ANTIQUE WIRELESS ASSOCIATION, INC. Founded 1932. Chartered as a non-profit corporation by the State of New York

HOLCOMB, NEW YORK 14469

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Membership DUES and ADDRESS CHANGE, write Treasurer: LINCOLN CUNDALL 69 BOULEVARD PARKWAY, ROCHESTER, N.Y. 14612

Change In Address?
Mail information to the Treasurer who handles current mailing list. (NOT the Secretary)
L. A. CUNDALL, W2LC
69 BOULEVARD PKWY
ROCHESTER, N.Y. 14612

ERRORS IN OTB--
The last issue had its usual 5 or 6 typographical/spelling errors. Most noticeable was the spelling of Alvino Rey's name. We had it as Ray, Sorri OM.

DUES: PAYABLE TO TREASURER
Lincoln Cundall
69 Boulevard Parkway
Rochester, N.Y. 14612

FIRST CLASS MAILING: 1 year- $6.50
(Special Handling) 2 years- $12.00

THIRD CLASS MAILING: 1 year- $5.00

S.O.W.P. XMAS CW QSO PARTY
S.O.W.P. members are reminded to be on Dec. 17 & 18 and operate 55 kHz up from low end of each amateur band for a good time and renew old acquaintances.

LETTER TO A.W.A. at HOLCOMB ??
Send S.A.S.E. for prompt reply...

COMING EVENTS

ANTIQUE WIRELESS ASSOCIATION

JANUARY
Old Timers CW Contest
Jan. 11, 12 and 19, 20

APRIL
California Historical Radio Society and A.W.A. Meet
Los Gatos, Calif. April 22

MAY
Indiana Historical Radio Society and A.W.A. Meet
Auburn, Ind. May 5 and 6

AWA Museum Opens May 7

A.W.A. Spring Meet, Museum & Ionia, N.Y. May 13

N.Y.S. ARRL Convention
Rochester, N.Y. May 20*

JUNE
Rome Hamfest (Exhibit)
Rome, N.Y. June 3*

South-East AWA Regional Conference, Winston-Salem, N.C. June 9, 10 and 11

JULY
Southern Tier A.W.A. Meet
Breesport, N.Y. July 15

AUG-UST
Central N.Y. A.W.A. Meet
Kirkville, N.Y. Aug. 26

SEPT-
National A.W.A. Conference
Canandaigua, N.Y. Sept. 29, 30

EMBER*
To be confirmed
Tired of Waiting?

for your Bulletin -------

A survey was made of the September OTB which was mailed during the last week of August. First Class mail arrived in most places within a few days -- but wow (!) -- what happened to the other?

A check with the Rochester P.O. revealed all Bulletins were sent out the day after delivery. Then the fun began.

Some members in nearby states had their copy within a couple days while one member who lives only 10 miles of Rochester had to wait three weeks!

The problem? -- strictly in your local P.O. or area distribution center. 2nd and 3rd class mail is frequently delivered at the whim of the local postmaster. May we suggest you give him a call......

What's Coming Next!

in the "Old Timer's Bulletin"

"OLD CORTLAND STREET"

"HISTORY OF BARKER & WILLIAMSON"

"REVIEW OF 1977 AUCTION"

"HISTORY OF DAY-FAN RADIO"

"THE PARAGON TRANSMITTER"

"HISTORY OF WESTERN COIL CO."

"HISTORY OF COLONIAL, KING AND SYLVANIA RADIO COMPANIES"

"COLLECTING BATTERIES"

"HISTORY OF THORDARSON CO."

Towards KEYS

BILL WILSON- W2PW, Ithaca, N.Y.
JOHN ALLENDER- W3CJN, Baltimore, Md.

HISTORICAL DOCUMENTARY

Thorn Mayes has nearly completed an in-depth research paper on Lee deForeest and his activities and is now gathering material for a second paper on Fessenden. Knowing Thorn's thoroughness, members can be assured of excellent documentaries on two well known pioneers.

FM Repeater

Members traveling in the Rochester, N.Y. area are invited to call in on the Victor 2 meter repeater operating on 22-82. The machine is owned and operated by AWA Board member Henry Blodgett, W2UTH/FRL and is located only 5 miles north of the AWA Museum, K2KLP, K2WW, N2JM, W21CE/AN, W2VTR are but few of the several AWA members who monitor 22-82.

The Easy Answer

for a club program is the A.W.A.

SLIDE SHOW with TAPE COMMENTARY

Members who need program material for a radio club meeting will find the AWA 40 slide show and 32 minute tape cassette commentary ideal. In fact, it is even a great program for one's personal use.

The slides show all kinds of radio material in the AWA Museum with tape telling about the various pieces of equipment and its history. We might add the commentary was done by former CBS radio announcer Stew Metz. The show with tape is yours for only $21 postpaid. Make check out to A.W.A. and mail to:

AL CRUM
16 COSTAR ST.
ROCHESTER, N.Y. 14608
Gray Museum is Moved

Great news! Jack Gray's Radio Museum has been moved and now on display at the new Crosley Community Center located at 1223 Central Parkway in Downtown, Cincinnati. The center is also the home of stations WCET-TV and WQLA-FM. A group of loyal amateurs headed by John Bruning (W8DSR) made the move.

Inventory of Receivers as Packing Takes Place

Jack Gray (W8JDV), a Charter AWA member, had one of the finest radio museums in the country at the time of his untimely death in 1970. Originally a Marconi ship operator, Jack later worked for the Precision Equipment Co. and then the Crosley Company where he was a manufacturing supervisor. He joined the broadcast division in 1937 (WLW) and retired from their "Voice of America" station in 1965. He was the author of the book "Bits of Wireless" and several exceptionally fine slide/tape shows including the "Crosley" and "Grebe" Stories. His farsightedness in establishing a Foundation to handle his radio collection after death is to be commended. Others should give thought as Jack did, to the ultimate disposition of their radio material.
Alert List!

The following receivers were stolen from a member's home in central New York. If they appear for sale under suspicious circumstances, notify Floyd Bennett immediately.

--AK Breadboard Mod. 10, 5 tube Stromberg-Carlson, Freed Eiseman NR-6, Radiola III-A and Radiola III with amplifier.

DE FOREST MODEL W-6
BROADCAST RECEIVER

This huge floor model receiver was made by the De-forest company in the mid-twenties and was one of his several attempts to break into the booming broadcast set field.

The cabinet has a walnut finish with a large ornate speaker mounted on top.

The receiver uses six tubes: 2 RF, Det. and 3 in the audio.

Not much information is available on this model. One at AWA appeared to be in poor condition. Production must have been very low with a minimum of advertising.

This particular set (photo) is owned by Richard Foster of Cochituate, Mass. Can anyone supply us with more information? Exact year manufactured? Number of sets made, etc.?

Ed. Note: Members are encouraged to send in pictures of unusual receivers. We prefer black & white glossy, any size. Make note of unusual features.

Farnsworth

Members visiting the Foothill College Museum at Los Gatos, Ca. will have an opportunity to see Philo Farnsworth's original TV equipment made in 1927 [50th Anniversary].

An almost forgotten pioneer, he died in 1971 after developing a television system strongly competing with Zworkin's. He held 150 U.S. and 100 foreign patents. [John Anderson]
The 600 Meter Watch
In Early Broadcasting

Robert M. Morris, W2LV, Sparta, N. J.

In the early nineteen twenties, persons or organizations desiring to get into broadcasting applied for and received a license for a "Limited Commercial Land Radio Station". Transmitting wavelengths of 300 meters and 600 meters were specified in addition to a normal wavelength of 360 or 400 meters. A receiving wavelength range of 300 to 600 meters was specified in the license and paragraph 7 of the license form stated "The station shall give absolute priority to signals and radiograms relating to ships in distress, shall cease all sending on hearing a distress signal and except when engaged in answering or aiding the ship in distress shall refrain from sending until all signals or radiograms relating thereto are complete."

This readily explains why early broadcasters were required to maintain a 600 meter watch and to sign off in the event of an "SOS". In fact a few stations occasionally tested their transmitters on 600 meters in order to fully comply with the terms of their license. By 1926 the class of license was changed to "Broadcasting" and no frequency other than the normal transmitting frequency was specified.

Many different types of receivers were used by broadcasters to monitor 600 meters. The famous IP-501 was popular with several stations. The most common receiving equipment, however, was that supplied by Western Electric as a part of their complete station facilities. The receiver supplied in 1922 was the WE 1A or 2C receiver. A good picture of the 1A receiver as used at WEAF in New York City appeared on the cover of the Old Timers Bulletin for September 1976. Early operators found the 1A to be rather insensitive but adequate to copy the local Navy radio station, NAH, and ships in the harbor. In 1924 the new and much improved Western Electric super-heterodyne type 4B or 4C was supplied for this service together with an an-

The WE 4B or 4D receiver was comparable in sensitivity to those used by the coastal stations and frequently permitted the broadcast watch operator to hear a distress call as soon as, and sometimes before, operators of the Navy and other shore stations. WEAF had a good reputation for efficiency in this respect. One evening in June 1926, a power failure affected the entire building at 463 West Street, the transmitter site. This of course took the transmitter off the air although it did not affect the 600 meter receiver which operated on batteries. Very shortly after the power failure, the Brooklyn Navy Yard station, NAH, was heard on 600 meters inquiring about an "SOS". It turned out they monitored WEAF, and not hearing the station on the air, thought they had missed a distress call.

Figure 2 shows the switching panel used at the WEAF transmitter at 463
West Street to switch to a local microphone for an "SOS" sign-off announce-
m ent and the type microphone, a 371W, used for this purpose by the watch operator.

On June 10, 1929, General Order #66 was issued by the Federal Com-
munications Commission implementing section 22 of the Radio Act of 1927. This order emphasized the absolute priority of distress signals and traffic and required a 600 meter watch by broadcast stations within certain distances of the seacoast. Great Lakes or any government or commercial marine radio receiving station. Stations operating on frequencies between 550 and 1000 kilocycles at a distance less than 100 miles and power of 25 kw or more were required to monitor for distress calls during periods of operation. It is evident from this that many broadcast stations were no longer required to maintain a 600 meter watch as of 1929.

The effective end of the 600 meter watch for most other broadcasters is believed to have come in 1933. This was shortly before the transition from the Federal Radio Commission to the new and expanded Federal Communications Commission. The Bill creating the FCC became law on June 19, 1934, and the first Commissioners were sworn in on July 10, 1934. The Federal Radio Commission was terminated on July 10, 1934, and the FCC opened for business the next day. One of their first actions was to adopt and reaffirm existing regulations of the FRC.

In the Final Protocol of the Madrid International Telecommunications and Radio Conference of 1932 wording was such that means and methods of avoiding interference to distress traffic was left to the determination of the signa-
tories. This was presumably approved by the U.S. Congress and was imple-
mented by regulations released by the FRC on October 3, 1933. The regulation affecting the 600 meter watch was contained in Rule 180, (later in para-
graph 3.161 of Part 3 of FCC Rules), relating to standard broadcast stations. This paragraph made it mandatory for a broadcast station to avoid interference with distress traffic, but permitted the determination to be made by a government (Navy) station or a commercial shore station with advice to the broadcaster if shutdown were re-
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4-D RADIO RECEIVER

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The 4-D and other W.E. monitoring receivers are highly prized by radio historians and collectors. The 4-D is a super-het using six WE 215-A tubes. Like all monitoring receivers, it is encased in copper and beautifully assembled. They are very difficult to find because of limited production and not being available retail. The A.W.A. Museum has a 3-A, 4-B and 4-D with appropriate filter and antenna tuning units. About the author: Bob Morris can write with some authority on the subject since he was a member of the original WEAF Staff in the 1920’s. When NBC was formed, he was named Chief Development Engineer, a title he held until 1941 when he was made Manager of NBC Radio-Recording Division. Following WWII military work, he joined ABC from which he retired. Ed. -- B.K.

THE TUBE COLLECTOR
Conducted by Gerald Tyne

**QUE.** - I have two VT-1 tubes which are quite similar except one has a black fill and the other red. Which was made first?

**ANS.** - The first VT-1 tubes were made at the New York Engineering Dept. of Western Electric Co. and used a reddish wax for filling the base. When the demand became great, manufacture was begun at the Western Electric Company's Hawthorne in Chicago, where a black wax was used. New York continued to use red wax in their production for some time, but eventually went over to black. Hence, it is impossible to say definitely which of your tubes was made first.

**QUE.** - Why is it necessary to have so many different identification numbers for the same tube in the early days? As an example, the VT-1 was also the Type "J" tube as well as the CW-933.

**ANS.** - This is a WWI tube used by the U.S. Armed Forces. At that time it was customary for the Army and Navy to assign their own designations. The Army assigned VT-1 and the Navy CW-933. During the early years of Western Electric tube development, before the issuance of formal manufacturing information, it was usual to assign a letter designation, and this tube during its period of development was known a Type "J". It was first coded 203B, then further improved and recoded 203D. But habits are hard to break, so many still call it the "J" tube.

**DEVELOPMENT OF THE UX-200A**
The original UV-200 (top) was made by G.E. and released by RCA in 1920. There were three types of UV-200's (as noted) before the UX-200 (bottom photo) was released in 1925. The short shell UX-200A became available in 1926.

**UX-200A DEVELOPMENT**

UX-200 with long shell & long prongs (UX)

Note: The UV-201/UX-201A had the same development pattern.
AN EXCITING SIDE-LINE FOR ANY COLLECTOR

The collector's shelf may display everything from early Marconi equipment to cathedrals but rarely a car receiver. Ever wonder why?

BACKGROUND

The first practical car installations were made in the early 1920's. The receivers were usually conventional regenerative sets and later TRF models using 201's. An improvised shelf was made somehow with batteries stored wherever room was available.

Placing the horn speaker was a problem, but a greater difficulty was erecting an antenna. Yes, erect an aerial for that is exactly what was necessary.

Sometimes poles were placed at each end of the car and a flat-top antenna of several wires strung between them! On other occasions a regular loop antenna would be used with an early super-heterodyne. Most of these custom installations were in touring cars. Needless to say, the sets were seldom played while the car was in motion because of the noise.

FIRST CAR RADIOS

One of the first receivers designed for automobile operation was made by Paul Galvin of Chicago. Galvin manufactured A and B eliminators in the 1920's and just before 1930 made custom AC sets. The 1929 crash left a market glutted with receivers selling at a fraction of their original price. Galvin, realizing the need to do something different, conceived the idea of manufacturing radios specifically designed for automobiles.

A pilot model was made and demonstrated at the 1930 R.M.A. Convention at Atlantic City (the only one at the show). It met with mild success but gave Galvin con-fidence to go ahead and design an improved model which resulted in several sales. The modern car radio was born.

Galvin named his receiver "Motorola" and was one of the first to use a steering column control head, electro-dynamic speaker and super-het circuit in a car. A major breakthrough came in 1932 when his company perfected the vibrator power supply this eliminating "B" batteries.

BASIC DESIGN

Motorola was not entirely alone in the field. There were others including Philco. Shown is a circuit used in one of their early models. Note the tubes are conventional types and not designed for car operation.

The first sets usually consisted of several metal boxes: the receiver, a large speaker housing and a "B" battery container. The latter was eventually eliminated with the introduction of the vibrator power supply. Practically all...
early models followed Galvin's method of having the controls (tuning knob, volume and off/on switch) mounted in a small box clamped to the steering column. Two flexible metal cables ran from the box to the receiver mounted somewhere below the dash or instrument panel. Automobile designers in those days were not leaving much room behind the dash for a large metal box. Take a look at some of the cars made in the early and mid 30's and you will see what I mean.

POWER SUPPLY

For awhile the power supply was an external unit. Dynamotors such as a "Genemotor" were used as well as batteries and vibrator units.

In time a synchronous vibrator was designed that would also rectify the high voltage thus eliminating the fullwave rectifier tube (84, 024, 6X5, etc.) This device had its shortcomings with many companies preferring a rectifier tube.

After the war, 12 volt battery ignition systems became popular. This enabled manufacturers to design a car radio around a new tube series requiring only 12 volts on the plate thereby completely eliminating the need for a power supply other than the initial source.

The low plate voltage (12, v.) frequently resulted in poor audio output. This shortcoming was eventually overcome with the introduction of the first power transistor which was used in the audio output stage.

**UTOH FULL WAVE AUTO “B” ELIMINATOR**

Delivers 180 Volts at 40 Mils.

**AUTO INTERFERENCE SUPPRESSORS**

- Spark Plug Suppressors
  - Stock No. E-49...
  - Distributor Suppressor
  - Stock No. E-50...
  - Condenser Generator Suppressor
    - Stock No. E-51...

- 20c ea.
- 20c ea.
- 35c ea.

**NOISE**

Back to the early days. One of the greatest problems was noise. Here are some of the tricks early servicemen used to eliminate a multitude of undesirable sounds when the car was in motion:

individual spark plug suppressors,

(Continued on next page.)
WHAT TO COLLECT

Discussing car radios with various AWA members reflects either a negative attitude to all models or a preference for pre-war sets with tuning controls mounted on the steering column.

I am inclined to show some interest in the latter and definitely rule out all other types -- I see nothing glamorous in an old black metal box regardless of its age or what is inside.

Radio collectors will find, however, real competition in locating the steering column control sets for there is another type collector more avid than he -- the antique car buff who may be restoring a car of that period and is willing to pay premium price for the same set!

-- Carl Zeigler

A.W.A. AT 1977 A.R.R.L. NATIONAL CONVENTION

(Photograph by Al d'Eon, VE3AND)

Canadian amateurs were hosts to this year's National Convention held in Toronto where thousands of amateurs convened for a weekend of fine programming and demonstrations. Again, your Association was represented by both American and Canadian members (above) who manned the only historical exhibit. This is the 25th year AWA has provided exhibits and programs at an ARRL Convention.

1. Lou Vermont-VE3BDV, Fred Hammond-VE3HC, Bruce Kelley-W2ICE
The Good Old Days

LYONS MODEL "T"

Pictured is a one-tube receiver built by Floyd Lyons of San Francisco. He is to be congratulated on the set's neat appearance - in fact, others felt the same way since it was First Place as "The Most Unusual Set" at the joint meeting of the Southern California Antique Radio Society and the California Historical Radio Society.

The plexiglas (?) panel allows one to see the neat right angle bus bar wiring job in the rear. With only a 25 foot antenna and 22 1/2 v. on the 201-A tube, he has received 10 stations with good volume. He hasn't tried to identify the weaker DX sigs.

In addition to this set, Floyd has completed a Harkness Reflex (two-tube) which works great and is currently working on a "Doughnut Five" which uses the green silk dough-nut type coils.

After this, he plans to tackle a Madison-Moore "One-Spot", then a 10 tube super!

Are there any other AWA members currently building early battery sets (not restoring) ?? We would like to hear from you - and maybe a picture or two.
OLD TYME ADS

OLD TYME ADS are FREE to members interested in collecting and restoring historical equipment as a hobby. They are not to be abused.

RULES FOR ADS:
1. AD MUST be written on separate sheet of paper—not part of letter. Send SASE for acknowledgement.
2. Material must be over 25 years old and related to radio or electricity.
3. Give full address and Zip.
4. AWA will not print repetitious ads or ones indicating regular sale for profit.
5. The Association is NOT responsible for any transaction.
6. AWA retains the right to reduce size of ad if over 5 lines including address.
7. Only ONE ad per issue per member.
8. Deadline for ads is 6 weeks prior to mailing date:
   - March issue --- JAN. 15
   - June issue --- APR. 15
   - Sept. issue --- JULY 15
   - Dec. issue --- OCT. 15

Important! To insure delivery, out-of-state mail should be sent one week PRIOR to dates noted above.

Mail all ads to:
Antique Wireless Assn.
Main Street, Holcomb, N.Y. 14469 U.S.A.

WANTED

--Instruction manual (or copy) with circuit diagram of R.M.E. converter Mod. VII F 126. Write Norm Burton, 130 The River Rd., Revesby, New South Wales, 2212 Australia
--Need info on Varion AC receiver w/bal. elm., late 20's. TRF: 4 ft, 2 at stages, tubes: 5 193's and 1 197. Varion trade in Riders 1929 Manual. Mark Mohrman, 107 Willoughby Pl. #3, Syracuse, N.Y. 13204
--seals using Kellogg 401 tubes: Mohawk, Marti, Crusader, Metro, Liberty, Case, etc. Need AK board dial plates for Type 11 tuner. Melvin Rosenthal, 507 S. Maryland Ave., Wilmington Delaware 19804
--Marconi 106 receiver, A-K breadboards, crystal sets, Grebe CR-4 wireless books, paris, couplers, honeycomb boxes, telegraph sounders & relays. Write: D. Shanks, 115 Bakwin Street, Bloomfield, N.J. 07004
--Wireless receiver components W71 or earlier, electrostatic and xtal detectors, tuners, etc. Art Harrison, 1021 Falcon Dr., Columbia, Mo. 65201
--& ads & other info on SEE-ALL TV scanning disc, equip. of 1930. Schematic for Erla S-52 (not in Riders). Xerox ok for all. Bob Lozier, 36 3E. Houston, Monroe, North Carolina 28110
--Instruction book or schematic for Mackey Mod. 123A Marine receiver, also Crosley Mod. 1 crystal set. Clarence Fillmore, WKE, H08 8th 2nd St., Hamilton, Montana 59840
--Bakeite socket board & tuning crank for Radiola III. Leland Smith, WSKL, Route 4, Jasper, Arkansas 72641
--National SW-3 coils, general coverage for Series 2. Nos. 60 thru 73 (from 35 mhz to 150 mhz. Bob Guderson, W2JJO, 20 Central Ave., Old Bridge, N.J. 08857 or Tel. 201-251-4686
--DeForest F-5 or D-10, D-12, etc., also old wood blade ceiling fans. Will buy or trade. Send SASE for lists. Richard Cane, 8301 N.W. 21 St., Sunrise, Florida 33322
--Webster SA radio chassis with panel, also Redake amplifier and radio advertising items. Steve Lange, Box 33, Waldo, Wisconsin 53093
--Need diagram or service data on Hickok 277X AM/FM Signal generator, Geo. Boettcher, P.O. Box 235, Dingmans Ferry, Penna. 18328
--Grid leak & antenna condensers for Radiola III or IIIA, wire recorder, AR-20 compact, 30, 35 restored. SASE. Rick Taylor, 713E Love Field, Chattanooga, Tenn. 37421
--Need cast metal drum dial for Winchester Arms receiver Mod. #9070. Charles Limousse, 475 Upper Grassy Hill, Woodbury, Conn. 06798
--Schematics for Radio III-A & (4) WD-II tubes. Have new 20As for trade, also need tuning point for Trinory special. Have Eveready Mod. 20 for sale/swap. Louis Randall, 920 No. 5th, Ponca City, Oklahoma 74601
--Zenith TransOceanic Mod. 6G-005-Y that uses 9 tubes: ILN5, ILN6, ILD5, L1LE3, L1L4 and 11726GT tubes. Send information Joe Garcia, 215 W. 108th St., New York, N.Y. 10025
--Early TV receivers, mechanical set with disc, CBS color wheel, "3" Pilot, early projection sets, any TV items from 20's & 30's. L. F. Babcock, 8105 Center Lane, E. Amherst, N.Y. 14068
--QSTs before 1922, individual issues or volumes. Neil Friedman, N3DF, 2391 E. Street N.W., A-701, Washington, D.C. 20037
--Thompson Model 25 AFT (good), Radio News & Radio Craft before 1930, any radios, AFT for Arboreph Mod. 27 Dallas Swindall, 112 San Jose Lane, Hanahan, S.C. 29416
--To complete a AR-12, need the last two tube island complete with socket & .047 & .045 566s, switch controller, etc. Have complete island for #3 & 4 for trade. John Sudlow, R/F, Box 277, Syracuse, Ind. 46577
WANTED
--Any set and/or info from Stagile Radio Co. Write Bob Stage, 2533 Pinyard Rd., Colorado Springs, Colo. 80907
--Tube chart and/or manual for Hickok Model 550X. Xerox or original. Maurice Murray, Rte. 1, Box 270A, Mt. Vernon, Ind. 47620
--Need 2 rheostats with knobs for Westinghouse DA or Junken DA for parts. H. Zellner, 3106 N. Third St., Harrisburg, Pa. 17110
--Circuit diagrams for Scott W121 Phantom, also for postwar Model 800. Will trade '41 or '44 Scott Laurie manual for some on Mod. 800. Edgar Roy, 11 Randall Rd., West Roxbury, Mass. 02132
--Dia escutcheon for Echophone Mod. 80 electric cath. radio. If you have such a set, will pay for photo of dial. Also xerox of pages LIII, LIV, LVI in Intro. to Vol. 1 of Riders. Richard Foster, 12 Shwanut Ave., Cochituate, Mass. 02178
--6 Escutcheons for 6-5/8" eye tube, sq. type preferred, 1" type CN 4921 coax plug for Scott RCH & SRM sets. Any amount of Scott tubes preferred. Have Scott dial escutcheons for sale. Geo. Harris, 3212 36 St., Lubbock, Tex. 79413
--RCA Mod. 541TS TV, GE Mod. HM-223 TV console, Farnsworth Mod. GV-260 chassis & other early TV sets. Have radios for trade plus Riders Vol. 1-4. Gary Hough, 1726 N. Valentine, San Ana, Calif. 92706
--Parts to build home brew replica of 1914-20 spark set, such as brass binding posts, galena, gap, slide tuning rods & sliders, phone stopping condenser, etc. Lou Vermum, VES3DV, 47-539 Willow Rd., Guelph, Ont., Canada.

WANTED
--Service manual including schematic for "Supreme Mod. 80 Deluxe tubeester." Will pay for copying. A-K breadboard for cash or swap. A. R. Nolf, 620 Aurora Cr., Burlington, Ontario, Canada L7L6E2
--Will pay $200 cash for RCA Radiola Grand or Radiola VIB & IX. Must be in good condition. K. H. Hite, WB4KPI, 107 Hillcrest Dr., Clemson, N.C. 29631 Ph. 803-654-1972
--Old meter catalogs (repro's only) and meters any kind pre-1920. Indicate mfg., mod., ser., #, cash & condition. Leonard Cartwright, 10663 Northfield Square, Capiteno, Calif. 95614
--Sodion S13 tube, cash or trade for WD-11. Also any info on Sodion receiving sets. Jim Martin, 42 Henry Ave., Pittsfield, Mass. 01201
--Need DA unit for RADA combination. Have AK, Radiola, Freshman and others for trade. Many dupes and spares. Chet Wisner, WIVSR, 1014 Main St., Dalton, Mass. 01225
--Incandescent lamps, old, in working order unless unusual in form or age. John Weirich, K2R, 245 Baderdale Road., Rochester, N.Y. 14616
--Echophone Mod. F cabinet and schematic, cab. for Grebe Sync. 7, Al Jochem, 160 College Ave., Quincy, Ill. 62280

Mail your ads early and do not make them too long for they will be cut. If too long, they will be deleted. See p. 14 for instruct.
WITH THE COLLECTORS

This will be my last column reporting news on collecting in the OTB. Henceforth, I will devote all my time to the "Vacuum Tube News Letter" as noted on page 25. I want to thank the many contributors and wish them "Happy hunting!" --- Lauren Peckham

Fin Stewart (Faulconbridge, Australia) landed a Federal Ortho-
sonic E-10 in mint condition. His bulk collection includes an 1896
British Robertson plus a Type
4000 Philips electrometer triode
valve voltmeter which has un-
usual glassware.

Bill Denk (Devon, Penn.) added a rare Marbach neurodyne to his ever-increasing collection.

Chet Wiener (Dalton, Mass.) writes that he sent a SASE to a collector for a sale listing. He received in turn 6 pages of material for sale -- but no name or address on an item that looked like "CR"? How about having a stamp with your name and address on sales lists follows??

The Peckham collection (Brees-
port, N.Y.) has expanded in 1977 with the latest items being an
E.L. helix, Packard EPX mixer,
Murdock condensers, early Firth
receiver, Fried-Eisenman Mod.
345 portable and a mint "Pup"
in original box.

Larry Fiegle (Sheffield, Ala.)
found a Stutz Simplex I tube recei-
ter and an International Radio
Co. Kadette Jr. pocket set.

Basil Abbott (Richardson, Tex.)
found a Federal xtal set, a de-
Forest F5 and a Federal A-10
plus a Signal Corp BC-9A... .

Julius Pfliger (College Point, N.Y.) has been collecting only since
1973 but already has 150 sets.
Recent additions include a Leitz
Super DX 7 and an 8. He also
found a Superfone using WD12s.

Bob Lessard (Mpls., Minn.) ad-
ded several nice sets to his col-
lection including a Fried Eisen-
man NR-5, NR-6, Stromberg Carl-
son IA, David Grimes Duplex,
Crosley IV, Browning-Drake and
a Chelsea Super Five.

David Dazer (Sainte Marie, Minn.) is a college student but still finds time to collect and so far has about 35 sets. He vis-
ited Germany recently and found
that most collections over there
do not include many early sets.
One German collector remarked
that a Freshman Masterpiece
would be worth over $300. Dave
has an Aciola Sr., Westinghouse
RC and many early tubes such as
Sodins, etc.

(Ed. Note: On the subject of value of early radio gear over-
seas, we believe at least one collector (?) in buying sets at
AWA "meets" and selling them in Europe at a handsome profit.)

MEETING OF MINDS

"OPINION"

I recently read in the Southwest Vintage Radio & Phonograph
Society's paper "The Reproducer" (Oct. '77) an article by Glen
Zook titled "Opinion". He speaks of the difficulty in establishing
a "going price" for radio re-
cievers such as the buyer's
guide used for purchasing other
antiques such as coins, furni-
ture, etc.

Glen feels it is almost im-
possible at this time to estab-
lish a standardized price book.
I wholesale a cheaper item with him.

After seeing some recent price
listings and attending the AWA
Historical Conference Auction in
Dearborn -- anything goes!!

On two different occasions AWA has
printed in the OTB an "aver-
ge size value" list for old gear. The
values were outdated before the
Bulletin got to press!!

Geographical location, type of
sale, difference of opinion in
condition of receiver are but a
few of the variables. Glen con-
cludes his brief "Opinion" by
asking "Who would compile such
a value listing?" That's the
clincher! Nice going Glen.

--- D.K. Editor

IMPORTANT!

1. A.W.A. does NOT, under any circumstances, accept tax
   deductible items without prior
   approval from Museum Commi-
   ttee.

2. A.W.A. does NOT appraise
tax deductible gifts given to the
   Museum. All such items must
   be evaluated by an independent
   source for I.R.S. purposes.
RESTORING OLD EQUIPMENT

GROUNDING SPEAKER FRAMES
"Defect free" tube type receivers, usually requiring the use of an external antenna, are sometimes found intermittently prone to poor audio quality and/or audio breakup.

On analysis of a particular case, this clearly appears to be associated with the fact that the receiver was manufactured without any metallic inter-connection between the speaker frame and the set chassis.

The defect became much more noticeable when receiving weak stations. A radio frequency feedback condition is thus indicated whereby the speaker frame acts as a re-transmitting antenna for any un-suppressed R.F. or I.F. signal components present in the output stage.

Installing a speaker bonding wire alone completely eliminated this very evident audio defect in an otherwise good RCA model T8-14 all-wave table set. The RCA floor console counterpart Model C8-15, is potentially beset by the same problem, as well as numerous other sets including other makes likewise having no speaker frame to bond.

The condition is considerably aggravated in the RCA models mentioned because the output transformers supplied are shielded and mounted on the "floating" speaker frame.

Installation of a speaker frame bonding wire where not present is considered a very worthwhile precautionary modification in most cases. Cliff Meyers, W3YS White Plains, Md.

BRIGHTENING A FINISH
I have found the best method of brightening the finish on a metal cased radio (such as an AK-55), to be the use of auto wax.

After cleaning the cabinet with soap and water (PLEASE remove insides first!), I rub the surface with a car wax that contains a cleaner. There quite a number of these on the market. I use the Rallye that comes in paste form.

After allowing this to dry, buff it off just as you would your car. You should find a finish like new.

Bruce Burkhardt, WA3MAS
St. Michaels, Md.

DON'T BE AFRAID OF WATER!
I was recently given two bushel baskets of old tubes (201A's, 226's, 227's, 171A's, etc.) that had been stored in a barn for over 40 years. A spot check showed all the tubes to be good except they were covered with dirt, a questionable oily film, etc.

I started to carefully wipe each one with a damp cloth. After 15 tubes I literally "threw in the sponge" for that is exactly what I did.

I took the baskets outside and grabbed the lawn hose. Turning on the water gently, I sprayed each tube gently and wiped/rinsed with a sponge.

After washing about 20 tubes, I would stop and dry/wipe them with paper toweling. Result: nearly 200 sparkling tubes with minimum effort.

--Carl Zeigler

CORRECTION: #5 slide in AWA Museum slide show is mounted in reverse. Turn slide over so contents of slide will match tape commentary.
Belden Marks 75th Anniversary
1902 – 1977

Congratulations to the Belden Company on their 75th Anniversary. This is another fine report documenting a pioneer company by George Hausske.

One of the few surviving radio related companies operating before the spanning of the Atlantic by wireless is Belden Corporation. It was started by Joseph C. Belden, a former Kellogg Switchboard and Supply Company Sales Manager who saw the need for a magnet wire company in the Midwest. While there were no radios or components with a Belden name plate, (magnet wire spools were marked Belden) this company must be considered as necessary to the radio business as Stan Laurel was to Oliver Hardy in show business.

Most of the wire products turned out by the rapidly growing concern were delivered to independent telephone companies. Silk or cotton-covered magnet wire were the popular items delivered from the first factory located in a fifth floor loft at 118 S. Michigan in Chicago, which later expanded to a Western Avenue and a Van Buren Street location.

Radio restorers have almost exclusively blamed soldering acid for the open windings they found in their coils and transformers. However, Mr. H. Wermine, a Belden Engineer and later Vice-President-Engineering of the Corporation, has pointed out that the early cotton wire coverings contained considerable amount of salt, which also ate through small wires. A washing process had to be instituted to cure this problem.

Rubber-covered wire production started in 1909, and in 1911 Belden perfected a flexible commercial enamelled wire. This led to much smaller and more efficient coils in all electrical devices. This enamelling process was evidently so good that two people tried to start up an enamelled wire business based on pilfered Belden information. They were promptly sued by Belden who won the case and had newly built machinery and ovens returned to them as part of the settlement. During this period, a noted radio pioneer was employed as one of them as a coil engineer: Mr. E. N. Rauland, of "All-American" transformer fame who owned Radio Station WENR. (Note the last three letters are Mr. Rauland's initials.)

In World War I years, Belden converted much of their facilities to making shells and webbing for military harnesses. They also turned out the fine wire required for headphones of the new aircraft wireless plus outpost telephone wire.

Belden Bus Bar and Rosin Core Solder were used by many radio manufacturers for their coils, transformers and wiring. Cloth-covered battery cables, including a rather unsuccessful fused type and antenna kits were other Belden products. Records of exactly which radio companies were supplied with Belden wire etc. are not available, but we are told that Belden supplied almost all manufacturers including Atwater-Kent, Magnavox and Scott. They do, however, have a letter from Thomas A. Edison requesting special consideration for a good customer during a wire shortage in 1920.

Genuine Belden Magnet Wire

<table>
<thead>
<tr>
<th>Your Price</th>
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<tr>
<td>Double Cotton</td>
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One story in "Beldenews," the employees magazine, mentions a rush order of 40 single silk wire for Thordarson (I can't recall anything but enamelled wire in their products, can you?). Another story mentioned soliciting business from Newcomb-Hawley for the wire in their new 0.6-7 lb. field coils of dynamic speakers. Dynamic speakers were a real bonanza for magnet wire manufacturers.

(Continued on next page)
Radio News Magazine was the recipient of much Belden advertising in the golden era of radio. Some of the items and dates are listed below:

- Oct. 1922 Radio coils
- Feb. 1923 Insulated wires
- Mar. 1923 Radio wires, coils and parts for manufacturers
- Nov. 1924 Beldenamel aerial wire
- Mar. 1925 Secret of a good aerial
- Apr. 1925 Radio Battery cords
- Nov. 1925 Belden Products
- Dec. 1926 Fused radio battery cord
- Nov. 1927 Aerial kits

Other magazines such as Citizen's Radio Callbook, Popular Radio and Radio Trade-Builder also had Belden advertising.

The Depression era was tough on Belden, but they survived even though they were building a new plant in Richmond, Indiana. Automotive wires and cables were some of their best items along with radio wires and cables after the Depression. During the 30s Belden marketed the first soft rubber plug and advertised they were saving the world from "corditis" -- worn and broken plugs and frayed cords. The 30s also saw the death of the Belden founder, Joseph C. Belden in 1939.

World War II came, and by 1942 Belden was manufacturing only war materials. This included wire for the world's most powerful land battleship, the 100% Belden wire equipped Chrysler M-38 23 ton tank, Dodge Army cars and trucks, Flying Forts, and Superforts.

The advent of permanent magnet speakers and transistorized equipment with smaller transformers results in less magnet wire being required and Belden has left their once thriving phase of the business to others. Today, Belden has research facilities and corporate offices at Geneva, Illinois, and an electronic division at Richmond, Indiana. Their present catalogs include almost all of today's wire and cable needs. Research is being done on fiberoptic cables and other items, so we can look forward to seeing the Belden name for many years to come.

I was invited to interview Mr. Werner, a retired Belden engineer, who was most helpful. Mr. St. Onge, the Manager of Corporate and Marketing

THOUSANDS of radio set owners are improving their sets by adding the protection of the Belden Fused Radio Battery Cord. The two small fuses in the neat bakelite two-piece cover are on guard, night and day. The B-battery fuse prevents the damage caused by accidental short circuits. The fire hazard is eliminated.

The small B-battery fuse is protection for the tube filaments in case the B-battery voltage is accidentally applied to A-battery terminals.

The Belden Fused Radio Battery Cord is a Christmas gift of all-year utility. Ask your dealer about it, today!

Communications furnished me all the company's published materials at the request of their President, Mr. R. W. Hawkinson. They have all been most gracious, and reading through their employee news letters suggests one big happy family, and I almost wish I'd been one of their employees.

— George E. Hausske
RCA recently announced the sale of 2,300 acres of its property at Bolinas and Point Reyes, California, to become part of a large coastal park.

These are historic locations as indicated by the following note from "Modern Electrics", April, 1913.

"The Marconi Wireless Telegraph Co. has placed contracts with the J.C. White Engineering Co. of New York City for the erection of eight wireless telegraph stations, two pairs for Atlantic service, two pairs of Pacific service. Receiving and sending stations 30 miles apart will be constructed at Cahuu, in the Sandwich Islands; Tamales Bay and Bolinas, California; near Belmar, N.J. and in eastern Massachusetts at a point not yet definitely selected."

"These stations will be part of a globe-girdling system that will continue to the west by the way of Japan and thence ultimately to India. Twelve towers ranging in height from 400 to 450 feet will be spread out over a semi-circle covering a square mile at each station, and it is estimated that the range of each station will be 4,000 to 5,000 miles."

A large two-story concrete building was erected at Bolinas to house the 300 KW Marconi timed spark transmitters and their auxiliaries. Similar equipment was installed at Kahuka to work the Japanese station at Funabashi near Tokyo.

When wireless stations were returned, by the Navy, to their owners after WWI, RCA had taken over the assets of the Marconi Wireless Telegraph Co. of America and based on the performance of the 200 KW Alexanderson transmitter at New Brunswick, N.J., decided to replace all the Marconi 300 KW timed spark sets with continuous wave alternator transmitters.

In 1920 when this change was made at Bolinas, a commemorative bronze plaque two feet high by three feet long, shown in the picture above, was mounted on the station house.

The KPH spark transmitter, used for ship-to-shore work was also moved from its pre-war location at Millcroft, South San Francisco, to Bolinas, the receivers to Marshall, California 25 miles to the north of Bolinas on Tomales Bay. This transmitter was replaced by a tube set in 1927 and later the receivers were moved to the station on Point Reyes.

By 1935, the Alexanderson transmitters had been replaced by shortwave tube sets having a much greater range, using less power. These sets were used for point-to-point communication with the Orient and South Pacific without
the need for relaying via Hawaii.

At the peak, a maximum of fifty transmitters were used for this service. The traffic has gradually been taken over by satellite and cable until now all of the old point-to-point sets are idle.

Ship-to-shore traffic is all that is being handled by Bolinas and Point Reyes, which is the reason RCA is reducing its land holdings.

RCA has given the bronze plaque with pictures of early equipment to the Foothill College Electronic Museum. An initial display will be made at the Museum of these artifacts; later the plaque will be mounted permanently on one of the entrance walls of the Museum thus preserving the record of a famous West Coast trans-oceanic wireless station.

WESTINGHOUSE PLACES PLAQUE AT ORIGINAL KDKA SITE

The Company's East Pittsburgh Plant was officially designated recently as the birthplace of radio broadcasting.

A special ceremony, highlighted by the unveiling of a historic marker, recognized the roof of the Divisions' K-Building as the site of KDKA's—and the world's—first commercial radio studio. The event attracted many Westinghouse, union and government representatives, as well as radio and television personalities and media reporters.

The marker reads: "This plaque marks the historical location of Westinghouse Radio Station KDKA, the world's first commercial radio station and the site of the first and most famous broadcast—the Harding-Cox Election Returns on November 2, 1920.

Erected on June 17, 1977, by the Turtle Creek Bicentennial Commission and Westinghouse Electric Corporation under the Pennsylvania Historical and Museum Commission Historic Sites and Landmarks."

Reminiscing about the early days, Mr. Affin mentioned that he was a Time-Study Engineer at East Pittsburgh when he first participated in radio; he recalled "talking on the air with Will Rogers." He retired as Industrial Relations Manager, Mansfield Plant, in 1961 after 43 years' service.

[Charles Grissinger]

Mark 50th Anniversary

On Sunday, Sept. 18, the Columbia Broadcasting System celebrated its 50th Anniversary (1927-1977) with a 3 hour program. AWA member Rod Phillips (KYW) contributed some of the material for an entertaining review of CBS highlights in radio.

TEST BUZZER

On several occasions visitors to the A.W.A. Museum have asked why some of the early commercial receivers (W.S.A. and Marconi) had a buzzer in the front panel. In fact, one visitor even spotted a small buzzer on an old wavemeter.

The answer is easy: to generate a radio signal.

Yes, the sparking from the buzzer contacts create a radio signal which enables the receiving operator to adjust the catswhisker on the crystal detector (find a sensitive spot).

In the early days (when there were few signals) the operator had no way of knowing when the crystal detector was properly adjusted. When the signal from the buzzer was loudest in the earphones, he knew the set was ready for tuning DX.

A buzzer in a wavemeter acted as a small calibrated Transmitter. Tuning a receiver to the nearby wavemeter buzzer signal enabled one to calibrate a receiver (or a transmitter).

On the subject of buzzer transmitters, they were used for short haul work during WWI and many an early amateur used a buzzer for his first transmitter when he would successfully work another would-be-ham in the same neighborhood. The buzzer was one step below the famous Ford spark coil transmitter!
OLD TIME TRANSMITTER CONTEST

OBJECTIVE: QSO the greatest number of AWA members. When calling use: "AWA AWA AWA de W2AN" as an example. On contact, exchange year of equipment such as a 1936 transmitter would be "TX 36" and a 1930 receiver would be "RX 30".

DATES: Wed., Jan. 11, 2300 Z to Thurs., Jan 12, 2300 Z.
Thurs., Jan. 19, 2300 Z to Fri., Jan. 20, 2300 Z.

FREQUENCIES: 3580 to 3590 Kh. and 7040 and 14084 Kh. plus or minus QRM. Concentrate 40 and 20 mtr qso's on the hour.

SCORING POINTS:
1 for QSO with 1940 or later station
2 " " " 1939 or earlier TX or RX.
3 " " " 1939 or earlier BOTH TX and RX.

SEND LOG COPIES to:
Ken Gardner, W2BGN
42 Oakdale Ave., South
New Hartford, N.Y. 13413

before MARCH 1st, 1978

Example of scoring: Total points for stations worked and multiply by 1.0 if you used modern gear, 2.0 if you used either an early TX or RX or 4.0 if you used both old TX and RX.

Look for Special Event Station KM1CC between Jan. 14-22 who will be celebrating Marconi's 1st two-way transatlantic transmissions.
A.W.A. Amateur Station W2AN can be heard regularly on several amateur bands. Members and visitors to the Museum have at their disposal a fine CW setup which is always ready for operation on either 40 or 80 CW.

The transmitter is a B & W 5100 (donated by W2RIZ) with a National NC-173 for receiver. Both straight key and Vibroplex are available. All equipment is of 1950 era.

Phone operation is confined to the old Museum (annex) where W2ICE has gone to much trouble to get ancient gear in operation. The layout below is self-explanatory. Operation is normally confined to the 75 meter AWA SSB Net. Coils are not available for other bands.

Several CW transmitters of 1920 and 30 vintage are also available and used during the Old Time CW Contest. They have been described in earlier Bulletins.

With the exception of the two early ssb exciters, all parts and tubes are approximately 40 years old (1937) and are breadboard mounted. Two National receivers are used: SW-3 (1931) and a HRO (1935 model with 2.5 v. tubes). The 10-A set-up is quite a challenge requiring adjustment of 8 knobs for any great frequency change! The SW-3 works well on SSB providing QRM is at minimum. A short antenna of only 6 feet works great since it prevents strong signals from "swamping" the front end. Anyone working W2AN will be given (on request) an old time '2AN' qsl card.

A.W.A. AT FT. VANCOUVER HAM FAIR

"Tex" W7AMK had practically a one man AWA historical exhibit at the HAM FAIR. He reports having a great time, lots of interest and an invitation to return next year. One of the highlights of Tex's exhibit was a beautiful Scott "World's Record Shielded B" receiver. As frequently the case, the display was next to the ARRL Booth (AWA is an ARRL Affiliate).

TELEVISION EXPOSURE

Historical radio and collecting early sets received a nice boost recently when Larry Flegel had an opportunity to tell about his hobby over Channel 3 Cable TV in Florence, Ala.

He told about A.W.A. and its objectives: preserving and documenting historical radio. As an example, he showed the television audience several early receivers he had restored. Good going Larry!
ON REVIEW

TYNE'S SAGA

Yes, the book is on the market and is everything we expected it to be. Not only is the book of value to the collector identifying tubes, but it is an endless source of information to the radio historian. It is currently available from VINTAGE RADIO. See next page.

SW-2

So you've never heard of a SW-2 receiver? You're not alone. The SW-2 was manufactured briefly by National in 1928 for use with the then popular mechanical scanning TV receivers. The set was one of the first made by National -- prior to this they made components for the famous Browning-Drake BC receiver and miscellaneous parts.

The SW-2, as the name implies, was a Short-Wave set with "2" tubes -- 222 untuned RF and a 112-A regen detector. An added resistance coupled amplifier was required to give sufficient output to operate the TV neon lamp.

The set is of particular interest since it is the grandfather of the famous SW-3 (there was a shortlived SW-4 in between).

An exceptionally well written and illustrated article by Bill Orr, W6SAI can be found on this rare receiver in the October, 1977 issue of "CQ" magazine, page 18.

"LIGHTNING IN HIS HAND"
The Life Story of Nikola Tesla
by Inez and Wannetta Draper

"Lightning in His Own Hand" is a warm personal study of Nikola Tesla. The authors portray the human side of this scientific superman who perfected alternating current and numerous other inventions. The soft cover edition is $4.00 and hardcover at $8.95. Write to:
OMNI PUBLICATIONS
Box 216, Hawthorne, Calif. 90250

RELICS OF THE ELECTRICAL AGE
by Robert Belfield

A directory of public and private repositories in the United States and Canada.

This booklet (48 pages) was sponsored by several historical agencies including the IEEE and the Smithsonian. Information on many of the private museums was obtained from a brief questionnaire sent out with a 1974 OTB.

Several members at AWA Headquarters have scanned the book and find it of great value. Museums are listed by State (Zip) and Province giving the following information: city, type of museum (public or private), visiting hours, owner's name, address and telephone number plus a brief description of artifacts to be seen.

Only two criticisms: the information was gathered in 1974 and the book printed in July, 1977. There are many names listed (private museums) of AWA members who have been dead for several years. This can be overlooked, but in the same three year period 20 to 30 exceptionally fine museums have been founded and are not listed.

The other criticism is minor. Several felt there should be some distinction (separate listing or bold letters) between public and private museums. Some large public museums have less copy than a small private museum with only a half dozen broadcast sets and maybe a dozen books. But then -- maybe we shouldn't have discrimination!

Want a copy? Write:
Division of Electricity, Smithsonian Institution, Washington, D. C. 20560

Morse Lives On

A new Quarterly Journal will shortly be launched titled THE TELEGRAPHER. It will print articles dealing with the rise of communication (landline) technology from the early 1800's to present. It promises to be a great publication. More later.
It is hard to believe, but we have AWA members who have never heard of the fine series of historical books published by Vintage Radio. Most have been reviewed in previous Bulletins. They are all highly recommended.

**Vintage Radio 1887-1929**

You'll enjoy this fascinating pictorial story of pioneer days in wireless and radio. Relive the days of Marconi, old spark transmitters, and the struggles of early radio broadcasting. It's the radio collector's reference, with over 1,000 pictures on 263 pages.

**HARD-COVER $10.95, HANDBOOK $8.95**

**Circuit Diagrams**

We will research any pre-1951 radio model and send you the circuit diagram and any other available repair information. We'll also tell you the year in which that model was introduced. Your money back if we don't come up with at least a circuit diagram!

We now have Canadian diagrams, too!

**ANY RADIO MODEL $3.50**

**From Tin Foil to Stereo**

Here's your second edition of the 1877-1959 phono classic, now extended to 1976.

**HANDBOOK $9.95**

---

**A Flick Of The Switch 1930-1950**

Here's your time trip through the great days of radio broadcasting and the dawn of television. Revisit the Lone Ranger, Philco "cathedral" radios, old "Ham" days and many more. You'll revel in 312 pages of story, old ads and over 1,000 pictures.

**HARD-COVER $10.95, HANDBOOK $8.95**

**Saga of the Vacuum Tube**

by Gerald E.J. Tyne

Released November, 1977. This is the book every radio historian has been waiting for: 494 pages with over 500 illustrations. The history of the vacuum tube starting in the 1800's through to 1930. A gold mine of information. Handbook- $9.95 Hard-cover $19.95

---

**1921-1932 Radio Collector's Guide**

This book makes you an "instant expert" as you go prospecting for those fine old radios. It eliminates guesswork in determining a set's age and "pedigree." There are 264 pages loaded with over 50,000 facts on 9,000 radio models made by 1,100 manufacturers.

**HANDBOOK $6.95**

---

**Most-often-needed 1926-1938 Diagrams**

This reprint of Morris Beitzman's Supreme Publications book shows circuit diagrams for 600 radio models. Its 240 pages are valuable for historical circuit information, and are great aids in restoring those old sets. Made from Supreme's original artwork, it is clear and readable.

**HANDBOOK $7.00**

Also 1941, 1942, 1948 and 1950 Editions $4.00 each.

---

**J.W.F. Puett's Silver Ghosts**

E.H. Scott and his immortal radios have been recaptured in 72 pages of pure Scott. Includes circuit diagrams of all the truly classic models, along with old ads, articles and the story of E.H. Scott's creative life. If you have a pre-1946 Scott radio, or hope to own one some day, you've got to have this book.

**BE A SCOTT EXPERT FOR $10.95**

---

**Mail order to: Vintage Radio**

P.O. BOX 2045
PALOS VERDES PENINSULA, CALIF. 90274
Meet the Collectors

What's Happening

The column WITH THE COLLECTORS is being dis-continued with this issue. With the increasing interest in vacuum tube collecting, Editor Lauren Peckham feels he can provide a better service to AWA by devoting more time to the Vacuum Tube Bulletin. Tube collectors are urged to join this group. Send $2. to Lauren Peckham, Breesport, New York 14816.

Basil Abbott (Richardson, Texas) is the lucky owner of a very rare Western Electric Model 14-A Speaking Telephone outfit (amplifier) and from the picture he sent, it appears "mint". Of interest is the fact it is powered by a W.E. 2-A A.C. supply featured in the Sept. OTB, page 25.

The built-in speaker unit is a 527-A with a Dec. 13, 1921 patent date. AWA has a 14-a but someone long time ago decided to exchange the UV sockets for UX. Why couldn't they leave it alone!

A.M. Zellmer (Sacramento, Calif.) writes that he recently was on a project installing what may be the farthest western FM stereo broadcast station -- a transmitter at Nome, Alaska on the Bering Sea.

Western Union

PIONEER COMMUNICATION CO. COMPETES WITH MODERN TECHNOLOGY

In the suburban New Jersey office where Western Union Corp. Chairman Russell W. McFall labors on the world's longest turnaround, there is an oversized rolltop desk. Behind it is a grandfather's clock, chiming the hour. So much for tradition. A couple of floors below McFall's office is a network communications center full of blinking lights, chattering data terminals, symphony music piped in from the Western Union Westar satellite. That's a symbol, too, but of the future.

In 1985 the soft-spoken McFall, an alumnus of General Electric and Litton Industries, became at age 43 the youngest president in Western Union's 126-year history. The nation's original communications common carrier (it built the first transcontinental telegraph line in 1861) was claimed to the dying telegraph business and burdened by an enormous, aging work force. It was kept afloat largely by a sympathetic government and the availability of American Telephone & Telegraph on whose leased long lines it was almost totally dependent.

McFall brought Western Union into the 20th century. The decline and fall of the telegraph has continued, last year, telegrams were down to 11% of total revenue. In their place, Western Union has put a modern domestic telecommunications network, including a 9,000-mile microwave system that is second (distant, but still second) only to Bell's. In 1974 it launched the nation's first domestic communications satellites. It invented Mailgrams with the U.S. Post Office, now nearly a $500-million business.

This year it rolled out three important contracts for its growing government-related business: satellite transmission for the Corporation for Public Broadcasting's nationwide television network, a sophisticated data and message service for the U.S. Department of Defense, and a $756-million satellite tracking system for the National Aeronautics & Space Administration.

[Reprinted by permission of FORBES Magazine From Aug. 1, 1977 issue.]
A.W.A. CELEBRATES 25th ANNIVERSARY

The World's Oldest and Largest Organization Dedicated to Preserving and Documenting the History of Radio.

ANNUAL CONFERENCE SMASHING SUCCESS!
--Ralph Williams and Vance Phillips receive HOUCK AWARD !!
R.H.G. MATHEWS steals SHOW !!
Joe Pavek gets Conference AWARD!
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Vol. 1 #2 Vol. 1 #3 40¢ each

THEY ALWAYS CAME BACK!
by Dave Middleton, W5CA
HAM RADIO magazine, October, 1977

In the early days, AWA used to publish lengthy articles which were printed separate from the AWA BULLETIN. These historical "gems" were mailed with the Bulletin and were called MONOGRAPHS and consisted of several pages.

As the OTB grew in size, the Monograph was discontinued and lengthy articles restricted in size [with the exception of few articles such as the "All-Metal Tube" series.]

One of these early MONOGRAPHS was printed 15 years ago [Winter, 1962] and titled "They Always Come Back". It is a sentimental story with a nostalgic twist that holds the reader to the very end. Clever art work [above sketch] by Larry Triggles's son Jim adds the final touch.

Such a good story deserved wider publication, so Dave Middleton, the author, had it published in HAM RADIO magazine. Want a copy of the original 4 page MONOGRAPH? Send 25¢ in stamps to AWA Headquarters, Holcomb, N.Y. 14469
NEW EQUIPMENT

in A.W.A. MUSEUM

HARDWARE: W7WQ, W7FS, W2YE, W8TE, W2RVS, W2KT1, W2QO, WA2BFQ, W3HA, K2LMV, K2LBB, W3CFC, Tudor Rees, H. Miller


The Museum was recently the recipient of Andy Shafer's (W8TE) early amateur wireless station pictured on page 6, September, 1971 QST.

The 1915 station has been setup on the third floor and is a stellar attraction. AWA is indebted to Bill Biddle, K8UZ who made arrangements to acquire the equipment.

Next year (1978) AWA will feature a new tube exhibit showing vacuum tube development in U.S.A. and England. The British display has been strengthened with a rare Marconi Type "TN" tube from Lauren Peckham.

The "TN" was the first practical transmitting tube made in England and will be a companion to the equally rare Round "N" receiving tube -- a gift from Bob Ryan.

These tubes are pictured in Alfred Goldsmith's book "Radio Telephony" on page 175 and were made in the early 'teens. The prize in this series is, of course, the priceless 1905 Fleming Valve, a gift from the British Marconi Co., Chelmsford, England.

WIRELESS SHOW

Visiting England this winter? If so, don't fail to attend the Wireless Show at the Victoria & Albert Museum in London where there will be a special exhibit of receivers made between 1922 and 1925 plus later models....