. The photograph in the article suggests that the detector tube is an '01A. Only the detector portion is shown. The audio stages are implied to be standard transformer coupled stages, and in fact are shown as such in Henley's 222 Radio Circuits book. The circuit specifications given above were designed to cover 150 - 530 meters.

Here is how it works in Cockaday's own words (quoting at length from June, 1923 QST):

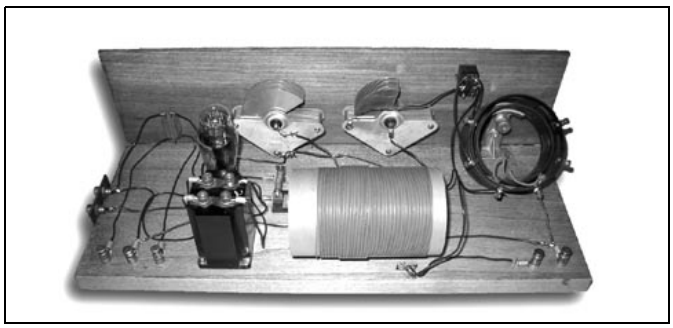
"Some years ago it occurred to the writer that the old ultraudion circuit was one of the simplest of the oscillating audion circuits and needed only some device for controlling its regeneration. The difficulty lay in the very thing that made the circuit simple, the fact that the plate circuit was not tuned. Everything could be repeated into it equally well and then fed back to the grid, causing the circuit to oscillate. The stronger the incoming signal, the stronger the feedback. If the circuit was adjusted for a weak signal then a strong one or a burst of static would at once cause it to break into oscillation. Of course for CW reception this was great; the circuit would oscillate over the entire wavelength range and had only one control; but for voice or spark it was lacking because of its extreme instability. Still the simplicity of the circuit was so striking that we

started out to see if it could not be controlled in some simple way. This was finally accomplished by a scheme which absorbed energy from the grid circuit. This absorption can be adjusted to increase the resistance of the grid circuit so that the tube will just stop oscillating. After this adjustment has been made, the device automatically accommodates itself to the strength of the signal. If a weak signal comes in, only a small amount of energy is taken out of the grid circuit by the absorption circuit but a strong signal causes greater absorption so that the same condition holds true; the circuit does not oscillate but stays at the critical regenerative condition where there is maximum response ... the stabilizer or absorption circuit consists of a fixed inductor coupled rather closely to the grid inductance and shunted by a variable condenser."

Why is it called a four circuit tuner? Again quoting from Cockaday: "The coil A and the antenna load coil D are connected in series with the antenna and ground to form the first circuit. The coil B plus its condenser and the path through the tube from grid to filament form the grid or second circuit. The third circuit is the plate circuit which is untuned. The fourth circuit is the absorption circuit and consists of the coil C and its variable condenser.

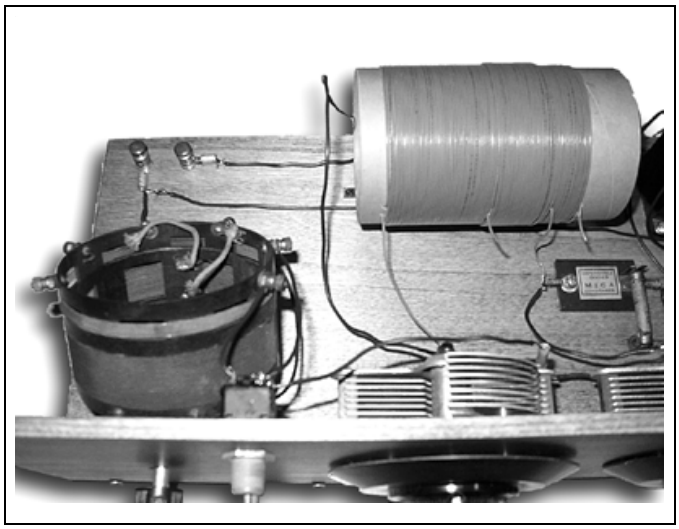
Note that the ultraudion circuit is simply that of figure 1 without the absorption circuit.

**Construction of the Four Circuit Tuner**



In my version of the tuner, I changed the parts slightly to utilize what was available and to simplify construction. Instead of the tapped and bank wound antenna loading coil, I used a nifty 1920s variometer that I had in my "junkbox". Depending on which way the windings were connected, I could get a range of 262 to 419 uH, or 126 to 284 uH. I used a switch to select the direction of the windings, so that both ranges were available. This range of inductance will resonate my 67 feet long inverted L antenna in the range of the AM BCB. There are lots of variations that can be used here to tune the antenna circuit.

I chose to build my version with a single stage of transformer coupled audio. Since I have an abundance of the type 19 dual triode, I used one half of a single 19 tube as the detector stage and the other half as the audio stage. Again, there are many options here. Use globe 01As if you are seeking a more "authentic" look. The 19 requires 260 ma at 2 VDC to run the filaments. It is similar to two type 30 triodes in a single envelope. To get the proper filament voltage, I used a 3VDC power supply with a 4 ohm resistor in series to drop the voltage down to 2 VDC. I decided against using a rheostat here. A string of 9 VDC batteries produced the 40 - 45 VDC for the B+.



The coil assembly, consisting of the main tuned winding and the absorption winding, was wound on a 3" diameter by 5" in length cardboard tube originally intended for model rockets. These tubes make GREAT coil forms and are available in most hobby-type shops. They appear to have some other "stuff" in them besides cardboard - the forms are very strong and keep their shape. I had a bunch of #24 gray stranded copper wire, leftover from a "stealth" antenna project, which I used for the windings. I started by winding 65 turns on the form for the main tuning coil. It became apparent to me that the absorption winding would not fit on the form unless it was wound partially on top of the main tuning coil. I therefore wound the coil in this manner. Cockaday's article implies that the absorption winding is wound on the opposite end of the tube. When I finished winding the coils, I measured the inductance of the main tuning coil to be 233 uH, which is right in the "sweet spot" for the AM BCB with a 350 pf or so capacitor. The antenna coupling loop was just a ½ turn of hookup wire

placed about an inch away from one end of the main tuning coil. With the strong signals in the AM BCB, one can get away with using very loose coupling. This improves selectivity greatly in simple radios.

The grid leak and capacitor were vintage units that I had in my "junkbox", and had values of 250 pf and 2 Megohms. The audio interstage transformer was an old FADA unit. The tuning capacitors for both the absorption circuit and the tuning coil were vintage units of approximately 350 pf capacitance. They were mounted on the front panel and some 4" black bakelite TRF style knobs were used with them.

The circuit was built breadboard style on a piece of poplar, 18.5" long by 7.5" deep. The front panel was also a piece of ¼" thick poplar, 7.5" in height, and was attached to the breadboard using #6 Phillips wood screws. The breadboard was stained and a couple of overcoats of clear lacquer was applied before mounting the parts and completing the wiring. Antique binding posts for the antenna, ground, and power connections were used. I Added a DPST switch to control filament and B+ power to the receiver for convenience. It's not shown anywhere in the schematics.

Looking at the front panel from left to right are the following controls: antenna tuning, variometer "hi/lo inductance", main tuning, absorption control, and the on/off switch.

After connecting a good antenna and ground, I powered up the receiver. The absorption control did not seem to have any effect at all. The circuit NEVER broke into oscillation as expected. The main tuning capacitor/circuit had a very weak effect on the actual tuning, whereas the antenna circuit (variometer) appeared to have the most control over tuning. Selectivity was very poor, even with the very loose coupling. No amount of coil tweaking could get the circuit to oscillate. It is possible that winding the absorption coil directly over the main tuning coil prevented regeneration from ever occurring. After messing around with it for a while, and not being remotely interested in winding a new coil, I decided to make the quick and simple conversion to a basic grid leak detector with one stage of audio amplification. I completely disconnected the absorption winding, and put its associated variable capacitor in series with the antenna circuit. I removed the feedback path from the plate circuit to the grid. The final form of this receiver is shown in the schematic of figure 6.

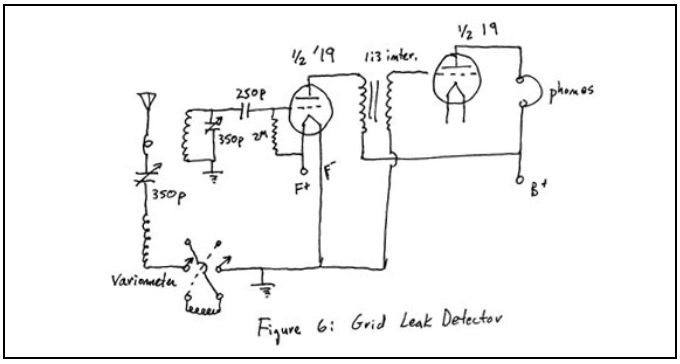


Figure 6: Grid Leak Detector

This receiver worked quite well. Although lacking somewhat in sensitivity due to no RF amplification stages or regeneration, the simple circuit performed admirably on the locals with LOTS of volume in my hi-impedance headphones. There would be plenty of audio to power a horn speaker or a Peerless Reproducer. Selectivity was very good for such a simple set (remember loose coupling!). Its tuning behavior is similar to a classic TRF three-dialer design. As built, it covered from about 600 khz to 1400 khz. If you are new to building with tube circuits, this simple circuit is (almost) foolproof. Nothing is terribly critical. Build one and impress you non-radio friends.

Perhaps someday I'll re-visit the Cockaday Four Circuit Tuner. If anyone attempts to build this circuit and gets it to work, let me know!

## ***THE CRC 2002 SUMMER PICNIC***

On August 18th the CRC held it's annual picnic at the Lakewood Heritage Center. Obviously the crowd enjoyed good surroundings, company and food. Our only family event of the year would have been even better if more of you members had joined us.

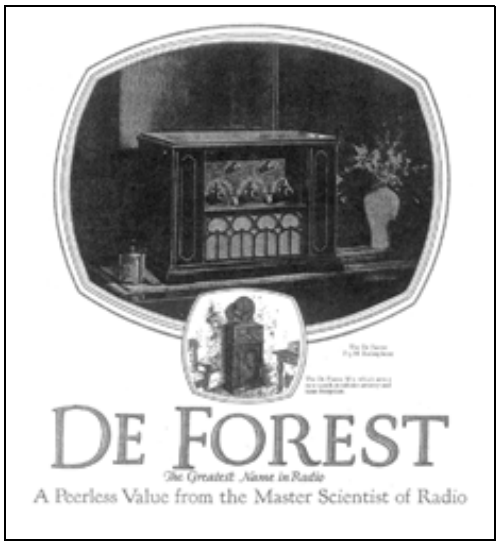
## The Last of an ERA
## Deforest Radio Company's Model F-5 Radio

**by Wayne Gilbert, CRC Member**

Some radios deserve a place in history for their unique or innovative designs, but the DeForest Model F-5 radio is memorable only because it marked the end of an era in US broadcast radio history. It was one of the last of the last. That is, it was one of the last DeForest radios manufactured by the DeForest Radio Company, which was one of the last of many US radio companies to bear the DeForest name.

Although the 1925 model F-5 was described as a "peerless value from the master scientist of radio" in several nationwide advertisements, Dr. DeForest had in truth severed his connection with the company in 1923, and it was Roy Weagant who designed the DeForest model F-5's circuit. From what is known about Wegant's life he appears to have been a talented but somewhat shadowy radio pioneering figure who had crossed paths with DeForest before, when he had been employed by one of Marconi's companies.

While with the Marconi company, Weagant had attempted to circumvent the DeForest audion patent with a novel but unsuccessful version of the triode tube. The Weagant triode had the grid wrapped outside the glass envelope, and was successfully patented, but not successfully marketed. It would be easy to believe that DeForest just naturally attracted unsavory competition, but it is possible that Weagant actually was trying to develop an improved triode.




Now a DeForest Radio Company excutive, Weagant found that the business was failing and that costs had to be cut. One of the company's major expenses was the assessed royalties on the radios the company was producing that contained circuits designed by a former DeForest Radio Company chief engineer. Weagant immediately set out to replace these radios with a pair of radios with a fairly standard TRF circuit that infringed on no one's patents and required no costly licenses to produce. Also, should they prove to be successful, Weagant was certainly in a position to patent them himself.

These radios, the W5 and its simple sister the F-5, were not particularly noteworthy but they were proudly called the radios with "the DeForest Balanced Circuit." The F-5 was to be the low-cost model in this new line of radios, and as such, it was designed to fit into the old leftover model D-17 cabinets that the company had not been able to sell. This helped to keep the set's price down to $110, certainly a savvy cost-cutting business decision that was not too deceptive as long as the customer fully realized that he was buying the cheaper model F-5 model radio, but there were other decisions made that seem to be more purposely deceptive in nature.

For instance, while stem-sealed tubes had been developed and sold as early as 1924, the Deforest DV5 audion tube used in the model F-5 still featured a top-seal and a tubular bulb. This helped create the antique appearance of earlier era tubes, giving the impression that these tubes had a long history of good service. The truth was somewhat different. This tube had just been developed and had a yttriated oxide coated filament that seems to have been no better or worse than an RCA tube with a thoriated filament, whose patent they were evading.

The model F-5M also featured a built-in speaker with a chrome plated driver, and "other newly devised mechanisms" which remained unspecified in the full page advertisements which appeared in the *Saturday Evening Post*. But in spite of all, or maybe because of all, even the power of the DeForest name could not save the company, and by 1926 the company folded.

When the DeForest Radio Company closed, production of the model F-5 stopped, thus ending an era that had begun a quarter century earlier. During that time companies and products bearing Dr. Lee DeForest's name, and indeed the DeForest name itself, had been batted around the fledgling radio industry like no other name before or since.

DeForest and his business associates, just like Andrew Fastow and the Enron company accountants, probably did not invent creative accounting, but they certainly refined the customary accounting methods of their time and took advantage of any opportunity to financially gain personally from these exploits. By 1925, Lee DeForest formerly known as the genius who invented the audion tube, had become known as Lee DeForest - a radio pioneer whose name had been associated with numerous shady financial dealings, of which the DeForest Radio Company was merely the last incarnation.

The F-5 can either be viewed as a "Peerless Value from the Master Scientist of Radio," or as one last attempt to hoodwink the public into buying just another illusion from just another slightly shady DeForest company. But whatever its shortcomings, the F-5 was one of the very last DeForest broadcast radios manufactured in the US, insuring itself at least a footnote in broadcast radio history.

# Collector Books for Sale

**Special CRC prices. Order at club meetings. Mail order shipments: add $2.00 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***

| | Retail | Club |
|---|---|---|
| **RADIOS, (GENUINE PLASTIC) OF THE MID CENTURY**<br>**Jupp & Pina, hard bound, 219 pgs, 1998 PG, 450+ color pics** | $39.95 | $28.00 |
| **ANTIQUE RADIOS, COLLECTOR'S GUIDE - 4th EDITION**<br>**Bunis, 1997 values, revised & updated, new photos, 248 pgs** | $18.95 | $15.00 |
| **GUIDE TO OLD RADIOS, POINTERS... - 2nd EDITION**<br>**Johnson, 277 pgs, 1995-96 prices** | $19.95 | $15.00 |
| **ANTIQUE RADIO RESTORATION GUIDE - 2rd EDITION**<br>**Johnson, 144 pgs, repairing, refinishing, cleaning** | $14.95 | $12.00 |
| **RADIO, EVOLUTION OF THE - VOLUME ONE**<br>**227 pgs, 118 in color, More than 800 radios pictured, 1992** | $22.95 | $18.00 |
| **RADIO, EVOLUTION OF THE - VOLUME TWO**<br>**226 pgs, Radios of the 1920s to 1960s, with 93-94 values** | $24.95 | $19.00 |
| **TRANSISTOR RADIOS, COLLECTOR'S GUIDE VOL II**<br>**Bunis, 1996 prices, Full Color** | $16.95 | $13.00 |
| **ZENITH TRANSISTOR RADIOS, 1955-1965**<br>**Smith, 1998 PG, 160 pgs, 226 color pics, info, descr.** | $29.95 | $22.00 |
| **THE ZENITH TRANS-OCEANIC (THE ROYALTY OF RADIOS)**<br>**Bryant and Cones, 160 gps, 1995** | $29.95 | $22.00 |
| **ZENITH RADIOS THE EARLY YEARS 1919-1936, Cones**<br>**1997-98 Price Guide, 223 pgs, 100's Photos, Desc., Hist.** | $29.95 | $22.00 |
| **RADIOS BY HALLICRAFTERS, revised 2nd edition**<br>**Dachis, 1999 values, 220 pgs, 1000+ pics, id's, history** | $29.95 | $22.00 |
| **CLASSIC TV'S, PRE-WAR THRU 1950'S**<br>**86 pgs, color & b/w pics, descriptions, etc.** | $18.95 | $15.00 |
| **Machine Age to Jet Age, Radiomania's Table Radio Guide 'III, 33-'62**<br>**Stein, 256 pgs, 100's of b/w photos** | $29.95 | $24.50 |
| **TRANSISTOR RADIOS, 1954 TO 1969**<br>**Norman Smith, with prices, 160 pgs, 1000 photos, 1998** | $29.95 | $22.00 |
| **PHILCO RADIO: 1928 - 1942**<br>**Ramires & Prosise, 160 pgs, 828 pics & drawings, 1993** | $29.95 | $22.00 |
| **RADIO AND TV PREMIUMS**<br>**Jim Harmon, 256 pgs, 200+ photos, 1997** | $24.95 | $19.00 |
| **RADIO MANUFACTURES OF THE 1920'S VOL I**<br>**Alan Douglas, 225 pgs, 1988** | $24.95 | $19.00 |
| **RADIO MANUFACTURES OF THE 1920'S VOL II**<br>**Alan Douglas, 266 pgs, 1989** | $29.95 | $22.00 |
| **RADIO MANUFACTURES OF THE 1920'S VOL III**<br>**Alan Douglas, 285 pgs, 1991** | $29.95 | $22.00 |
| **CRYSTAL CLEAR VOL 1**<br>**Maurice Sievers, 282 Pgs, 1991** | $29.95 | $22.00 |
| **CRYSTAL CLEAR VOL 2**<br>**Maurice Sievers, 252 Pgs, 1995** | $29.95 | $22.00 |
| **RADIO TUBES AND BOXES OF THE 1920'S**<br>**George A Fathauer, 112 Pgs, 1999** | $26.95 | $20.00 |
| **70 YEARS OF TUBES AND VALVES, 2ND EDITION**<br>**John Stokes, 264 Pgs, 1997** | $29.95 | $22.00 |
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| **TUBE DATA ON CD ROM**<br>**Holm, 27,000+ tubes, for Windows 95/98** | $39.95 | $28.00 |
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# "The Open Trunk"
## Classified Advertisements

**FOR SALE**: Beautiful Gloritone 99-A Cathedral $300. Rare Airline Tombstone $190. Trav-Ler Tombstone and 6 volt battery $165. Philco 41-221 $80. Philco P.T. 94 $75. Firestone 2-tone leather $50. Stromberg Carlson 500H $45. Emerson 301 $40. Olympic leather suitcase $40. All working and in good condition. Radio Club T-Shirts $8.00 each. See these items at the Denver Auction. **John Moore** Des Moines, IA.

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**WANTED**: White or beige knobs for a GE 401, 410, or 411. They look like the smaller size of Reeses' Peanut Butter Cups. **Mark Gibson** Loveland, CO (970) 593-3032, mark_gibson@hp.com

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**WANTED**: GE clock radios, models 935 & 936. **Tom Kelley** 971½ Pleasant Street, Boulder, CO 80302, (303) 444-1837

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**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). Chassis for AK 217 and Majestic 371. **Jerry Tynan** (303) 642-0553, jtynan@worldnet.att.net

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**WANTED**: Female power (battery) plug for a Kemper portable K-52. Similar to octal except it has 7 pins and 2 round locating pins (edge and center). Knobs for a Crosley 601 Bandbox. **Mark McKeown** (303) 278-3908, mmckeown@tde.com

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**WANTED**: KLH model 8 receiver with or without the matching speaker. 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. Plastic dial strip (with frequency) for Philco 89 and 19 with separate short-wave band (late version). **William Hinkley** (303)730-8539, philcobill@aol.com

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**WANTED**: Hoffman Nugget pencil tube pocket radio. Japanese WWII Morale receiver. Will pay your price. **John A. Miner** (303) 759-9152 hohum@quest.net

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**WANTED**: "Heavy metal" radios, accessories, and 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

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**WANTED**: Novelty radios: Pink Panther WB-122, Mr. & Mrs. "T" Boody Mary Mix BB-106, Spam radio BB-77, Bikini Girl BB-243, Blinking Cat BB-244, Good/Bad News BB-261. Fiddler On The Roof BB-366, Minizoo Snow White BB-429, Gun Beam radio BB-522, Allied Chemical Building radio BB-598, Helmet radios (NY Giants, NY Jets, Philadelphia Eagles, New Orleans Saints, San Francisco 49'ers Atlanta Falcons. **Ron Smith** 145 Carr Street, Lakewood, CO 80226 (303) 274-7522

**WANTED**: Amateur (ham) transmitters by Aero Products, Globe (WRL), Gross, Harvey Radio Labs, Leeds, Stancor, Thordarson, & Utah. **Mark B. Dittmar** 8551 W. 95th Drive, Westminster, CO. (303) 403-0669, dittmar@bwn.net

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**WANTED**: Parts for 1934 Zenith 880 console (or 835, 880, 881): dial glass, black "Z" pointer, tube shields (5), knobs (round wood without the "Z"). Also need plastic dial strip (with frequency) for Philco 89 and 19 with separate short-wave band (late version). **Dan Busetti** (719) 473-2443, menwagoh@msn.com

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

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

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

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**WANTED**: Old radio magazines for my research library in Antique Radio. Need publications like Radio Design, Radio Age, and Radio Craft - 1920s through 1940s. Will provide home or will purchase singles or full sets at a fair price. Also, interested in publications from various companies: Aerovox, RCA, Sylvania, Bell Labs, etc. Need old test equipment literature and manuals. **Charles Brett** 5980 Old Ranch Road, Colorado Springs, CO 80908, (303) 495-8660

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**WANTED**: Any literature, manuals, and books related to 1920s Super Heterodyne radios. Interested in sets and parts for Super Hets. Thank you! **Rick Ammon** 1-888-473-2387 (TOLL FREE) or wireless@antique-radios.info

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**FOR SALE**: Kolster K44 console - $200, General Radio Corp. table - $150, FADA R-60 table + antenna - $150, Coronado 1070A - $75, Atwater Kent 44 "Red Lion" secretary - $295, Atwater Kent 89 - $100, Lyric 9 console - $135, Philco 86 - $195, Federal D10 - $90, Peerless speaker - $75, RCA 56X - $45 **Robert Paul** 34175 Tructon Rd., Yoder CO 80864 (719) 478-5102

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