

The Carolina Antenna

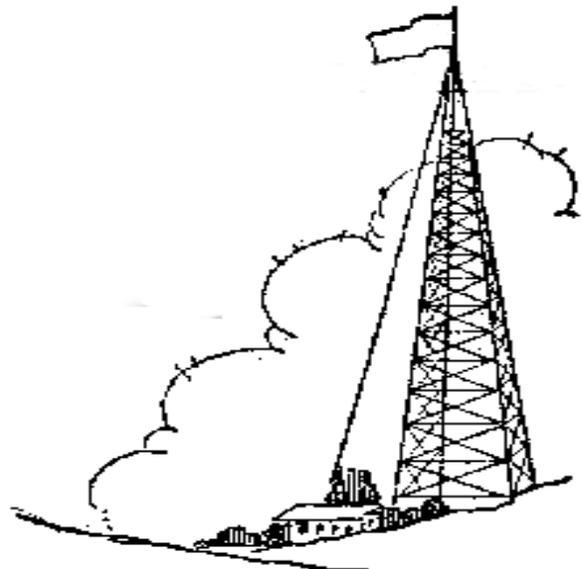
SPRING 2010

VOLUME #15

ISSUE #1



Carolina's Chapter
of the
Antique Wireless
Association



CAROLINAS CHAPTER OF THE AWA

<http://www.cc-awa.org/>

PRESIDENT

Ron Lawrence
P O Box 3015
Matthews, NC 28106
704-289-1166
kc4yoy@carolina.rr.com

SECRETARY-TREASURER

Clare Owens
101 Grassy Ridge Ct.
Apex NC 27502
919-363-7608
clare.owens@gmail.com

VICE PRESIDENT

Richard Owens

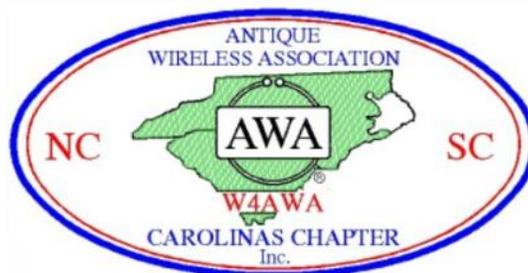
EXECUTIVE COMMITTEE

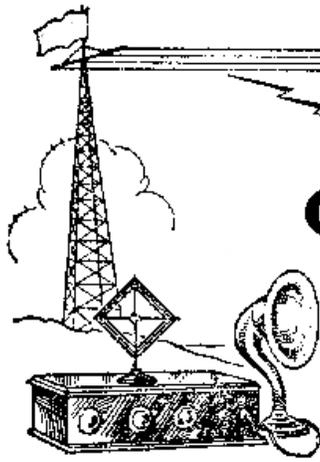
R L Barnett Barker Edwards Kirk Cline
Robert Lozier Stephen Brown Open Seat

EDITORS

Barker & Judy Edwards
116 East Front Street
Clayton NC 27520
919-553-2330
wirelessshop@nc.rr.com

-
- * Membership in the Carolinas Chapter of the Antique Wireless Association (CC-AWA) is open to anyone with an interest in old (antique) radios. The only requirement is that you must be a member of the "national" Antique Wireless Association.
 - * By being a member of the CC-AWA you will receive our newsletter.
 - * Membership dues for the CC-AWA are \$10 per year.
 - * If you are not already a member of the national AWA, your first year's dues will \$25, this includes the \$10 for CC-AWA dues and \$15 for your first year's dues in the national AWA.
 - * Mail your dues to membership chairman Clare Owens - address is listed above.





The Carolina Antenna

The newsletter of the
Carolinas Chapter of the
Antique Wireless Association



ISSUE # 15

SPRING 2010

VOLUME 2



THE PREZ SAYS ...

By Ron Lawrence,

First off, I'd like to welcome a bunch of new members to the CC-AWA. Our decision to make everyone who registered for the 2010 annual conference will hopefully spread the word about our club.

I hope everyone enjoyed themselves at the Charlotte show. It was one of the best we've ever had. It was at the same time one of the saddest due to the loss of our good friend Ernie Hite. The sale of Ernie's fine collection I'm sure brought a number of collectors to the Charlotte meet that had never been here before, and now they are members of our club.

You've received a printed copy of the newsletter, and we can afford to print full newsletters for a while. If you would be willing to receive the newsletter either via email, or downloadable from the club's web page it would save the club a lot of money, and a few trees also. Based on the cost of printing the brochures for the 2010 conference, the newsletters could cost around \$2 each plus postage. Distributing electronically is basically FREE.

So while we can afford to print these for a while, there's no sense in wasting money. If you are willing to receive the newsletter electronically or just aren't interested in receiving it, PLEASE let me know.

At this point, I still don't know what the total club income from the conference is, The Hite auction total was just over \$101,000. The family will receive about \$90,900, the 10% that the club would normally get from the auction will be going into a collage fund for Ernie's daughter Jamison, who is 13 years old.

Charlotte was truly an international event this year with four foreign countries being represented. Benet Svensson from Sweden, Phil

INSIDE THIS ISSUE:

The Prez Says ...	1-2
Calendar of Events	2
Auction Notes	3
2010 Old Equipment Contest	4-6
Ernie Hite Estate Auction Report	7-11
General Auction Report	11-14
How To Use of Radio B Eliminators	15-18
A Gimmick?	18
Clartone Restoration	19-22

Taylor from the UK, Ray Pedri from W Australia, and Bob Murray from Vancouver, BC, Canada. There were also attendees from 26 US states.

I'd like to thank all those that helped make the 2010 Charlotte conference another great success. We made a good showing for the AWA. Bob Hobday, who is deputy director of the AWA, and Roy Wildermuth, who is chairman of the AWA Rochester meet, were here and had very good things to say about our club and our conference.

One of the big reasons for attending a meet like Charlotte is acquiring new additions for our collections, I managed to pick up a few goodies for my collection. Phil Taylor brought 2 nice tubes that were used in the British WW2 Chain Home radar transmitters, I was lucky enough to get one of them and my buddy Kirk Cline bought the other one. I hoped to get something from Ernie's collection, I couldn't afford any of the really high end sets he had, but I did buy a really nice Atwater Kent model 20 Deluxe. I already had one in my collection but Ernie's was much nicer, and I was with Ernie when he bought it at the last AWA Rochester meet we attended together so it has some good memories attached to it. In the flea market, I bought an unusual 20's Super-Het. The name engraved on the front panel says it's a C.R. Leutz model L.

Well, if you know anything about my collection, I already own an original Leutz model L that's almost 7 feet long. This one is just over 2 feet long and uses 8, type 99 tubes. I knew right away it's wasn't a real Leutz. When I showed to my friend Jim Kreuzer he said it was a Phil Weingarten fake. Phil was well known for making fake early tubes and modifying 20s sets to look like something they weren't

I like hearing about what you guys have found, one of my favorite columns in the old AWA OTBs was called "With the Collectors", in it folks reported on their latest finds and also on their latest projects. If anyone would be interested in telling me about your latest finds, sightings, or interesting projects, I'll make sure they get written up here. I've asked Judy if space allows

to include a "With the Collectors" column in this issue. Maybe she can include some photos of my recent finds from Charlotte.

I think this is enough of my rambling for now. Again I'd like to welcome all of our new members to the CC-AWA.

Don't forget the Spring Swap Meet at Spencer coming up on Saturday May 22, after the meet we'll be having a club Board of Directors meeting. We still have a couple open seats on the board if anyone is interested in helping set the direction for our club.



SPRING SWAP MEET

Date: May 22

Location: NC Transportation Museum, 411 S Salisbury Ave, Spencer NC 28159.

Time: Events start early. If you arrive at 11 o'clock, all you will see is people packing up.

Admission is free. Vendors space: \$5





AUCTION NOTES

By Robert Lozier
Kd4hsh@juno.com

This year most of you know that rather than having one general auction we also hosted a special estate auction of the late Ernie Hite. Ernie's passing was sudden and at least 20 years too soon. His wife, Susan, and the rest of the family were forced into the, "OK what do we do now?" mode. As is usual with collectors, there are not any immediate family members with anything near the same level of passion for collecting vintage radio artifacts. The practical requirement would be how to properly disperse the collection in a way that would benefit the family so they can move forward.

Some years ago I wrote an article on just this very subject. The goal was to identify all the practical methods of dispersal in such a way as to make the reader aware of available options and how they might work out in practice. In this particular case, the family elected to have the club disperse Ernie's collection. If you would like to read that article, you can find it here:

http://kd4hsh.homestead.com/OK_what1.html

A small group of Ernie's best radio buddies invested more than 200 hours in photographing, cataloging, packing and delivering the collection to the conference. In addition, Ron Lawrence, Judy Edwards and I collaborated on producing an expanded conference brochure and Ron did a great job of producing web pages that definitely created a 'buzz' for the estate auction throughout the USA and even abroad.

At the Sheraton more folks helped us unpack the collection and get the items out where the goodies could be inspected by potential bidders.

Just after the auction began we discovered that there was a problem with the database. The problem turned out to be a procedural flaw present since day-one that we had, just by luck, never encountered. So unfortunately, checkout ran far, far longer than we hoped. (I want to extend a special thanks to Joey Carabetta for pitching in to help me during that long night. I was quickly coming down with what turned out to be acute viral bronchitis and was in no shape to be doing much of anything. But as they say, "the show must go on" and so it did.) By the time of the general auction on Friday afternoon, most of the problems had been resolved so that folks were able to check out fairly quickly.

I was only able to get into the auction room for a few seconds at a time but in auditing the sales, I see that there were some good buys, great buys and surprising buys. In my opinion, nothing of consequence went at bargain basement prices.

Back in August of 2009 on our first visit to Ernie's house since his passing, we collectively did a little estimating. Our conclusion at the time was that the estate items would bring \$80k on a 'bad day' and about \$120k on a 'good day'. Well, the total realized was just over \$101k – not too shabby in my opinion. Thanks to the generosity of the volunteers, there will be virtually no expenses other than a truck rental and some packing supplies. The Board of the club decided to forgo our usual commission and use it to establish a college fund for Ernie's daughter. Probably by the time you read this, our Treasurer, Clare Owens will have made the final pay-out to the estate and the task will be done. Let's all hope it is a good long time before any of us has to face that problem of "OK What do we do now?" again.



OLD EQUIPMENT CONTEST 2010 AT THE CCAWA 'SPRING MEET N THE CAROLINAS'

1. PRE-1912 ELECTRICAL DEVICES, NON RADIO

1st – Tom Burgess



2. PRE-1920 RECEIVERS & TRANSMITTERS AND WIRE LINE TELEGRAPH ITEMS

1st-Don Patterson, Murdoch Transmitter and
Receiver



3. 1920'S ERA BROADCAST RECEIVERS

A. PASSIVE DETECTORS AND 1 TUBE SETS

1st-Bob Slagle, Reynolds



- 1st-Merrill Bancroft, Radiotrol Grand
- 2nd-Benet Svenson, Post Card Crystal Set
- 3rd-Barker Edwards, DeForest DT-700

B. 2-3 TUBE SETS

1st-Merrill Bandroft, Evolution of the Tuska
225



C. 4-6 TUBES SETS

1st-Gary Alley, Allen's Rectaflex



1st-Geoffrey Bourne, Just-rite Airola



2nd-Merrill Bancroft, Nightingale

3rd-Barker Edwards, DeForest D-10

4. 1930'S - 40'S - 50'S ERA

A. CATHEDRALS & TOMBSTONES

- 1st-Bob Slagle, Edison Cathedral
- 2nd-Robert Turcotte, Revell Cathedral

C. CATALIN & BAKELITE

- 1st-Paul Farmer, 7 D&W Old Bantams
- 2nd-Robert Lozier, Revell

5. TRANSISTOR RADIOS

B. EARLY POCKET SETS

- 1st-Paul Farmer, Regancy TR-1/1-G in chrome

C. NOVELTIES SETS

- 1st-James Barnard, Handmade
- 2nd-Paul Farmer, Crosley Book Radio
- 3rd-Pattie Cloninger

6. COMMUNICATIONS EQUIPMENT RX & TX

A. PRE WW2

- 1st-John Dilks, Lafayette



B. POST WW2

No entries

7. SOUND REPRODUCERS, CONES AND HORNS

A. HORNS

- 1st-Ron Lawrence, Radiola EM Horn



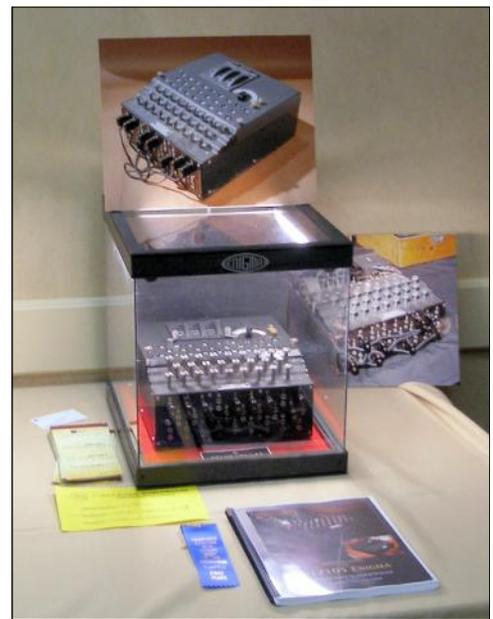
B. CONE REPRODUCER

- 1st-R L Barnett, Spartan
- 2nd-Buford Chidester
- 3rd-Richard Owens,



8. MILITARY RADIO EQUIPMENT, ANY ERA

- 1st-Jim Oram, Enigma



- 2nd-Tom Burgess, WWII

- 3rd-Ron Lawrence,

9. TEST EQUIPMENT

- 1st-Barker Edwards, Jefferson Tube Rejuvenator



2nd-John Reinicke

10. VACUUM TUBES

1st-Bengt Svenson, Four in One Valve



11. RADIO LITERATURE, BOOKS OR MAGAZINES

1st-Merrill Bancroft,



2nd-John Reinicke

12. NEW CONSTRUCTION FROM OLD PARTS OR REPLICAS.

1st-Tom Burgess,

2nd-Bob Slagle,

13. 'SURVIVOR' SETS COMPLETELY ORIGINAL AND UNRESTORED SETS ANY ERA, THEY MAY HAVE BEEN CLEANED, BUT THAT'S ALL.

1st-Barker Edwards, Sleeper Minerva



2nd-Merrill Bancroft,

14 SPECIAL "DISPLAY ONLY" CATEGORY FOR THOSE NOT INTERESTED IN BEING JUDGED. ANYTHING GOES HERE

A. SPECIAL

1st-Brad Lanes, RCA



B. RESTORATION

1st-Robert Lozier,



2nd-John Reinecke

SENIOR CLASS 1

1st-Merrill Bancroft,

BEST OF SHOW

Bob Slagle, Reynolds Radio

BEST RESTORATION

Robert Lozier

BEST PRESENTATION

Ron Lawrence



ERNIE HITE

ESTATE AUCTION REPORT

ADVERTISING, BOOKS, PERIODICALS

AD

Crosley 2-page mag., 1927-6
(4), AK color magazine-10
Magazine, '20s, framed (3)-20
Atlantic Radio Co. Bulletin 14, 1920-120
Blueprints, for building Leutz C-7, good-320

BOOKS

Assorted, incl. Douglas Vols. 1 & 2-50
ABCs of Vacuum Tubes and Vacuum Tubes in
Wireless; VG-20

BROCHURE

Leishman telephotograph system, '20s-15
Amrad, RAS, Klitzen, etc.-60
Leutz promo, ca. 6 items-250
Murdock, Chelsea, Radio Eqpt Co.-35
Tresco, Johnson, etc., early '20s-30

CATALOG

Art, original, for De Forest 507-25
Clapp-Eastham X, 1916-150
De Forest B, 1919, VG-95
De Forest D, exc.-90
Montgy. Ward, 1923, orig., fair-15
Schmidt wireless #40, pre- WW I-10
Coast-to-Coast Radio (2), ca. 1933-2
Empfänger Vade-Mecum (Ger.), 3 volumes of
5?, cover 1932-42 models, good -200
Lot: A. R. C. and ARCA Gazette, asst-10
Modern Radio Reception, Leutz, 1924 ed., VG 50
Modern Radio Reception, Leutz, 1928 ed, VG 20
Old Timers Bulletin, 88 issues, 1975 on-40
Radio 12-21, 8-22-30
Radio Craft, 5 issues 1933-41-55
Radio News
First 6 issues, 1919-375
1919-21, in punch binder-175
7-20, 6-21, VG-45
1-21, 3-21-40
6-22, 12-22, exc.-20
1-23, 2-24, VG-15
4 issues 1932-54-10

Radio News, 7-1922, and Citizens Radio Call
Book, Fall 1924, good-20
Radio Telephony, Goldsmith, VG-5
RCA Amateur Handbook, 7th. Ed.-65
S. Gernsback's Radio Encyclopedia, 2nd ed.,
original and reprint-20
Saga of the Vacuum Tube(Tyne, first printing)
and Wireless & Radio (Greenwood)-20
SC Receiving License (Tax), 1930-30
Store placard, Cunningham tubes, 1924, stands
ca. 10" high, exc. color repro-20

AMPLIFIERS

Daven three-stage res.-coupled, w/ Daven tubes
(open)-150
Grebe RORK w/ BBTT tubes-500
Kennedy 521, w/ tubes-600
Kennedy 525 w/BBTT tubes-700
Magnavox AC-3, BBTT tubes-1500
Western Electric 7A w/ 216A tubes, copy of book
600
Wireless Specialty (?) 2-step w/tubes, "modern"
825

HEADSETS

Amer. Bell & Turney, coils OK, less cords-20
Baldwin, VG, TOK-40
Hamburg Brothers, NIB-50
Lot: headset parts and AK horn driver-35
Northern Electric-10
S. G. Brown (Br.)-40
Songbird-Brandes (2), TOK-30

KEY AND TELEGRAPH

Key, Bunnell oval-based spark-35
Key, flameproof, WW-II vintage-20
Key, Bunnell, spark, ca. 1915-30
Key, Clapp-Eastham "Boston" spark-350
Keys (2), unident. brands, 1 oval brass, 1
rectangular bklt-35
Relay, Signal Electric telegraph, VG-40
Relay, Western Electric 25A telegraph-85

RECEIVERS, CRYSTAL

Federal Junior, VG-225
Homebuilt slide-coil, ca. 1919-20-100
Homebuilt, dual-slide, prob. British-80
Johnson & Philips Mark III military (Br.)-1200
Liberty Electric BC-14A, restored-750
Manhattan Optical-Gundlach slide-tuned-250
Tuner, Turney spiderweb-coil with xtal det.
Added-125

RECEIVERS, TUBE

Air-Way Type F 2-tube-450

Atwater Kent

- * 10 in Pooley console cabinet w/ BBTT tubes, VG cond.-1500
- * 12 rcvr w/ BBTT tubes-1100
- * 20 big-box, in Pooley cabinet-250
- * 20 Deluxe w/tubes-150
- * 20 w/tubes, average cond.-60
- * Radiodyne w/BBTT tubes, orig paint, tags 1550

Baldwin 9-tube superhet, w/tubes-700

BTH VR-3 w/ '30s-vintage repl. Tube-175

Clapp-Eastham HR/HZ, mounted together, w/ BBTT tubes-500

Collins R-388/URR, in table cabinet, near-mint, book-300

Crosley XJ Super w/tubes-125

Cutting & Washington 11A w/BBTT tubes - has the usual silvered-dial problem-450

David Grimes Baby Grand w/ UV-199 tubes-125

De Forest

- * D-10-700
- * Unit Panel 15-panel, restored with new front, with two BBTT tubes, catalog and other documents-11,000
- * MR-6 Interpanel w/ 3 BBTT tubes, honeycomb coils, ex-Muchow Collection-1700

Echophone A w/ BBTT tubes - well documented restored ex-basket-case-250

Ezra F. Bowman time rcvr, phones, pocket watch, paper-1600

Federal

- * 59 w/ BBTT tubes-600
- * 61 w/ BBTT tubes, minor panel crack -850
- * 110 w/ tubes-110

Firth Model A Vocaphone w/ BBTT tubes, restored, w/ Firth headset-3500

Grebe CR-8, tube-inside version, w/ rainbow BBTT tube, book-850

Grebe CR-18, no tubes / coils, needs cleaning, else VG-1100

Guthrie Co. Bluebird w/tubes-1300

Hallicrafters SX-115, mint, book-1100

Hammarlund SP-600-JX, professionally restored, book-500

Harman-Kardon A-310, poor external shape 10

Homebuilt regen, glass top, w/BBTT tubes

125

Homebuilt superhet, Canadian 10-tube, 1/8" brass chassis, Rogers meters, solid-walnut cabinet-550

Homebuilt 5-tube, large, ex-Muchow Collection, with ribbon from 1982 exhibit at Lake Placid, NY, w/ BBTT tubes-555

Jones Symphony w/ BBTT tubes-200

Kennedy 110 w/ BBTT tube; silvered knob-750

Kennedy 281 1-tube regen., w/ tube-900

Klitzgen 1-tube regen., exc.-1000

Klitzgen det. & 2-step amp, w/ BBTT tubes-900

Leutz C w/tubes, Acme RE & audio xfms-1000

Marconi Arcon Jr 1-tube rcvr w/ BBTT tube and Marconi phones-850

Marconi V-2 w/ nonorig. Tubes-875

Melco Supreme w/ tubes, 4-tube version-175

Metrodyne single-dial, silk-screened panel exc., pot metal bad-275

Miraco Ultra, beautiful panel, missing parts-50

Navy SE-1420 modified at Frankford Arsenal to

Signal Corps BC-131, copy of book-2000

NESCO BC-144 w/ tubes, exc.-3100

Northern Electric R-11, R-15 w/ tubes-950

Northern Electric R-4 w/ tubes-700

Paragon

- * 10-R tuner-2600
- * 3-A w/ BBTT tubes-1500
- * DA-2 w/ BBTT tubes-800
- * RA-10 tuner-700

Penn Wireless SP2 w/ BBTT tubes & plug-in coil 600

Premier Electric 4-tube, oak cabinet, w/ BBTT tubes-1800

Radak C-3 w/ BBTT tubes - 2 rainbows-450

Radiola IIIA, Can. Westinghouse, w/ dud (?) WD-11s-200

RCA Radiola

- * I, exc.-950
- * II, cabinet broken apart when dropped - glued back together-225
- * III, junker, less tubes-50
- * III, OK, w/ BBTT WD-11 (dud?)-110
- * IV w/ tubes & repro batteries-1050
- * V w/ BBTT tubes-350
- * RC w/ BBTT tubes-300
- * RS, tubes good-450

Schaub Welt Super 40, one plug-in tube adapter, exc.-100

Sleeper 2400 1-tube, exc., tube OK-525

Sodion DR-6 w/ S-13 tube (open)-625

Technical Materiel Corp. GPR-90, near-mint,
book-350
Tuner, De Forest 3-circuit, for honeycomb coils,
less coils-30
Tungstram (Br.) 3-tube rcvr, ca. 1925-500
Turney Monoplex one-tube w/BBTT tube and
phones-1600
Tuska 225 w/ BBTT tubes, exc.-500
Unident. 1-tube, sewing-catalog premium from
Ohio-300
VT control unit, Paragon, w/ Moorhead tube
(open) on wood base-175
Wega VE301 Dyn "Volksempfänger"-300
Western Coil WC-10 w/ tubes-250
Wireless Specialty IP-501A w/tube-2750
Zenith 4R w/tube; stains on panel may be
removable-350
Zenith Trans-Oceanic 7000, mint, works-300

SPEAKERS, GENERAL

Speaker, Hallicrafters R-44, fair-20

SPEAKERS, HORN

A-J-S (Br.) LSZ, driver OK-125
Amplion Dragonfly, recolored, driver OK-400
Atlas, straight neck, small chip on base, driver
OK-110
Atwater Kent M-125
Granolite w/ Baldwin driver-80
Magnavox R-2B w/small bell-800
Magnavox R-3B, good decal, factory inspection
tag-175
Murdock 500, driver OK-325
Music Master-300
Riley-Klotz, good driver-250
Thorola Jr., good driver-125
Unident., small, bent, no driver-40
Western Electric 10-D, chips on bell, WU-150
Western Electric 182A, 3-1/2" bell, driver OK,
repainted, on vertical bracket mount for
display-400
Western Electric 521-125

MISCELLANEOUS

AM broadcaster, Reality, modern plastic, w/
internal cassette player-20
Antenna tuner, MFJ IntelliTuner-175
Arc-light lab demonstrator, John Browning
(London), pre- WW I, ex-Wofford College-
425
Bathroom rug, "Nipper," 18" x 24"-60

Batteries, '20s Eveready #6 dry cells (2) and "D"
cell-10
Batteries, 22¹/₂- and 45-V military, ca. 6 total-15
Batteries, vintage Eveready-5
Box, parts, "the last"-40
Boxlot, small De Forest components: switches,
xtal detector parts, etc.-160
Buzzer, Federal round ("Century")-50
Capacitors, assorted Sprague Orange Drops-20
Coherer, Central Scientific lab-demo-300
Coil set, De Forest honeycomb, 12 coils in home-
made wood case-80
Coils, SW, side-pin plug-in (4),"not for CR-18"-20
Cords, lot of assorted horn and headset-25
Crystal detector, De Forest D-101 -200
Crystal detector, De Forest type-200
Crystal detector, Jove, ca. 1919-130
Dials, De Forest white 3-1/2", one orig., one
repro-100
Fan, electric GE table, great restoration, "a
beaut!"-400
Grille cloth, several yards, generic brown-25
"Howler" telephone ringer, Western Electric 1-C
135-Hz selective-110
Lamp shade, Atwater Kent, new repro.-200
Loop antenna, Duro Metal Products, VG-150
Loose coupler, Clapp-Eastham, pre WW I-950
Loose coupler, homebuilt, 3 tap switches, ca. 30"
long, good cond., ex-Wofford College Radio
Club-250
Loose coupler, unident., looks like Chambers-95
Loose coupler, William B. Duck "Navy-style"-775
Lot: assorted wire and sleeving-20
Lot: grid leaks, phone plugs, etc.-30
Lot: machined hardware (mostly)-50
Lot: phone condensers and rheostats-10
Mic, Astatic D-104 "Golden Eagle"-80
Mic, chromed Astatic D-104C on gray stand-50
Oscillation transformer (helix), Murdock, ex-
Ford Museum-275
Panel blanks (3), De Forest, for Unit set, repro-30
Panel blanks (6), De Forest, for Unit set, repro-70
Panel, De Forest, for Unit set, repro-30
Robbins & Myers AC motor, ca. 1/10 HP, VG-25
Spark coil, Amrad C-1-950
Spark coil, MESCO-40
Spark coil, unident., med. size (8" x 6" x 4")-60
Spark coil, unident., w/tag-50
Spark condensers, Murdock (3)-70

Spark gap, Young & McCombs, on crude mount-70
 Static machine, Wimshurst, British-made, about 12"-625
 Switch unit, De Forest, for Unit set, exc. Repr-150
 Switch, antenna, unident., large (19" overall) SPDT on hard-rubber base-25
 Switch, Bryant ceramic DPDT knife-10
 Switch, De Forest S-100, and grid-leak cover for Unit set-70
 Switch, De Forest series-parallel, for Unit set, repro-30
 Switch, Murdock transmit-receive knife type-190
 Table scarf, 12" x 36", VG-60
 Table scarf, 12" x 48"-70
 Table scarf, 15" x 45"-40
 Table scarf, 16" x 54," faded-70
 Table scarf, 32" x 32"-75
 Table scarf, 8" x 32", exc.-70
 Transformer, audio, De Forest, TOK-60
 Transformer, Firth audio, TOK-150
 Transformer, neon-sign, for Jacobs Ladder, seems to work OK-10
 Transformers, audio (5), General Radio, open-30
 Var. condenser, De Forest 25-plate, for Unit set-20
 Var. condenser, De Forest 25-plate, for Unit set-20
 Var. condenser, De Forest 45-plate counterweighted, for Unit set-20
 Var. condenser, E. I. Co. 42-plate, glass-enclosed -85
 Var. table condensers, Conn. Tel. & Tel. (2)-50
 Var. table condenser, Murdock, base repaired-20
 Wire: black-braid Litz loop, 135'-25

TEST EQUIPMENT

Galvanometer, L. E. Knott table-type-75
 Meters, Hoyt, incl. lab-type (7)-40
 Ohmmeter, Hartman & Braun A. G.-20
 Sig. gen., Supreme '30s vintage airplane-dial-35
 Tube tester, TV-7B/U, exc., book, test charts, etc. 300
 Voltmeters, watch-case (7) -20
 Wavemeter, Clapp-Eastham BQ-350

TRANSMITTING EQUIPMENT

Antenna tuner, MFJ Versa-Tuner II (MFJ-949E) 40
 Dummy load, Heathkit Cantenna, less oil-20

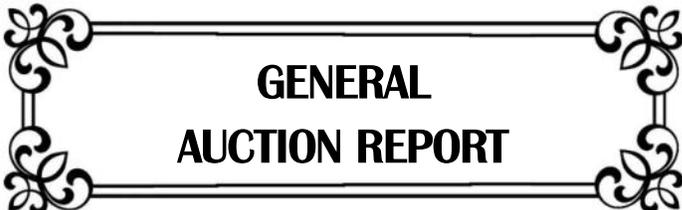
Hallicrafters HT-32B, mint, book-450
 Spark transmitter, good parts, needs spark gap 300
 Transceiver, Collins KWM-2, power supply, books, Astatic D-104 mic, mint-850

TUBES

102F, Western Electric, FOK-135
 127, Arcturus blue, FOK-20
 201As (3), Brightson True Blue, all open-70
 201As, Brightson Blues, boxed set of 5 (nonconsecutive ser. nos.), 2 open, 3 FOK-375
 216As (3), Western Electric, FOK-250
 501, Sovereign AC tube, NIB, good box-85
 Adapters, tube, four 4-pin-40
 Audion, De Forest Spherical, partial label, (true) Hudson fil., fil. wire out base, rubber-insulated leads, elements misaligned, ex-Wofford College Radio Club, open-650
 Audion, De Forest tubular, "DF" on anode, open-60
 Audiotron, Cunningham, in commercial adapter to fit Spherical Audion socket, good red-printed label, one fil. OK-100
 Ballast tubes, tubular, large brass double-contact bayonet bases, (2), WU -25
 C-12, Cunningham, BBTT, open-10
 C-299, UV-201, both BBTT, both open-20
 Caddy, RCA; clean, full, some usable '40s-50's types-200
 DL-15s (2), De Forest, new in cans-125
 DV-2(?), De Forest, Isolantite base, FOK-15
 DV-2, De Forest, bklt, TOK-20
 DV-2, De Forest, nicked base, label, FOK-40
 DV-2s (2) De Forest, TOK, in cans (one can mismatched)-70
 DV-3, BB, open, and DV-3A, Isolantite base, FOK, De Forest, good labels-50
 Electrad diode, w/ socket, open-80
 Gridless (Weagant Valve?), control element deposited on 3/8" dia. bulb, ca. 4" long, wire-ended, marked 3773, fil. leads absent-275
 GX-201A, Gold Airline, TOK-35
 GX-201As, Gold Airline (3), open-40
 Lot (7), UV-201As (5), no emission or open; WD -12, open; UV-199 no emission-30
 Lot, dial lamps, several hundred assorted-20
 Lot, duds (4): UV-201As, RCA 230, Raytheon BH-5
 Lot, octal tubes (2 sales)-30, 35
 Lot, Stabilovolt H85-255/60, "OK" UV-199,

Loud-Tone 201A, unident. in "Tungsrarn Barium Valves" box, FOK-10
 Lot, tube boxes - Sonatron MU-6, Defender 6505 NIB, Songbird 201A, two w/ tubes-40
 Lot, UX-112, UX-200A, 1 of each; TOK-40
 Lot, Volutron (gold), FOK; C-301A, open-25
 Lot, VT-5, FOK; Myers Audion, open-20
 Lot, VY2, RL2T2, RS241 (German); WU-40
 Lot, WD-11 & C-199, BBTT, open-10
 Lot, Wehrmacht (3): RGo2, RL2, RL2T2; WU-30
 M54s, Microtubes Inc., sample set of 3, NIB, pre-1945 logo on box-35
 QRS Red Tops (2), no logo stickers, FOK-40
 R-215, Northern Electric, FOK-40
 R-215s (2), Northern Electric 1 FOK, in boxes, spare box-35
 R-215s (3), Northern Electric FOK-30
 RAC, Myers Universal, NIB-50
 S-13, Sodion, new-looking, FOK-100
 S-8100, Schickerling, good decal, crisp box, open-30
 Socket, Western Electric, small 4-pin panel mount, no decal-90
 Sockets (4) and WD-11 adapter-20
 Sockets, Firco (Firth) (2)-40
 Sockets, Marconi-brand 4-pin (2), normal '20s style-70
 SX-201A, Super Airline, FOK-50
 TVT-11 (?), Schickerling, 5 triangular elements, with tag giving results of test ("75% of the efficiency of 201A as detector")-275
 TZ-20, Taylor, newish, w/ box less lid-5
 Unident. "UV-200," BBTT, vertical cyl. mount, nickel anode, Shaw base, open-25
 UV-199s (2), WD-11s (2), bakelite-25
 UV-199s (4); 1 TOK, 2 weak, 1 open-20
 UV-199s, BBTT (3), FOK but no emission-45
 UV-199s, BBTT (3), open-15
 UV-200 (1) open, UV-201 (1), FOK; BBTT-25
 UV-200, UV 201, BBTT, 1 of each, open-15
 UV-200s (2), UV 201A (1)-20
 UV-200s (4), BBTT, boxes: 2 FOK but no emission, 1 weak, 1 TOK-80
 UV-201, Westinghouse, BBTT, peach glass, open, w/ socket-20
 UV-201A (1), C-301 (1), UV-200 (1)-30
 UV-201A, BBTT, FOK; UV-201, open-5
 UV-201A, BBTT, rainbow, FOK-70
 UV-201As (2), UX-201A (1); all TOK-10
 UV-201As (7); 6 TOK, 1 weak-45

UV-201As, BBTT (5), open (2 sales)-50, 70
 UV-201s (2), UV-200 (1); BBT, FOK-50
 UV-201s (2), UV-200 (1); BBT, no emission-35
 UV-201s (3), UV-200 (1); BBTT, w/ boxes; 2 TOK, 2 weak-180
 UV-201s (4), BBTT, open-10
 UV-201s, RCA (4), BBTT, boxes, TOK-210
 UX-199s (4), TOK-40
 UX-199s (4), weak-20
 UX-201As (2), TOK (2 sales)-15, 20
 UX-201As (6, 5 RCA / Cunningham), TOK-60
 Vac-O-Bub, peach glass, in canister but less lid, open-200
 VT, De Forest / Moorhead, gold bulb, open (2 sales)-40, 50
 VT, Moorhead, carnival glass, WU-40
 VT, Moorhead, NIB but open, crisp box-130
 VT-1, Western Electric, '20s commercial paper label added, less contact-metal tips, open-20
 VT-5, Western Electric, NIB-30
 VT-21, De Forest, open-30
 WD-11 (1), weak-25
 WD-11, bakelite base, open-5
 WD-11, Radiotron, BBTT, open-15



**GENERAL
 AUCTION REPORT**

ADVERTISING, BOOKS, PERIODICALS

A. R. C. & ARCA Gazette mags., 3 bundles-5
 Boxlot, tube data + *Vintage Wireless* (Br.)-10
 Crosley lighted octagon wall clock, ca. 12", metal shell, crack in face-80
 Magazines, tray of '20s/'40s (*Radio News*, *Radio World*, etc.)-90
Mullard Technical Communications, '60s, 6-vol. set -40
Practical Wireless (Br.), 1933-40, 10 issues-70
QST, 60 issues, 1932-39, VG cond.-15
Radio Age, "Patterson" vintage, complete-110
 Radio maps & club mags (CHRS, *Cat's Whisker*, ARCA), tray-60
 Record catalogs, Schwann and Record Aid, 2 boxes of monthly issues-30
 Rider's Vol. 1-5 Abridged and 6 thru 15, good cond.-10

AMPLIFIERS

Accurate res.-coupled amp, exc., 3 BBT
"rainbow" display tubes-60
Hearing aid, Western Electric 36A '30s
nonelectronic, fair cond.-5
PA amp, Bogen Challenger, VG-20

KEY AND TELEGRAPH

Code practice set, clockwork Morse, key and
sounder on board-20
Telegraph sounder, unident., on WE resonator
pedestal-70

RECEIVERS, CRYSTAL

Howe, less xtal, catwhisker, and knob-35
Homebuilt slider-tuned breadboard-40

RECEIVERS, TRANSISTOR

AM-FM novelty rcvr, Pet Milk can, works-15
Coca-Cola cooler "reproduction," NIB (5 sales)-
30, 30, 30, 30, 35
GE J-100, cathedral "repro," new-25
Pepsi-Cola cooler "reproduction," NIB-10
Sony CRF-5090, FM side nonworking-65
Thomas "repro" cathedral radio (AM-FM-
cassette-clock)-5
Zenith 500 portable, WU, VG cond., book-25
Zenith Royal 3000-1, VG, works-50

RECEIVERS, TUBE

AC Dayton XL-25 three-dialer, no tubes-30
Admiral table set, ivory Plaskon-50
Airline 4-tube table set, white bklt-30
Airline 62-6026 small console-110
Atwater Kent
* 20 big-box, good cond., no tubes-30
* 20 big-box, refinished, works, no tubes-40
* 30, good cond.-30
* 37 console, lurid-pattern grille cloth, else VG-
30
* 52, exc. (possibly refinished)-80
* 84 cathedral, VG-325
* 84, unrestored, less knobs-135
* 456 table set, less speaker, else VG-70
* 944 cathedral, "as-found"-160
Aladdin Big Four regen set, good cond.,
"display" tubes-30
American Bosch 5, VG cond.-25
Boxlot, table and portable radios (4)-30
Boxlot, table sets, Zeniths (2), Philco (1)-30
Bremer-Tully 6-tube set-20
Clarion Junior cathedro-tombstone, rest. -125

Cockaday LC-27, display tubes-75
Console RCA Z62, chassis restored-40
Crosley Model 819M console, lights but does not
play-40
Cutting & Washington 1-tube, exc.-425
Delco 1106, restored, VG-80
Dumont in-wall AC-DC AM set, restored-35
E. H. Scott Phantom chassis, good chrome, "as-
found"-100
Emerson AC-DC-battery portable-25
Emerson DA287-15
Firestone large table set, restored chassis, VG
cond.-100
Firestone / Mitchell radio-lamp, disassembled,
scruffy-60
Fisher stereo receiver, 7591A output tubes, w/
numerous Telefunken tubes-395
Freed-Eiseman NR-9, VG cabinet, no tubes-20
Freshman Masterpiece, built-in-horn version,
horn troubled, cabinet good-30
General Electric
* 212Y AM-FM set, VG cond.-24
* FE-51, less one tube-30
* K-50P-50
* S-22 tombstone, restored-95
* Tombstone, VG, unrestored-150
Grebe MU-1 Synchrophase, VG cond, works-285
Hallicrafters SX-62A, exc., spkr., book-250
Hammarlund SP-600-JX-14, in table-rack
cabinet, works-225
Homebuilt SW set, 2-tube, National "N" dial-50
Imperial bklt table set, WU-20
Iveyline (Southern Toy Co., Hickory, NC))
cabinet w/ 3-tube homebuilt rcvr, "display"
tubes-90
Kit 3-dialer, unknown, good cond.-10
Lafayette Neutrodyne, display tubes,
polyurethane finish?, panel grubby-50
Lot, Arvin '50s portable & Truetone table set-40
Lot, GE table set, VG; and Atlas portable, fair-25
Mirrotone 487 midget TRF set-30
National SW-3, exc., w/ 5880 power supply, 2
coils in orig. boxes-200
Philco
* 20 small console-70
* 20 small console, VG cond., hums-60
* 41-221, refinished-35
* 52 AM-SW, mother-of-pearl dial,
nonworking-55
* 66, all-original, exc., WU-50
* 66B tombstone, VG cabinet, hums-45

- * 71, poor (veneer troubled)-70
- * 84 cathedral, well refinished-70
- * 97 cathedral, finish VG, unrestored inside-140
- * 623 tombstone, rstored, refin.-65
- * Chairside, painted with Oriental-motif designs, some paint fading-100
- * Junior cathedral, exc.-80
- * Junior cathedral, veneer troubled-50

RCA Radiola

- * III, unrestored, no tubes-60
- * 17, no tubes or dial hood, some parts inside-25
- * 26, possibly refitted with transistors, homebuilt power supply included, works-110

RCA Victor

- * 1-X table set, restored-45
- * 3BX671, good-40
- * 4QR64X-20
- * 6T (2 sales)-50, 60
- * 46X3 table set, refin.-55
- * 121 table set, "as-found"-70
- * R-35 console, works-30
- * T8-18 tombstone, well restored-70

Drake R7, "phone" filter, works, book-525

Homebuilt, 4-tube, w/ 5-01As-20

Homebuilt, ca. 1923, with 3 201As (one open), unusually good job-30

Knight Space Spanner, kit SW, VG, WU-40

Lot, Zenith 6G001 portable & 8 Edison single-side records-30

Scott All-Wave 23, exc., good chrome, "may need a tube or two"-1100

Scott Philharmonic '33, VG, small tear in grille cloth, less tweeters, needs tubes-2000

Silvertone 3-band medium console, gold-dial-160

Silvertone 4786 3-band "telephone dial" console-80

Sparton

- * 69 Equasonne, less speaker-50
- * AM-26, VG-35
- * Small wood table set, cabinet restored, non-playing-50

Stewart Warner, small ball-and-claw cabinet, VG cond.-80

Stewart-Warner 9152 plastic table set-20

Tombstone, unk. 6-tube, restored-60

Truetone big table set, VG cond., hums-40

Truetone, brown bklt, VG, WU-30

Wards Airline 94BR1526 ivory bklt, VG cond.-15
Ware Type L, VG cond., "display" tubes-100
Westinghouse H-126 "refrigerator" set, good-60
Westinghouse International M-102 AM-SW, VG cond.-20

Wilcox-Gay 179M drop-leaf table with slide-out radio, good cond.-130

Zenith

- * 500 Trans-Oceanic, VG, WU-50
- * 6D510, exc., restored-25
- * 7S240 chairside, VG-275
- * 9S365 console-225
- * J664 Cobramatic table record player, good cond., WU-35
- * Bklt. table set, white paint, some discolor, WU-50

TEST EQUIPMENT

Ammeter, Westinghouse lab-type, mirrored scale-10

Bridge, E3272 very-low-ohms portable-11

Impedance bridge, General Radio 650A, w/ GR power supply, book-20

Jewell 209 tube tester-25

Oscilloscope, Heathkit, late model, "worked at last use"-10

Oscilloscope, Sundt Engineering rotating-mirror / neon-lamp, homebuilt case, documentation included, mirror somewhat corroded. (See *QST*, Oct. 1935)-70

Output meter, Weston 695, good cond.-10

Power supply, "A," commercial, in homebuilt wood case-30

Power supply, homebuilt "A" and "B," wood case, well done-15

Power supply, homebuilt-35

Tube tester, B&K 606 DynaJet, book-30

SPEAKERS

Cone, Kolster, good, works-20

Cone, RCA 100A, VG cond.-35

Cone, Rola 10, good driver, cloth covers available separately-50

Cone, Stromberg Carlson 5-A, VG cond., WU-115

Cone, Tower Adventurer sailing-ship, possibly repainted, VG cond., WU-160

Cone, WE 560AW, cone nicely replaced, good driver-350

Drum, Temple, driver OK, VG cond.-25

Drum, unident. brown metal, VG-25

Horn, RCA UZ-1325, driver OK-50

TRANSMITTERS

- BC-9A xmtr-rcvr, Wireless Improvement, 3 VT-1s, good cond., seems complete-450
- Spark xmtr and xtal rcvr, made by Ed White, has edge-wound tank coil-700
- Spark xmtr, made by John Glisson, quenched gap, edge-wound tank coil-300
- Homebuilt breadboard w/ push-pull 45s, well done-80
- Homebuilt TNT, *QST* Nov. 1930, display-contest winner built by W1FPE, copper tubing polished-500

TUBES

- 5K50D-1, Eimac klystron-100
- 201As (8) - Perryman, Sonatron, Songbird, etc.-65
- 1850A, RCA iconoscope, w/ carton-210
- Boxlot, mostly "G" octal-50
- Boxlot, mostly big-pin-70
- Boxlot, power tubes (8163, 221A, VT-129, 701A, 860, RK-65, 250TH)-70
- "MS Modulator," large German power type, fil. 16.6 V @ 8.1 A-190
- Spherical Audion, De Forest single-wing, FOK, insulation missing from leads-1050
- Tube carrier, cardboard, "Silvertone," darkened surface, else good, w/ 8 good tubes-40

MISCELLANEOUS

- Headsets (10)-20
- Boxlot, xtal detector, amateur-band xtals, homebuilt cigar-box xtal set-20
- Cabinet, '20s table-radio, fair cond.-2
- Cabinet, for DeForest D-10, good cond.-45
- Grunow wired remote control for 2-A console-55
- Lot, General Radio audio xfmr and Mignon variable resistor-10
- Microphone front, turned wood, early, no case or element-40
- Microphone stands, floor-type angled, Atlas and one other-30
- Microphone, Shure 55 Unidyne, works-55
- Pooley cabinet, "made for AK metal set," grille cloth changed, finish VG-20
- RCA 45-RPM table players (3), good-to-bad cond.-20
- RCA "Magic Wave" antenna kit, in box-5
- Table clock, small Telechron Deco-styled-30
- Turntable, Technics SL-B2, less cartridge-2
- Turntable, Technics SL-B-303, less cartridge-2
- Victor desk clock, glass cracked-10

Victrola, portable, cloth-case, from Library of Congress outreach program, WU-25

A GIMMICK?

By Fred Crews

Many radio guys may not have heard of a device called the "gimmick". They were not often used in the old tube radios, but when used served a purpose. The gimmick was really something of a capacitor. They were used to give capacitive coupling in the RF circuits of some sets. An AC/DC superhetrodyne radio that I worked on had a very obvious one. It was used to couple the oscillator frequency of the radio to the incoming received signal and the output result was the intermediate frequency. The tuning capacitor was a 2 section one with the oscillator section physically smaller than the RF section. On top of the RF section was a wire going to the grid cap of the first tube. Closely wrapped around that wire was another insulated wire of 6 to 8 turns. One end was loose and the other was connected to the oscillator tuning capacitor.

Some designers actually wrapped a length of wire into a coil and they were not noticeable, but one end was soldered to another circuit, and the other end was open.

In other cases two wires had one end soldered to a circuit and these were then twisted together to provide a coupling capacitor of sorts. I found one radio that had one end of a wire connected to the antenna terminal and another wire with one end connected to the antenna transformer. I have read that some designers have said these techniques tend to give more uniform gain over the radio's tuning range.



HOW TO USE RADIO B ELIMINATORS

By Alfred P Lane



**ANY WALL PLUG
WILL SERVE YOU
AS WELL AS A
GOOD BATTERY**

Half a dozen different types of B battery eliminators being prepared for test by the Popular Science Institute of Standards. The Institute tests are rigid and include life test for the rectifying element ; also determination of maximum output , voltage and absence of hum.

The remarkable progress in the design and manufacture of B battery eliminators now gives you three possible sources of supply for the current to operate the plate circuit of your vacuum tubes. You can use dry cell B batteries, storage B batteries or one of the wonderful new B battery eliminators now on the market; and even the expert can not tell which is being used on your set, so far as results are concerned.

This means that you can substitute a B battery eliminator for the batteries you now are using without sacrificing either volume or quality. Of course you cannot expect to get better results with a B battery eliminator than you now get with good batteries, for batteries - either dry cell or storage --give perfect current for radio uses. The big advantage of the eliminator that works from your house current is, of course, in cutting out the troubles you now have with run down

dry cells or the constant recharging necessary with a storage type of B battery.

It is entirely possible to run a one or two radio set with a B battery eliminator, but the big advantage of the eliminator comes when it is used with radio receivers having five or more tubes. This is because the larger sets ordinarily require at least 90 volts from the B battery and the current drain is much greater than with the small one or two tube set.

Figure 4 on the next page shows the three sources of high voltage direct current now available. At the left is it standard style of heavy duty, 45 volt dry cell B battery. Two of these in series will run the average five tube radio set for five to eight months, depending on the number of hours it is used each day. In the center is a popular type of storage B battery consisting of 24 cells. Two of these batteries in series will give you 90 volts and with care they will last for five years or more. Such a battery requires regular charging at intervals of every two weeks and refilling with distilled water every two or three months. At the right is a typical B battery eliminator. These instruments supply 90 volts or more for the amplifier circuits, and an adjustable voltage for the detector tube.

Many people cannot see why it is impossible to plug directly into their 110-volt house current to run their radio sets, just as they would for a vacuum cleaner or electric iron.; nor do they understand what the B eliminator does to this

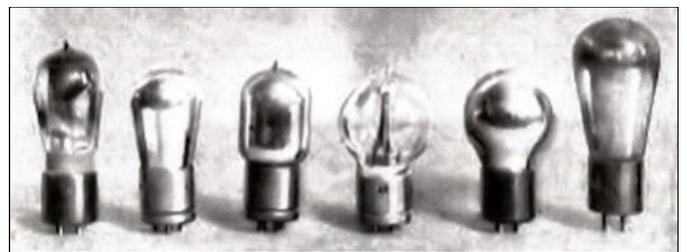


Fig. 1—Six kinds of modern rectifying tubes used in B eliminators. They are of two general types. Some operate by means of a filament: others, being operated without filament, utilize the ionization properties of a special gas.

current to make it usable for radio purposes. Perhaps the simplest explanation is to point out that the sounds you hear coming from the loud-speaker are reproductions of variations in the electric current flowing through the coils inside it. And in order to produce recognizable music and speech it is necessary to have a perfectly even flow of current on which to impress these variations. The ordinary 110-volt current supplied to most of our homes is of the alternating type. Instead of being a smooth and constant current it flows back and forth, so that there are usually 60 complete cycles or changes each second. In other words, each of the supply wires becomes alternately positive and then negative some 60 times a second.

What chance would you have to hear the relatively slight changes produced by the radio signals if they were impressed current violently fluctuating from positive to negative? None at all, for the broadcasting would be completely lost in the terrific 60 cycle hum.

The function of the B battery eliminator is, first, to change the alternating supply to a pulsating direct current, and then to smooth out the pulsations so that a perfectly smooth, even supply of direct current is available at the binding posts of the instrument. How this is done by the B battery eliminator is shown in Fig. 2.

You will note in Fig. 2 that a graphic representation of what happens to the electric current is shown at the bottom of the drawing. The current flowing out of the electric light plug is shown as a snake-like line indicating the result if the voltage variation were plotted with the straight line representing zero voltage. The first operation in any type of eliminator is to convert this alternating current to a pulsating direct current. Usually the alternating current is stepped up by means of a transformer to a somewhat higher voltage and then it is fed into a special tube that rectifies it, or the rectification is accomplished with electrolytic cells that permit current to flow through them in only one direction.

The next step is to feed this pulsating direct current into a filter system, consisting of a number of very high capacity condensers and one or more choke coils. The function of the choke coils is to resist changes in the rate of flow of the current passing through them without materially interfering with the flow of current that is not changing in amount. In other words, the choke coils act like springs in that they add voltage to the circuit as the supply voltage drops, and subtract voltage as the supply voltage increases. So the combination of the reservoir action of the large condensers with the balancing effect of the choke coils finally results in a smooth flow of direct current suitable for use instead of B batteries in your radio set.

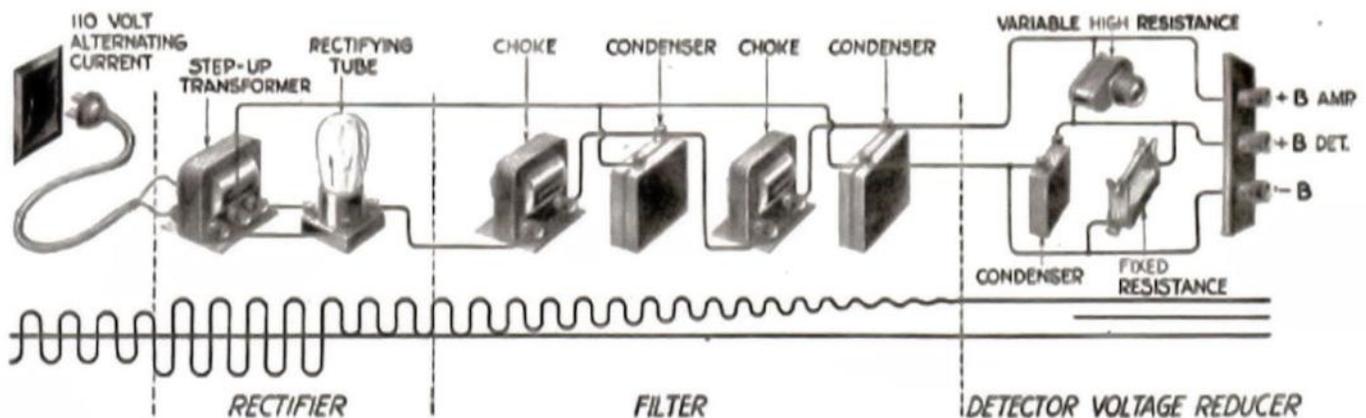


Fig. 2-This diagram shows how the different parts of B battery eliminator are connected, and their functions in changing the 110-volt alternating house current into an even smooth supply of direct current for the radio set. At the bottom of the drawing is a graphic illustration of how the electric current is changed by the rectifier, filter and voltage reducer. Each manufacturer incorporates his own ideas in this circuit.

The remaining function of the B battery eliminator is to by-pass part of the current in such a way that a lower voltage is available for use on the detector tube. All good eliminators are so built that the detector voltage can be varied within adequate limits. Some of them also provide for a variable amplifier voltage.

There is nothing particularly new about the filter end of the circuit in a B battery eliminator.

The marvelous new development is that have made B battery eliminators practical for the radio are all in the rectifying end of the circuit. Today we have rectifying tubes capable of rectifying sufficient current to operate the largest of radio receivers and those tubes have an extremely long life.

Fig. 1 shows a number of modern rectifying tubes, which can be divided into two general classes. One general type, of which the tube at the extreme right is a popular example, operates by means of a heated filament. At the left end of the picture is an example of the class of tubes which operate without any filament at all. These utilize the ionization properties of a special gas to obtain the rectifying action. Both kinds give equally good results in circuits designed to take care of their particular characteristics. The filament types give up to 1,500 hours of service, or more than the most ardent radio fan is likely to run his set during a year.

The average life of the filamentless type of tube is not definitely known. On test, such tubes have run more than 10,000 hours under full load with no apparent falling

off in output. Others have given out in less than that time for reasons ordinarily traceable to some flaw.

The eliminators using electrolytic cells to rectify the current give as perfect service as the tube types if they use the new tantalum-acid combination in the cells. The elements of the cells last indefinitely and the only attention they require is the addition of a small amount of distilled water at very long intervals.

It is possible for the experimentally inclined radio fan to construct a good B battery eliminator using one of the remarkable new rectifying tubes, but the individual parts such as transformers, choke coils and condensers necessary to make up a satisfactory eliminator will cost you as much as a complete factory-built

instrument. This means that home construction along those lines will lie restricted to enthusiasts who prefer to build their own simply for the pleasure of the work involved

In choosing a B battery eliminator all you need to know is the current consumption and the voltage requirements of your radio set, and then be sure to pick out an eliminator capable of supplying the amount of current you need at the voltage necessary for proper operation. And if you know nothing about these features, the dealer from whom you bought your receiver or the manufacturer will be glad to inform you. Of course, there are poor B battery eliminators on the market just as there are poor radio receivers. Thus it will pay you to obtain the list of apparatus approved by the Popular Science Institute of Standards. This list



Fig. 3— Simple installation of a B battery eliminator. Simply connect wires between the binding posts of the radio receiver and those of the eliminator, and plug the eliminator into wall socket. At right is seen the A battery. A cable holds all leads for battery and eliminator.

includes the names of the various B battery eliminators that have been tested and approved. The Institutes tests include the operation of the eliminator on a number of typical radio receivers, as well as scientific tests to make sure the rectifying end of the eliminator will give a sufficiently long life.

The installation of the average B battery eliminator is extremely simple. Fig. 3 shows a typical arrangement. Here the radio receiver is fitted with a battery cable that includes all the leads for both the A and B batteries. All that is necessary is to connect wires between the binding posts of the radio receiver and those on the eliminator. Now turn on the current from your A battery so that the tubes are lighted properly and then turn the B eliminator by plugging in the wall socket and turning the switch if one is built into the eliminator. Now tune your set as usual. As soon as you have a station tuned adjust the detector voltage knob on the B eliminator until the signals are as loud and clear as possible. If the B eliminator also includes a method of adjusting the amplifier voltage, try changing this and leave

the adjustment where the voltage is as low as possible consistent with full volume and tone.

When you stop using the set it is always a wise precaution to disconnect the eliminator before your shut off the tubes.

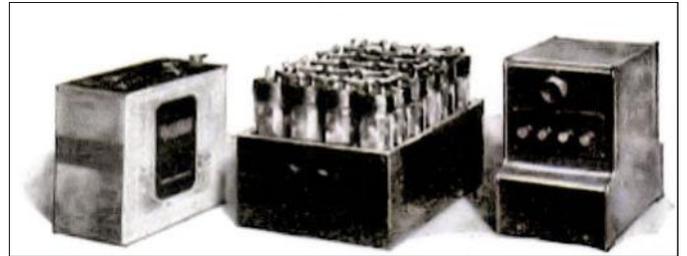


Fig. 4-Three different sources of plate circuit supply are shown here. Left to right: standard heavy duty 45 volt dry cell B battery, popular type of storage B battery consisting of 24 cells, and B battery eliminator.

Editor's Note: This article first appeared in the March 1926 issue of the Popular Science Monthly.



GLOBE DESIGNED AS RADIO CABINET

So that radio sets may be heard but not seen, Albert Aurili, a sculptor, of Lake Worth, Fla., has designed a cabinet which is a globe map of the world. Cast in halves, it is arranged to open on hinges, to tune or inspect the set.

This new radio cabinet is supported at its poles, at which points the wires are led inside. It should prove a convenience says the inventor, when receiving news broadcasts. The user could easily find on the cabinet itself different parts of the world mentioned, without having to leave the radio to look them up elsewhere.

Popular Science Monthly

July 1931

CLEARTONE RESTORATION

By Robert Lozier
Kd4hsh@juno.com

Preservation of history is always the goal. Too often attempts at restoration obscure or eliminate historical detail. One has to make determinations as to whether to restore or simply clean. In the present case, the receiver appearance was so poor it was not presentable and deterioration would continue unless it was clean and protected.

1. THE FRONT PANEL



The distinctive yellow brass front panel simply was not presentable as is. It was, in my opinion, a pretty easy decision to attempt to refinish it.

The yellow brass panel is photo engraved. I had wondered why this company turned out radios with this distinctive feature. As it turns out, the factory where these radios were built was owned by the *Herschede Hall Clock Company*. This company was a major supplier of large clock movements for hall clocks and the radio panels were made with the same machinery used to make the large elaborate clock faces.

The brass was given a fine lateral brushed finish and then 'pickled' in strong acid to obtain a buttery yellow color. The brass was then, apparently, varnished.

This example was heavily oxidized and no longer presentable. The panel was stripped of the varnish and a mild acid (sodium bisulfate) was used to remove the oxidation. Brass is primarily an alloy of copper and zinc. The oxides of these two metals are attacked at different rates by the acid and this results in there being an excess of copper at the surface resulting in a pink cast to the brass. (Apparently this can be eliminated by the application of *strong acid* for brief periods of time using dip or spray wash setups that only exist in commercial metal finishing operations.)

Sanding the surface with fine sandpaper and mineral spirits will help, but there will still be some coloring of the brass by the excess copper. The photo engraving is not deep, so you cannot sand very much without risking loss of engraving depth that will make filling of the engraving difficult or impossible. You have to find that happy median.

After cleaning with the acid and flushing off the excess, the panel was forced dried and a thin coat of a special lacquer was applied. It was applied when the air temperature was about 40 degrees F. This made it easier for a thin coat of material to level-out before the solvent vehicle evaporated.



The set after cleaning. The front panel is not perfect, but a lot of the 'original intent' of the manufacturer is still apparent.

The engraving was filled with acrylic black paint and the excess simply wiped away with an old, damp handkerchief. The water base paint did not affect the lacquered brass but the pigment in the paint does scuff the clear lacquer just enough

to be noticed in strong light. So after the acrylic paint dried completely, I buffed the panel lightly and then applied a heavy coat of the lacquer to seal everything and make the scuffing disappear.

Yes, you can still see some pink, but you can also see some of the original intent of the brushed grain.

2. THE TUNING COIL.

The tuning coil had a dirt dauber wasp nest built on one side. Many years ago I broke off most of the clay but there was still some clay left. I used a 1/2" wide hog bristle brush to help me apply soapy water to the coil and then immediately vacuum off the soil and solution using a miniature vacuum brush. (This is just a miniature version of carpet steam cleaning. I did not want the soil to penetrate the cotton and dissolve any copper oxides that would discolor it.) I immediately dried the area with my trusty *Makita HG1100* hot air gun that I *highly recommend* because of its excellent range of temperature adjustment.



The inside looked even worse, just about everything had to come off for proper cleaning.

3. TERMINAL STRIP LABEL.

There was only a tiny piece of the paper label that identifies the connections. Just one word is visible – ANTENNA - but it gave me precise

information on the size and font style to use. Merrill Bancroft sent me a photo of the strip and I was then able to recreate the label almost perfectly using *AutoCad 2000*.

4. OTHER PARTS.

As you may be able to see, there is severe loss of nickel plate on the audio transformer covers and binding posts. Here I have not yet decided on whether it is better to re-plate them or not. Right now they are just protected with clear lacquer.

The rheostats, tuning coil, tuning condenser and grid leak assembly were removed. This set is a bit of a dog to take apart because everything is soldered together. I then ran these items through the ultrasonic cleaner.

The rest of the chassis is *Bakelite* and you absolutely cannot clean this with caustic cleaners like *Fantastic*, *Super Clean* and other "purple cleaners". The cleaner will dissolve the phenol resins. (Have you noticed that a white rag will turn brown when you wipe off anything *Bakelite* when you use such cleaners? That is the resin leaving the *Bakelite*.) So the chassis was cleaned first with *Go-Jo* or *Goop* waterless hand cleaner to loosen soil then rinsed off and dried with the heat gun. I then used alcohol to remove old rosin flux, old shellac and anything the *Goop* did not attack. Then I could use the mild acid to clean off excess oxidation on the buss wire and screws that are soldered in place.

After a thorough rinse and forced drying with the hot air gun, I could paint on satin clear lacquer here and there to protect exposed metal from new oxidation for some decades to come.

I then remounted all the parts and soldered them back in place. This leaves a lot of shiny solder joints that just seem to *scream-out* 'new repair'. Fortunately this can be easily solved by chemically aging the solder.

Clean the joint with alcohol to remove flux. Then use a fine brush with brass or fiberglass bristles to dull the solder slightly. Saturate a Q-Tip with a drop of '*Brass Black*' and wipe it on the joint.

Within 20 seconds or so the solder will turn dull as if the joint were made 80 years ago. Use cotton balls saturated with distilled water to wipe off the excess *Brass Black* after it has done its job.

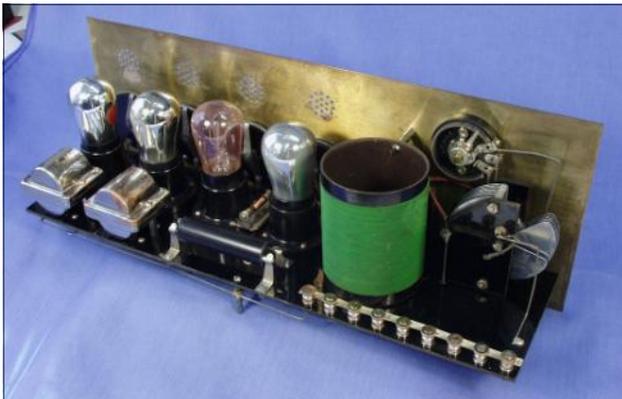
Brass Black is a solution containing selenous acid. It is used in the jewelry and metal finishing industries. A bottle will last a lifetime for our purposes. Years ago I paid about \$20 for a 16 oz. bottle and still have 90% remaining. Treat it with respect since it works as a poison that penetrates the skin.

5. THE CABINET

The cabinet was not refinished. Only a thorough cleaning with *Go-Jo*, a little touch-up with stain here and there and finished off with bees wax & turpentine. If the weather had been warmer, after the touch-up, I would have applied a coat of boiled linseed oil for 20 minutes and then wiped it off completely and let the cabinet stand for a week before giving it a coat of wax. (I can still do that later since all I need do is to go over the cabinet with *Go-Jo* again.)

6. THE CLIP-IN RADIO FREQUENCY TRANSFORMER

The transformer you see here is a replica. I have photos showing two different styles of transformers. When I gather more accurate dimensional information on these transformers, I'll make another.



The chassis looks pretty good now. I still may re-plate the top shells of the audio transformers and build a better (more accurate) clip-in RF transformer.

7. SO HOW DOES THIS SET PERFORM?

I don't know exactly because one of the audio transformers is open. But simple analysis of the circuit shows that, without regeneration or multiple TRF stages, this was good enough to only get the local stations with loudspeaker volume. (I'm thinking that advertising hype about logging 20 to 35 stations in a single evening were likely only in a *very quiet room*, on that rare winter night while using good headphones.)

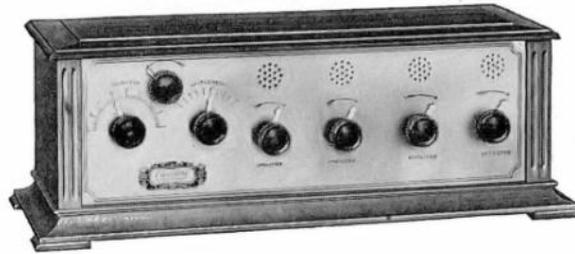
8. SOME ADDITIONAL TIDBITS

Merrill Bancroft and others have this identical set (except the panel is silver plated) but instead of the Cleartone logo, it says Faraway (Faraway Radio Co.) and is identified as the Model F. It is also lists a Cincinnati address. Why an identical set under a different brand name? An educated guess would point to marketing strategy. Even in those days it was common to sell through distributorships and regional marketers. A lot of these organizations insisted on exclusive rights to sell the product in their territories. By selling under a different brand name, they could have their product being promoted by another organization in the same area. Ethical? Probably not, but bending ethics/laws in some business transactions is nothing new.

The following year you can see advertisements for a (apparently) 3-dial TRF set made under the Silverset Radio Co. brand name but the identical set is being marketed as the Cleartone 'Super Clear-O-Dyne'

There was a pretty big shake-out in the radio manufacturing business in late 1925 and apparently by 1926 Cleartone/Faraway/Silverset were no more.

Cleartone Goldcrest Models



Model 60—\$60

The Goldcrest Cleartone is a four-tube receiver that has given wonderfully satisfactory service in the past, and which has been improved in many details since its introduction. In locations removed from powerful broadcasting stations it will equal any receiver in efficiency.

The set is non-regenerative and does not re-radiate. It has one stage of transformer-coupled radio frequency, detector, and two stages of audio frequency, and from

the standpoint of volume and sensitivity is equal to any receiver using four tubes.

Either dry cell or storage battery tubes may be used. The instrument, like all Cleartone products, is equipped with a universal rheostat for use with any type of tube.

The cabinet is of solid mahogany, and the panel is a beautiful gold finish — a most attractive combination. You will be genuinely proud to own this receiver.



Model 62—\$120

This instrument is similar to the other Goldcrest Cleartone receivers, except for the unusually handsome console cabinet with space for loud speaker, storage battery, "B" battery and charger. It combines an unusually attractive piece of furniture with an efficient self-contained radio set.



Model 61—\$75

This Goldcrest receiver is the same as model 60 except that it has a special cabinet built to house the dry battery equipment used with the set — making it a completely self-contained unit.

THE
CLEARTONE RADIO CO.

McMillan Street at Reading Road, Cincinnati, O.

The Cleartone Goldcrest Models for 1924