OFFICERS

PRESIDENT: Charlie Brezoford
VICE-PRESIDENT: Kenneth Gardner
CORRESPONDING SECRETARY: Bruce Kelley
RECORDING SECRETARY: Henry Blodgett
TREASURER: Lincoln Gundall
ASSISTANT TREASURER: Walter Dooley
BOARD MEMBERS:
- Henry Blodgett
- Joe Marsoy
- Dick Romley
- Harry Lott
- Doster Dooley
- Harold Smith
- G. Renfro
- Geo. Patterson
- Larry Triggs
- Cliff Daykin
- Bruce Holcomb
- Lauren Peacemonger

ADVISORY BOARD:
- Bob Merriman
- Bob Norris
- Lou Nowaz
- El Peddington
- Thorn Mayes
- Warren Green
- Frank Whipple
- Joe Pavek

HONORARY MEMBERS:
- Marion Armstrong
- Geo. Grammer
- Lloyd Wagoner
- Harry Houck
- Clarence Nickles
- Ellich Sivertsen

HOLLY AWARD: Bob Morris (Chairman)
Bill Gould: Thorn Mayes

ATTORNEY: Sherwood Snyder, N.B.P.U.
PHOTOGRAPHER: Al Crum, W2MN

AMATEUR STATION: W2MN

NEWS and general CORRESPONDENCE, write Secretary: BRUCE KELLEY
(Mail S.A.S.E. for reply)

MAIN ST., HOLCOMB, N.Y. 14469

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

AWA NETS

PHONE (SSB)

Sunday ---- 12 noon 3903 Kc.
Tuesday --- 8 P.M. 3866 Kc.
Monday -- Wednesday -- Friday
9:30 A.M. 3866 Kc.
Tuesday -- 2 to 3 P.M. 14270 Kc.

CW (Code)

3564 Kc.
First Wednesday of each month
Daily --- 4 P.M.

Note: Frequencies are subject to
plus-minus 3 kc. to avoid
QRM and are E.S.T. (or U.D.S.T.

JOHN STONE STONE

Lee Anderson is currently gathering data on one of America's leading radio
pioneers about which little has been
written. He is seeking a good photo-
graph of Stone. Can you help him?
Lee's address is: 2525 So. Maree St.,
Denver, Colorado 80219

A.T. Wookcock (Prescott, Arizona) reports that an ad in a recent OTH
resulted in 95 letters!

AS WE SEE IT

FIP - OFF!

We recently read with interest of a
situation in Southern California ---
double pricing... A large well known
used bookstore had two sets of prices,
one marked in the book and another when
the customer got to the cashier register.
The gimmick? --- they would point to a
small sign which stated that all prices
in the books were subject to a general
increase (?)... The more timid (and more
gullible) were then hooked for whatever
the traffic would bear.

A more disturbing situation to come to
our attention was the operation of a
certain character in the same area. He
would answer "want" ads (usually from
another state) in various hobby/antique/
collector magazines stating he had just
what you wanted and would quote a very
tempting price. He would insist on a
money order or certified check for pay-
ment before shipment -- which never ma-
terialized. Different addresses and P.O.
Boxes were used -- fortunately, the U.S.
Postal Authorities finally caught up
with him. To our knowledge, he never had
an opportunity to read OTH "ads"....
The A.W.A. Electronic-Communication Museum officially opened May 2 although several high school and college groups had visited the Museum the previous month.

Winter months found Gundall, Marsey, Lott and Kelley working on new exhibits: new transmitters, solid-state display, material for the Telephone Centennial and the new television and headset exhibits.

Two new spark transmitters are now in operation. Gundall rebuilt the 1916 Wm. B. Duck amateur station using a 2" spark coil. Power is supplied from a solid-state device for demonstration purposes. Kelley constructed a ½ kw. non-sync rotary spark set using a Murdock gap and Blitzend transformer. An interesting feature for this set is a Burnell side-

New Equipment
in A.W.A. MUSEUM

TUBES: W3AW, W5SAI, Richard Cane, W2DFC
RECEIVERS: W2QVF, W2EMX, Geo. Johnson
BOOKS: W2EMX, Morgan McMahon
PICTURES: W3BFX, W3DUG, Harry Cap
MISC. EQUIP.: W2EMX, Charlie Grissinger
CRYSTAL DETECTORS: W2DFC, C. Grissinger
TAPES: Doug Houston
FOREIGN EARPHONES: W2SNR
WRITTEN MATERIAL: W2EJ, W2BCU, T. Christen
CLOCK RADIO: Charlie Grissinger
MISC.: W2SNH, W2EMX, Russ Worthy,
    Everett Berry, Jim Reddick, Charlie
    Grissinger, Tim Christen, R. Matson
CABINETS: W3EJY

SOCIETY OF WIRELESS PIONEERS

Congrats to Bud Fischer, W2QGV, ex-2BFX on his new appointment as Chairman of S.O.W.P. Elmo Pickett Chapter.

swiper furnished by El Preston, W2RTZ. We freely admit that not too many spk sets used a sideswipe -- but it will provide an opportunity for more than one OT to show his skill...

The A.W.A. Centennial telephone display is one of the few in the State. Harry Lott has setup a showcase with rare telephones some of which are nearly 100 years old (a loan from the Smithsonian Institution). There is also a 75 year old telephone circuit in operation through the courtesy of Ross Smith.

To bring the Museum into focus with modern development, Joe Marsey assembled a fascinating collection of solid-state devices starting with the old fashioned crystal detector and ending with miniature integrated circuits. This exhibit has proven popular with students.

Collectors will enjoy the new headset display of 50 different makes or models all made before 1930. Ralph Williams supplied several rare foreign sets including F.A.T.M.E. (made in Rome, Italy), Brunet (made in Paris) and Neufeldt & Kuhnke (Kiel, Germany).

The television camera and tube exhibit is being mounted in a special case. In addition to the huge Schrader collection, Richard Cane added a few rare ones. There will be a report on this special feature in the next Bulletin.

The library is slowly being placed in order. New books and magazines are now on the shelves. A.W.A. is particularly grateful to Morgan McMahon and S.O.W.P. and others for their contributions.

MUSEUM HOURS

SUNDAY — 2 to 5 P.M.
WEDNESDAY — 7 to 9 P.M.
May through October
Open to groups by appointment. Tel. 716-557-7498

Museum Telephone:
716-557-6260

MUSEUM of WONDERFUL WIRELESS

has a new address: 2632 Nicollet Ave., Minneapolis, Minn. 55408
The new location has over 800 sq. ft. of new display room (Joe Pavek)

Story of ZENITH TRANS-OCEANIC receiver will appear in next issue of OTB.
FROM HEADQUARTERS

Notes from the President’s Desk

Our Association has increased its membership greatly during the past year. I believe in part this reflects increased interest in the artifacts and history of early radio. Collecting has become the “in” thing to do. At the same time many have become curious about early radio equipment and its operation, the chronological development of wireless and the inventors responsible. Also, of course, part of our increase in membership can be attributed to the AWA’s becoming more widely known, including our unique Bulletin. The size of our membership now imposes much more detail work in order to maintain the necessary records and correspondence, and to publish the Bulletin. Hopefully, distribution of the workload and changes in our methods will enable us to effectively meet the requirements in the future.

I would like to give special credit to those who make our Bulletin possible. Bruce Kelley, as Editor, writes and collects information for each Bulletin’s contents. Larry Triggs, using his expert newspaper and advertising experience sets the Bulletin format. After that step Don Ray, our printer, applies his photographic and printing skills to give us a first-class publication. Linc Cundall, in addition to maintaining the membership information, assists materially with the preparation of envelopes for mailing. There are half a dozen others who assist in stuffing envelopes and getting the bundles ready for delivery to the post office. This whole wonderful team is proud to make AWA’s Bulletin such an outstanding publication and deserve your appreciation for their many hours of work.

The East Bloomfield Historical Society, owners of the Academy Building, has spent more time and money this spring on improvements to the building to our mutual advantage. With the Museum now open for the summer, we are ready for more visitors. Additional new exhibits have been added such as TV camera tubes, transistors, and a special display of Bell telephones.

Contributions continue to be received for the Museum Fund — are you a supporter? We appreciate gifts from members, especially Gerry Tyne, who have converted some of their collections to funds supporting our own Museum.

I enjoy seeing AWA friends at the various meetings. At this writing I am looking forward to seeing AWA members at the ARRL Southwest Convention in Tucson, the AWA Meet at Foot Hills College, CA, the NY ARRL Convention in Rochester, and the AWA Meet at Winston Salem, NC. I hope many of you will be able to attend one or more of the meetings scheduled in 1976, including the AWA Annual Conference next October in Canandaigua.

73,

[Signature]

ATTENTION S.W.O.P. MEMBERS:

"BI-CENTENNIAL CW QSO PARTY"

The activities will start at 1200 hours GMT on Saturday, June 5th and end 2400 hours GMT on Sunday, June 6th. Suggested frequencies are: 55 kHz. up from the low end of each band. The call will be CQ-SWP.

Stations will exchange signal report, QTH (city and State) and SWP membership number. A special certificate will be awarded to all member stations who contact 10 or more fellow members. Submit logs not later than June 15 to:

Bill Willmot, KH4JJ, 1630 Venus St., Merritt Island, Florida 32952
CLASSIC RECEIVER OF THE MONTH

Here's a set few have heard of -- it is a MARTI -- and one of the rare models. Craftsmanship both inside and outside is superb. The set is of 1927 vintage and uses Kellogg 401 and 403 tubes with the top heater connections clearly visible in the picture. In addition there is a UX-210 power amplifier and UX-280 rectifier. One of the most intriguing features of the set is the tuning dial "readout" in meters! Yes, as one turns the knob, numbers appear in the opening giving the correct wavelength. The dial reading in the photo is "271" meters. The owner would like more information on this particular model and other Marti sets. Write: Richard Cane, 8391 N.W. 21st Street, Sunrise, Florida 33322

ELECTRONIC CALCULATORS and DIGITAL CLOCKS

Frank Pagano called our attention to a rather sober fact: the first electronic calculators and certain types of digital clocks are going to be collectible items in the not too far distant future...

Some of the first models were from low production runs. Rapid development in solid-state circuitry quickly made these first models obsolete. Moral: If you have an opportunity to pick up a real early model -- do so for in time they will be of value.

Think we're kidding? This brings to mind a friend who has a hobby of collecting old razor blade sharpeners. He is always finding different makes.... Then, I always like to tell the story of another acquaintance who collects doorknobs...everything from old brass knobs to the nice shiny porcelain types. He usually carries a screwdriver in his pocket.......

JACK GRAY MUSEUM

is now in the Cincinnati Public Television Station WET...The historical exhibit (and studios) are housed in a $3 million building called The Crosley Telecommunication Center. A full page illustrated article appeared in the CINCINNATI ENQUIRER described the building and the exhibit to be known as the "Museum of Broadcasting"... No greater honor could come to Jack and his priceless collection. WDJV was a charter member and well known AWA historian. He became a Silent Key in 1970. A picture of the Museum will be printed in a future issue of the OTB. (Tnx W9ALW)

MOUNTING TUBES FOR DISPLAY

Most large supply houses have an inventory of fuse holding clips which can be purchased quite reasonable in quantities. The proper size clips are firmly mounted on a display board with spacers for clearance. Tubes then can be easily clipped in place and removed. For final touch, one can spray the clips (black, silver,etc.) to match the tube base. (W2GK)

Our cover: January, 1925 QST
In the 1913 Marconi Yearbook of Wireless Telegraphy, WPD, Tampa, Florida, is listed as a commercial station operating on a wave length of 600 meters. The day and night range was given in kilometers, of 800 day and 2300 night—approximately 450 and 1200 miles. In the 1914 Yearbook of Wireless Telegraphy, WPD is listed as controlled by the Marconi Company.

I have talked with a couple old time commercial operators in Tampa within the past few years, and they recalled that the original site of WPD was outside Tampa, in a location called at that time (1911) Palmetto Beach. This area is now the eastern boundary of the city.

The original installation consisted of two wooden masts with a four-wire inverted L antenna, being fed from a five KW Spark with an open gap. When transmitting, the spark could be heard several hundred feet from the open windows of the building. This installation was closed down when United States entered World War I in the spring of 1917, and some of the equipment was moved across the bay to St. Petersburg and operated, using the Navy call of NCL.

Approximately ten months after the Armistice was signed in 1919, WPD reopened back in Tampa inside one of Tampa Bay’s large hotels, now the University of Tampa. The operating room was in one of the towering Moorish minarets of the hotel, with access by fire escape only. The goings and comings of the telegraph messenger boys at all hours of day and night, plus the whine of the motor generators and rotary spark, caused alarmed guests of the hotel to complain of these distractions. The equipment then being used was a 1916 two KW rotary spark with a Kilbourne and Clark receiver.

In the early Twenties the station was moved to its present site at 1330 McKay Street, which runs along the Tampa docks. It has continued to operate to the present, with the exception of World War 2. After the end of W. W. 2 the station was re-established by George Warner, who owned and operated it until his death in 1939, when he was electrocuted while repairing a faulty transmitter.

His widow, Mrs. Clara Lee Warner, inherited the license and station, unique in that it shares with a Mobile, Alabama, station the distinction of being the only privately owned, licensed, maritime radio telegraph station in the country. Other such services throughout the country are owned by RCA, MacKay, Tropical Radio or I. T. T. (WPD does maintain a working agreement with RCA in collecting bills).

Mrs. Warner, now Mrs. Wood, handled the financial part of the station until the end of 1973, leaving the technical aspects to Don Berger, her chief engineer. To my knowledge she was the only woman in the country who had the sole responsibility for running a commercial, radio, maritime telegraph station. (The station license is now in her son’s name.)

Exterior view of station taken in April, 1976. Dock and cargo vessels are in rear and left of building. Note tower in rear.
The building has not enjoyed a coat of paint in many years, as the picture will testify. The operating room in the building contains an ancient, sagging table, strained under the weight of years' old equipment appearing shabby and outmoded.

There were two RCA high frequency transmitters: a Model 8039 and 8023 using four (4) 813's in push-pull parallel driven by 807. The 420 kc. set was homebrewed with a pair of 883-As driven by 813's. Master oscillators were all in crystal ovens.

A Collins 51-J receiver was used on the higher frequencies with a WWII Navy RBM and a BC-348 on the lower frequencies. The antenna system consisted of dipoles (no beams) strung between (2) 50 year old masts.

The station may not be impressive in appearance but its operation under the guiding hand of Don Berger, W4CQC makes up for its limited facilities. Don's is a one-man operation: he maintains the building, the antennas, transmitters and receivers and is as well the Chief Radio Operator! In fact, he is the only operator except when another "ham" with a commercial ticket comes in occasionally to relieve him.

It was a pleasure to see Don casually operate both HF and LF sets simultaneously (3 receivers and 2 transmitters), type tfc on "mill", pour coffee and talk to his visitors -- all the same time -- so it would appear. To break up the long hours (there is no such thing as 8-hour day) his wife visits the station and helps with office routine.

Up to 1974 there was no air conditioning in the building and five cats presided over the primitive office and operating room. Today there is only one cat in the station, air conditioning has been installed, and major improvements are being contemplated.

---

Radio Station "WPD"
MUNICIPAL DOCK
MAIL ADDRESS: 1338 MCKAY ST. TAMPA, FLORIDA 33602

AN INDEPENDENTLY OWNED RCA AFFILIATE
QTH: 1300 GMT til 2200 GMT DAILY 1800 WX
TFC LISTS: 1320 1520 1720 1920 GMT & 2120
500/420 KHz
4274 - 8473 - 6446 - 13051.5 - 17170.4 kHz

NOTE: Tampa agents prefer WPD routing therefore please watch WPD lists four days before and after docking in the Tampa area AND WHILE AT ANCHOR.

Telephone 223-2762 73 Don Berger
COMING EVENTS
ANTIQUE WIRELESS ASSOCIATION

A.W.A. SOUTHERN MEET
July 10, Winston-Salem, N.C.

A.R.R.L. NATIONAL CONVENTION
July 17, Denver, Colorado
Historical Exhibit

ATLANTIC DIVISION CONVENTION
July 24, Philadelphia, Penna.
Historical Exhibit

NATIONAL HISTORICAL CONFERENCE
OCT. 1-2 CANANDAIGUA, N.Y.

A.W.A. MUSEUM CLOSES
Oct. 31, East Bloomfield, N.Y.
ANNUAL MEETING and DINNER
Nov. 6 (Location to be announced)

Spring Meet

The N.Y. April A.W.A. Meet at Locust Lodge was an unqualified success. Speakers McGraph and Cundall captured the afternoon audiences with excellent talks followed by an un-expected evening dinner guest (Howard Schrader) who gave the group an amusing and informative talk on tubes. As a finale, Howard brought forth from his pocket the FIRST tube with a grid -- a priceless gem made for Dr. Lee de Forest.

The N.Y. May A.W.A. Meet at Bennett's was well attended for a new location. Members had an opportunity to see Floyd's fine collection and listen to Tube Chairman Beckham review current tube trends, Dick Ransley demonstrated the Association's new Ultra-sonic cleaner which, by the way, will be available at the National Meet. Thanks Mr. and Mrs. Floyd Bennett for a fine get-together...

A report on the Foothill College (Cal.) Meet is not available at this time but will be reported in the next CTH.

Word has just been received that the A.W.A. Exhibit at the A.R.R.L. Convention held recently at Tucson, Arizona was well received with hundreds of visitors -- thanks to Jim Rove and Committee.

New Telephone

The A.W.A. Museum now has a telephone. The number is:
(716) 657-6260

Other numbers of interest are:
Pres. Charles Brelsford-
(716) 244-9519
Sec. Bruce Kelley
(716) 657-7489
Treas. Lincoln Cundall
(716) 663-0856

TWO LOCATIONS?
If you spend your time between two locations (mail addresses) and want your Bulletin forwarded -- you had better use First Class mail ($6.50 dues) for prompt delivery.

LIST OF A.W.A. NET STATIONS
Members checking in AWA Phone or CW Nets may obtain a NET LISTING of stations who regularly "check in". The list gives amateur call letters, location and "handle". The list is also available to members who "listen in". Send a S.A.S.E. to: Ken Gardner,
42 Oakdale Ave. S.
New Hartford, N.Y.
13413

NOVICE
TRAINING CLASSES BY A.W.A.

Following the practice of many radio clubs, AWA is sponsoring a six month series of code and theory classes every Wednesday evening in the A.W.A. Museum. The sessions started in May and will continue through October. The course will enable participants to pass the F.C.C. examination for a Novice Amateur Radio License.

TUBE DISPOSAL
Members who showed interest in the W.B. tubes offered by Jerry Tyne may like to know the high bid was $202 which was deposited to the Museum Building Fund.

Several offers approached this figure while others made bids on a partial lot basis which had to be refused. A.W.A. appreciate member's interest and most grateful to Jerry Tyne for his fine donation.
Last December, Bill Orr wrote wondering whether AWA Electronic-Communication Museum would be interested in a Zahl tube? Sure, but what is a Zahl tube? One answer is easy -- it is a VT-158. But there is more to it than that. The tube was designed in 1943 by Dr. Harold Zahl, Director of Research at Ft. Monmouth R&D Laboratory, for high power radar work at 600 mc.

The War was at a critical stage and newly developed radar was to play an important part -- but there was a need to have a tube that could handle tremendous power at high frequency. Working under great secrecy, Dr. Zahl provided the answer and the Eimac Company the product. One of these tubes is now nicely mounted and on display in the Museum thanks to Eimac and W6SAI...Head on......

The unique tube we referred to earlier was the VT-158 -- the "Zahl Tube." Major Zahl brought the tube to Eimac and asked if it could be mass produced. It wasn't easy, but we did it.

Essentially four triodes connected in parallel, the tube envelope also contained tuned plate and grid lines which made it an oscillator. Power, as much as 250 KW peak, was extracted from the externally-tuned filament lines. A diagram of the tube and of the external circuitry is shown in Figure 1.

One of the reasons for building the tuned circuit inside the envelope was the sparking and loading problems usually associated with tubes operating at very high power in the range above 200 megacycles. But there was a more important feature of the VT-158 which was developed by Eimac; the grid.

Because of the plate dissipation and cathode temperature necessary to produce the 250 KW, the VT-158 grids ran as hot as 1400 degrees Centigrade. Zahl wrote in the February, 1946 Proceedings of the Institute of Radio Engineers, "This difficulty has been overcome completely by the use of Eimac 'X' grid cages, and without exception the end of tube life is determined by loss of emission..." rather than by contamination. This "X" grid wire was later named "Y-3" by Eimac, and is still used today in some Eimac power-grid tubes. In fact, this work on the VT-158 put Eimac years ahead of its competition in the fabrication of grid structures which would withstand the temperatures inherent in power-grid tubes. It is interesting to note that research done recently by others has led to the rediscovery of the same material Eimac introduced 18 years ago.
OLD TYME HAM ADS

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

RULES FOR ADS:
1. Material must be over 25 years old and related to radio or electricity.
2. Ad MUST be written on separate sheet of paper --- not part of letter. For acknowledgement, send S.A.S.E.
3. Give full address, Zip number and call letters (if any).
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 7 lines including address.
7. Only ONE ad per member per issue.
8. All ads must be received 6 weeks prior to mailing date. (See deadline date on this page.)
Main St, Holcomb, N.Y. 14469

WANTED: National FB-7, AGS with coils and power supply, Low frequency coils for SW-3, Zenith Mod. 3R, crystal sets. Would consider other receivers if mint. James Geras, W9KZ, 33-05 220th St., Bayside, N.Y. 11361

WANTED: National SW-3 receiver. Write: Lonny White, P.O. Box 96, Poca, West Virginia 25559

NEED: I.F. can, 2 shields, BFO coil, dial pointers and Escutcheon for Silver Marshall 15-17 (1939) Write: WHNM, F.V. Kohl, 7116 Capitolview, McLean, Virginia 22101

WANTED: AK breadboard parts panel for varicorder, on/off sw, 1 tube det. socket & coupled tuner. Also, interested in trading misc. AK parts for good QLAs. Terry Chew M.D., Medical Service, Edg. 3, VA Hospital, Sepulveda, Calif. 91403

WANTED: Coil unit, switch and other small items to restore AK 10 breadboard. Alex Black, 102 Mineola Dr., Syracuse, N.Y. 13224 (315-466-3666)

WANTED: Schematic and info on Breteging 12 shortwave receiver. Also cabinet & AP's for Crosley Tridyne. Jerry Beaudin, 3568 Perry St., Hudsonville, Mich. 49426

TRADE ONLY: Grebe CR-8 for Grebe CR-12. Geo. Haymans, Box 468, Gainesville, Georgia 30501 (WA4MED)

WANTED: Magnetic wire recording brochures, machines, etc. Will buy or trade wireless literature. H. Layer, AV-5FEU, 1600 Holloway Ave., San Francisco, Calif. 94132


DEADLINE FOR OT ADS

Jan. 15 ------ March issue
Apr. 15 ------ June issue
July 15 ------ Sept. issue
Oct. 15 ------ Dec. issue

WANT: Minneapolis sets--Cutting & Washington, Atterdorff, Dotsan, Continental, Northland, Wright, Crestwood, Magnadyne, also AK-19, 21, 21Th, 30, 32, PE 855, PE 87. Write: Jack Bacon, 264 Xerxes Ave. N., Minneapolis, Minn. 55405 (612-374-4186)
FOR SALE: Old QSTs, a few from 1923 to 1931 and a number of years 1946 to 1971. Also CQ's from 1951 to 1966. Send SASE for information. A. G. Wentzel, 315 Gardner Avenue, Trenton, N.J. 08618

WANTED: Westinghouse dual range DC voltage meter 0-5 and 150 volts, made to plug in the pin jacks on the panel of a Radiola 20 to monitor the filament voltage. John Shielis, 3212 Chestnut Street, Murrysville, Penna. 15668

WANTED: source of glass discs to restore old panel meters -- 2 and 7/8" dia. and about 1/16" thick. Robert Lozier, 318 E. Houston St., Monroe, N.C. 25110

FOR SALE: Rack panel mounted on wheels with AC/DC supply and others, ARK-13 w/tubes, Radiola 60, Best offer. Reproduction of Aerolita Sr. Amplifier Lid instruction insert $2.75 Same for DeForest DT-700 @ $2.50 pp. Ray Klaweitz, 525 N. 2nd Street, Reading, Penna. 19601

WANTED: Info on G.E. (Gecophone) of London BC 3244, early broadcast equipment. Also would like to correspond with other Broadcast Engineers in A.W.A. Dennis Feely, W32MR, 3-A-3 Tana Ct., Newark, Delaware 19702

WANTED: AK 2nd RF or detector coil horizontal axis for Model 10 breadboards. Also National SW-3, any model, excellent with bandspread coils. F.R. Tesche, 3728 Mosswood Dr., Inayett, Calif. 94549 (415-284-5608) (W8BRT)

WANTED: R390 or 51-J-4. Also honeycomb coils and copy of Vol. #1 ANRE Hints & Kinks. J. Wm. Anderson, 10912 Sherman Grove, Sunland, Calif. 91040

SELL/SWAP: Scott Mod. RCH receiver C26-46209 @ $75. (80 to 560 kc and 1.9 to 24 mc.) You pick up. J. Wasiewicz, W2DQ, 2296 Sardis Lane, Pleasantville, N.Y. 10570

WANTED: Tube mtg. chassis and 2 bar type knobs for Federal 61, 2 small knobs for Kennedy V. For sale: Detailed 14x11" schematic of Fed. 61 (offset printed) @ $2.50 ppd. Bill Condon, 1434 Princeton, Apt. B, Santa Monica, Calif. 90404

WANTED: Navy surplus RCH receiver C26-46209 E.H. Scott special communication receiver circa 1941. Bob Fabris, 3626 Morrie Dr., San Jose, Calif. 95127

WANTED: Osc. & P.A. coil for Hallicrafter HP-6 xmt (circa 1938). Also need source for 8 mf, 600v. can capacitors. Write: C. Hinton, W8ZAH, 5004 Amy Circle, Omaha, Neb. 68137

WANTED: Wish to buy Western Electric 4B receiver in good condition with front label. Rodney Schrock, 402 Lincoln St., Somerset, Penna. 15501

WANTED: Scott Philharmonic (not nec. complete), Riders 1,2,16,20 and above. Have for trade: GR 368 tube reactor, Bremer-Tully 6A0U9, Boston breadboard electric set, Scott Navy set & Riders #7 and 8. A. Smith, Stonehedge, Lincoln, Mass. 01773 (517-257-9351)

WANTED: Wm. B. Duck #13 or #14 catalogs, AK panel for a coupled circuit tuner, #11 tuner or any other AK breadboard parts or DeForest unit panels. Write: Glenn Angle, K3TMM, Clear Lake, South Dakota 57226

WANTED: Schematics, Neutriwound nameplates, Trego, Battery cable, Radiola III, Bakelite Bell, Seal Horn speaker, dial light shield, Radiola 18, base & good driver for AK horn speakers and same for Modern Cleartone speakers. Maury Siemons, 612 E. Winter Dr., Phoenix, Ariz. 85020

WANTED: Atwater-Kent board detector Unit No. 390E. Cash or trade. Ross Smith, 1133 Strong Ave., Ekhart, Ind. 46514

WANTED: Atwater-Kent variocoupler ( a front panel would be okay). DeForest receivers of all kinds and parts. Write: Joe Korvatin, WQGE, 522 Third St., San Rafael, Calif. 94901

WANTED: Primary and secondary coils, tickler coil box and crystal detector--all used with National Elec. Supply Co. Model CN-239, but probably 1916 model. Robert Meyersnolder, 13900 S.E. 44th Place, Bellevue, Wash. 98006

WANTED: National SW-3 in good condition. Don Sheahan, W1LML, 15 Arcadia Road, Andover, Mass. 01840

WANTED: KKKO Radio verification stamps and/or album. Also information on KKKO Co. Rod Phillips, Box 684, Bryn Mawr, Penna. 19010


FOR SALE OR TRADE: Sam Photo Facts SP-222 in 11 hard binders, 223-516 in steel cabinet. Want Crosley Pup cabinet. J. L. Kemp, KFD 10, Frederick, Md. 21701

WANTED: UV-20h (A) transmitting tube. Filament need not be good. Fred Linn, W7NZF, 2929 N. Shepard Ave., Milwaukee, Wisconsin 53211

FOR SALE: Aerovox Research W7erker (139 issues begin with Aug. 1941 with some gaps). Cornell-Dubilier Capacitor (131 issues) begin with Nov. 1940. Charles Kaetel, W3SNK, N50 W16328 Pin Oak Court, Menomonee Falls, Wisconsin 53212.


WANTED: DeForest HM-100 mike, unit panel or parts, cabinet for Freed-Kiesemann #30, knobs for HM-5, osc. transformer, spark gap and condenser, buy or swap. Will Jensen, W6WOM, Box 96, Deventer, Neb., 68335. Tel. 402/364-02462.

WANTED: Coil sets E,F,G,H and J with or without dial scales for National HRO-60 receiver. Also, all Rider Manuals except Vol. 9 and 11. Brad Thompson, 77 Waltham St., Maynard, Mass. 01754.

WANTED: Badly needed to complete AK-9 breadboard, one TA Unit, etc. & 2 step audio complete. Also want vintage battery sets. Have extra Radiola III to trade. Leland Smith, W5KL, Route 3, Jasper, Arkansas 72641.


WANTED: Early National Co. revrs, prw. supplies, coils, spkr's, literature, parts including "junker sets". Vince Highmark, W8YVD, 525 9th Ave., Two Harbors, Minn. 55616.

WANTED: Will pay good price for inside parts for Paragon DA-2 amp., ½ tube Carter Manufacturing Co. (Caro) as in Vintage, parts for 1921 RCA CW transmitter, send large SASE for magazine & catalog "For Sale" list. Rick Ammon, Box 104, Mt. Camel, Ill. 62863.


WANTED: Bristol 1924 One dial Reflex. Have Kennedy XV, Aerica Sr. and others for trade. Art Harrison, 1021 Falcon Dr., Columbus, Mo. 65201.

NOTE: Several ads were rejected for this column because they were for modern equipment or items not radio or electrical. See Rule No. 1 at head of Column.

FOR SALE: Send SASE for list of G8s from 1916, ARRL Handbooks and other magazines plus early wireless gear. Mike Feher, W4LLZ, 3327 Andria St., Sarasota, Fla. 33580


FOR SALE: New dials for 1937 Scott Philharmonic. Also copies of other Scott dial strips available. Need parts for 1940 Phil. and dial strip and case for Radiola 60. George Harris, 3212 36th St., Lubbock, Texas 79413

WANTED: cabinet for Federal 55, would settle for replica. Also interested in any Marconi items. Have Eison 2 minute Cold mold cylinder records for sale or trade. Make offer. Pat Stewart, W6GVC, 1404 Ruth, Walls Walla, Wash. 99362

FOR SALE: Authentic reprints of Grebe sales brochures for CH-3, 5, 8, 9, ROK & ROKD @ $2.50 ppd. Companion Grebe instruction book with hookups, etc. 64 pages @ $3.05. Send check or M.O. to Donald Peterson, 1220 Neige St., Augusta, Ga. 30904. Want: cabinet for Frankham Masterpiece.

WANT: UV-217 tube, green cord for Baldwin phones, AFT for Tuska Superior Jr., UV-213 tube, AFTs for Kennedy 525 amp., binding post cap for ROKD, base driver for Tower horn, Moorhead tubes & Literature. R.T. Wooters, W5KSO/P, 8303 E. Mansfield Ave., Denver, Colo. 80237

WANTED: Old meter catalogs (rep. ok) and meters, any kind before 1920. Indicate mfg., mod., ser. #, cash and condition. Also info on Thompson-Rice Co. 1900? Leonard Cartwright, 10663 Northfield Square, Cupertino, Calif. 95014

NEED: Cardwell condensers 176-c, 156-B and 200-D, also Rosko .00025 variable. National Velvet dial, General Meter 1 amp. Frost loosecoupler, Have for trade: Fada neutrodyne. A.C. Stoddard, W5KLN, 1502 Briarwood Dr., Lansing, Mich. 48917. Tel. 517-482-9593

WANTED: Pacific Radio News of May 1920. Need not have covers. Also Signal Corps IM-1 ballast with tip on top. August Link, 2340 Hoop Way, Carlisle, Calif. 92008


RCA Signs Pact With Westinghouse

CAMDEN, N.J. — RCA's Broadcast Systems division here last week said it has acquired from Westinghouse Electric Corp. the circuitry, technology and technical aid for the design of an all-solid-state AM broadcast transmitter.

Terms of the deal, which was on a non-exclusive basis, were not revealed.

However, RCA said that under the arrangement it obtained a 5 kilowatt model of a solid-state AM transmitter from Westinghouse.

Technical personnel at RCA's division are said to be developing a solid-state AM transmitter which would be approximately half the size of present tube-type transmitters.

London To Honor Blumlein

The Greater London Council will erect a commemorative plaque on the wall of Alan Dover Blumlein's home in London in recognition of his many achievements in science and technology. Blumlein was the inventor of modern recording techniques, of stereo, the closely coupled inductive radio-ribbon bridge, the cathode follower circuit, and the so-called "Miller" integrator, among others. The BBC adopted Blumlein's specifications in the 1930's for the 405-line, 50-frame interlaced TV system still used by the BBC today. During his short working life, Blumlein was awarded an average of one patent each six working weeks. The official unveiling of the plaque will take place on or about June 7, 1977, the anniversary of his death.

Northernmost Radio Station Begins Operation

The northernmost radio station in the United States, KEBR-AM, Point Barrow, Alaska, began broadcasting recently with a Harris MW-1, one-kilowatt solid-state AM transmitter. The transmitter was purchased by the Alaska Educational Broadcasting Commission from the Broadcast Products Division of Harris Corporation.

The MW-1 transmitter was installed in one day's time in -50°F temperature, and signal reports come from 250 miles away.

The new Point Barrow station broadcasts using one-kilowatt power.
Recognize the above sketch? ---
the youthful operator tapping out
the code with his forefinger?
The original was drawn for A.W.A.
by Jim Triggs and is currently
being used on all AWA Membership
cards. The Association was pleas-
tantly surprised back in April when
U.F.S. delivered a package con-
taining a beautiful engraving of
the same sketch mounted on a large
wooden plaque. The engraver was
Roland Watson. It was displayed
at the Spring Meets and is now
hung in the Museum. A real pro-
fessional job which draws much
attention. Thanks Roland...

**DID YOU KNOW?**

"I.P." -- here is another explanation as
to the meaning of the prefix used by the
Wireless Speciality Apparatus Company on
their early equipment such as the IP-76,
IP-500, etc. They say "I.P." means:
Interference Preventor
as applied to their first receivers be-
cause of their highly efficient loose
coupling circuit which minimized inter-
ference. Makes a good story -- but we
like the others better........

**REMINDER:** Southern A.W.A. Meet
Winston-Salem, N.C. July 10...

**Phone inventor's daughter dies; 86**

ROME, Ga. (AP)—Esther Watson
Tipple, daughter of Tom Watson, co-
inventor of the telephone, died yester-
day on the 100th anniversary of the
invention.

Mrs. Tipple, 86, had lived in Rome
since 1929. She died in a nursing home.
"My mother had been interviewed
so many times," said Mrs. J.V. Cobb.
"Every time the telephone company
would have a dedication of some kind,
they would call her."

**Publications**

Large list of used books for sale on
early wireless/radio. For list, send
large S.A.S.E. to: A.D. Santomasso,
1255 Boulevard, New Haven, Conn. 06511
THE HISTORY OF THE ALL-METAL RECEIVING TUBE -- PART II

by Brother Patrick Dowd

a) The All-Metal Receiving Tube A Collector's Item?
b) Identifying The Original All-Metal Receiving Tubes.
c) Dating The Pre-WW II All-Metal Receiving Tubes.

"The all-metal receiving tube a collector's item" -- The foregoing statement, if made in collector-circles, would be sure to cause some raised eyebrows, elicit quizzical looks and perhaps cast some doubt on the sanity of the speaker. Christened the 'tin-tube' even before it was released, how could this unglamorous tube, which was manufactured in such vast quantities, ever become a 'hot' collector's item?

Regrettably, as a result of its small stature, somber appearance, and very efficient performance, the all-metal receiving tube, almost from the very beginning, was taken for granted, and its vital contributions to modern vacuum tube technology went virtually unnoted and unappreciated. In the minds of many, the 'look-a-like' construction of a multiplicity of varied tube-types unintentionally caused all the metal receiving tubes to be lumped into one category, with a consequent loss of their individual identity. This unfortunate, 'seen-one-seen-them-all' attitude did little to help the cause of the metal receiving tube in the eyes of the collector.

To the casual observer, perhaps, all the metal receiving tubes may very well appear as 'look-a likes' -- yet nothing could be further from the truth. In the pre-WW II metal tubes at least, a succession of visible changes took place. A study of these numerous changes enables the initiated to both date and trace many of the progressive stages in the fascinating development of the 'new' technology of the all-metal receiving tube.

Surprising as it might at first appear, the original all-metal receiving tubes, as well as the 'vintage' tubes of each early tube-type, possess, at least to some degree, all of the characteristics of the ideal collector's item. These characteristics are: (a) Antique -- The original metal receiving tubes were released over forty years ago. This more than qualifies these tubes to be classified as 'antique' under the AWA definition. (b) Rare -- Although over eighty million all-metal receiving tubes were produced by RCA prior to WW II, many of the original tube-types and many of the 'vintage' tubes are in short supply and may be considered in the 'rare tube' class. In fact, present evidence indicates that a few of these types may deserve to be classified as 'very rare'. There are several reasons for this: (1) As the metal tube technology developed, many progressive improvements were made in the metal tubes. In most cases these improvements brought about external physical changes. As each new model of the various tube-types appeared incorporating these improvements, production of the previous model ceased. This effectively limited the production numbers of the 'vintage' models as well as most of the later models of each tube-type. During the pre-war period label-styles were changed frequently, either in conjunction with or independently of the physical changes, and this served to further limit the availability of certain variant types. (2) The total pre-war production of over eighty million metal tubes was divided among approximately sixty different tube-types as well as innumerable models of most of these tube-types, (3) These many different tube-types were not produced in equal quantities. (4) Some of the tube-types were superseded shortly after their release. (5) At present no evidence is available to indicate that these early models, at least to any great degree, were intentionally preserved. (c) Beautiful -- No one, I am sure, will argue the case for the aesthetic beauty of the all-metal receiving tube, yet its functional beauty cannot be denied. Unfortunately, most of its real beauty, its technical beauty, is hidden beneath its metal shell. (d) Historically Significant -- The all-metal tube was the first to break away from the Incandescent-Lamp heritage of the vacuum tube. A completely new technology had to be developed to produce the all-metal tube. The development of this technology ushered in the modern age of the vacuum tube and set new standards for efficiency, precision, compactness and ruggedness that were to have a profound effect on the future of the vacuum tube. (e) Personally Significant -- This will vary from one individual to another, but, unless one is very young, very few can claim that, directly or indirectly, the metal tube did not play some small role in their lives. (f) Easily Identified and Dated -- It is possible to date and identify the early all-metal receiving tubes simply and with reasonable accuracy by making use of a combination of currently known characteristics and label-style information. (g) Limited Production -- As mentioned above, the frequent changes effected in the early metal tubes resulted in the production of many models of each of the tube-types. This limited the production run of each 'vintage' model as well as later models of each tube-type, to a comparatively short period after its release.

15
IDENTIFYING & DATING THE ORIGINAL
AND PRE-WW II RCA ALL-METAL
RECEIVING TUBES
(Using a Combination of External Physical
and Label Characteristics)

Most of the listed physical characteristics
and changes were obtained through the
courtesy of RCA from 'spec sheets' in their old
files. The dates listed represent the dates
on which these physical changes were autho-
ized and not necessarily the dates of imple-
mentation.

Most of the label information was made
available through the courtesy of The Newark
Stamp and Die Works. Where listed, the
date in parenthesis to the right of the label
indicates the date on which the completed
label-stamp was delivered to RCA. Then,
as now, the metal tubes were labeled before
leaving the warehouse and not at the time of
manufacture.

The tube registration dates in the 'Tube
Data Table' are taken directly from the E.I.A.
listings and do not necessarily represent the
tube release dates.

Where convenient, the tubes listed in the
'Tube Data Table' have been grouped into
series. The original tube-types in each
series all have the same label-style as indi-
cated in the 'Label-Style Table'. This per-
misses easy identification of the 'vintage label'
of each tube-type. However, in some cases,
more than one model of a particular tube-
type was manufactured while the same label-
style was still in vogue. In these cases the
physical characteristics of the tubes must be
used, if possible, to identify the 'vintage'
tubes.

For the convenience of the reader in fol-
lowing the various changes listed herein, it
is recommended that running reference be
made to the 'Tube Data Table', the 'Label-
Style Table' and the accompanying photo-
graphs. **(P)** indicates a photographic ref-
ience.

The following facts are as accurate as
presently available information permits.
RCA started using date-codes on the metal
tubes in mid-'38. No pre-war dating-code
information is currently available.

PHYSICAL CHARACTERISTICS OF
THE ORIGINAL AND PRE-WW II ALL-METAL
RECEIVING TUBES

A) All of the Series 1A & 1B metal tubes
were die-stamped, on the shell of the tube,
with the 'Radiotron-Cunningham' label. The
'License Clause' (LICENSED ONLY TO EX-
TENT INDICATED ON CARTON) was im-
printed, in a circle, on the bottom of the
bakelite tube base just outside the pin-ring.
The rubber-stamped (painted) label re-
placed the die-stamped label about mid-'36
with the release of the 6L8. At this time the
word 'Cunningham' was dropped from the
label until mid-'38 when it was returned to
the bottom of the tube base in its original
wording. The bottom of the tube base re-
mained blank from mid-'36 to mid-'38.

B) The shell of the original 5Z4 was much
taller and wider than the shells of the other
metal receiving tubes, and it was perforated.
(P #1)

The second generation 5Z4 (probably early
fall of '35) was made identical, in size and
shape, to the 6F6. The label on the original
model was die-stamped.
C) The shell of the original and early 6L6 was much shorter than the shells of the other metal receiving tubes, and it had a 'flat-top'. (P #1)

The 'flat-top' disappeared in November '38. The 6L6's manufactured after this date had 'dome-tops'. The 12H6 was released after this date. There were no 'flat-top' 12H6's manufactured. (P #2R & #2S)

D) The original and early 6C5 had a distinctive recessed collar at the top of its shell. (P #1)

This collar disappeared in March '41. It was the last of the distinctive characteristics of the original all-metal receiving tubes to disappear. After this date the 6C5 was made identical, in size and shape, to the 6J5, etc. (P #2A)

E) In the construction of the original and early metal receiving tubes, the header (the flat, structural base of the tube) and the base-skirt (used to house, position and support the octal-base) were made from a single piece of metal (top view P #2L & bottom view P #2M). Holes were drilled in header to allow for the insertion of the 'fornico' eyelets (P #2D) with the eyelets-flange on the bottom-side of the header (P #2M). The metal exhaust tube was inserted, flange top-side, through a center hole in the header (P #2M). The eyelets and exhaust tube were then simultaneously resistance-welded to the header. Copper rings were slipped over the eyelet-stems on the top-side of the header and melted to insure a vacuum-tight seal in case the eyelet-to-header weld did not take. (Melted copper ring visible between the eyelet-stem base and header. (P #2L)

Early (probably in fall of '35) the copper-wire method of making the insulation seal was replaced by the copper-gutter method. A gutter was impressed on the bottom-side of the header and a piece of copper wire was tack-welded in the 'key' of the gutter (See whitened gutter P #2N). During the manufacturing process the copper wire was melted, in an hydrogen atmosphere, and guided from eyelet to eyelet and around each eyelet by means of the gutter.

In most cases this gutter can be detected externally, thus permitting easy identification of the original and second generation tubes. The first 524 metal tube is self-dating. All the other early tube-types, except the 6A8, have one or more unused pin-holes in the octal-base. A wire may be used to probe for the gutter through these holes.

F) The shell connection (ground) in the original metal tubes was brought through a hole in the header and connected to a base pin for the external grounding. Later, probably when the copper gutter came into use, connection was made to the shell by spot-welding a wire to the inside of the base-skirt and leading it directly to a base pin (Compare P #2M & 2N).

G) The original and early versions of the 6A8, 6C5, 6F5, 6H6, 6J7, 6K7, 6L7, 6Q7 and 6R7 all showed a getter bump located about a quarter of an inch above the header on the shell of the tube (Visible P #2C & #2R). This getter bump was made to accommodate and locate the getter pellet for flame-flashing, externally by torch, during the exhaust of the tube. The getter pellet was held in place internally by tack-welding a metallic strip (P #2B) or a wire mesh (P #2D) over the pellet.

The 'getter bump' disappeared from the early metal tube-types as the 'pellet' method of gettering was gradually replaced. Starting in late '36 or early '37 the 'getter coil' assembly began to supplant the 'pellet' as a means of gettering. The 'getter coil' assembly (P #2E) consisted of a coiled tantalum wire coated with the 1st form of 'batalum' getter -- mainly barium carbonate. The coil was surrounded by a three-sided shield open on the shell side to direct the flash and prevent contamination of the tube elements by the getter vapors. The getter was fired electrically through the base pins during exhaust. This method of gettering was expensive, and about mid-'38 it was replaced by the 'getter ribbon'. The 'getter ribbon' consisted of a thin tantalum strip with a small channel or 'canoe' pressed into the center portion of the ribbon. The channel was filled with the 2nd form of 'batalum' getter -- barium berylliate mixed with a binder. The channel also doubled as a shield. The getter was flashed electrically either during the exhaust or the aging process of the tube. In the mid-'40's the 3rd and final 'batalum' form, barium tantale, replaced the barium berylliate on the ribbon. (P #2F)

By late '39 most of the early tube-types had been converted to the 'getter ribbon'. Some were first converted to the 'getter coil' and then to the 'getter ribbon' others went directly to the 'getter ribbon'. The 6J5 was the first new tube-type to be released without the 'getter bump' in mid-'37. All new tube-types released after this date did not have a 'getter bump'.

H) The 6F6, 6L6, and similar dome top tube-types did not have a 'getter bump'. The 'getter pellet' was placed in the dome of the tube and flashed externally by flame. (P #2D)

In the original and pre-'glass-button-stem' ('gbs') all-metal receiving tubes (header and base-skirt one piece) the top of the header was embossed along its outer rim to accept the shell-flange weld. This resulted in an exposed 'single ply' weld-seam visible just above the header (P #2R). This is one of the identifying characteristics of the earlier tubes.

Starting early in '37, as the metal tubes were gradually equipped with the 'gbs', the header and base-skirt were made as separate
DATING OF RCA METAL TUBES
BY LABEL-STYLES

(COURTESY OF NEWARK STAMP AND DIE WORKS)

(TUBE SERIES # 1A & # 1B)

1
RCA RADIOTRON
Made in USA
CUNNINGHAM

STYLE # 1
MID - 1935 TO MID - 1936

2A
RCA RADIOTRON
Made in USA
Licensed as Stated
on Carton

(TUBE SERIES # 2
(05/19/36)

(Probably used as Distribution Code)

2B
RCA RADIOTRON
Made in USA
Licensed as Stated
on Carton

11, 12

STYLES # 2A & # 2B
MID - 1936 TO MID - 1938

3
RCA RADIOTRON
Made in USA
Licensed as Stated
on Carton

(TUBE SERIES # 3
05/17/38

STYLES # 3
MID - 1938 TO MID - 1939

4A
RCA RADIOTRON
Made in USA

(TUBE SERIES # 4
(04/11/39

STYLES # 4A & # 4B
MID - 1939 TO EARLY WW II (?)

4B
RCA RADIOTRON
Made in USA

5A
WHEN THE RCA
WORD 'RADIOTRON'
WAS DROPPED, THE
'LOGO' WAS MADE
SLIGHTLY LARGER.

RCA

XXX

(TUBE SERIES # 5A & # 5B
EARLY 1942 (?)

5B
RCA

XXX

PROBABLY USED ON HOME-
FRONT DURING WW II.

6
RCA RADIOTRON
Made in U.S.A.

(TUBE SERIES # 6
XX.

EARLY 1942 ON (?)

(SPECIAL ACKNOWLEDGEMENT FOR HELP IN WRITING THIS ARTICLE:
RCA-- Present Staff Members: Hoyt Warren, Smitty Cochrane, Dan Pidgeon, Dick Watson,
John Poyner and the many Area Managers.
Former Staff Members: Wally Crawford, George Rose, Ken Bucklin, Doc Shaw, Otto
Schade and Tom Briggs.
GENERAL ELECTRIC-- James E. Beggs
THE NEWARK STAMP AND DIE WORKS-- Gordon and Alex McNab, Herb Byeff and Bill Stevens
OTHERS-- Bob Morris, Hovie Schrader, Jerry Tyne, Bruce Koonce, Bruce Kelley and
John Stokes.
(JAN) LABELS STARTED
EARLY 1943.
pieces. The header was then formed of two concentric metal rings. The inner-ring (header-insert ring) was made with a collar to accept the 'gbs' (P #2K-Left). This inner-ring was welded to the outer silver-plated ring (header proper, P #2K-Right) prior to sealing-in the 'gbs'. (Welded header, P #2K Center)

The outer diameter of the header was made the same size as the diameter of the outer-rim of the shell-flange (P #2Q). These pieces were then welded. The base-skirt was made with an inward-flange (P #2G & 2O) and tack-welded to the bottom side of the header. This left an exposed 'two ply' weld-seam just above the base-skirt (P #2S & #2O). This 'two ply' weld-seam indicates the presence of the 'gbs'. In some tubes, depending on the completeness of the welding job, the 'two-ply' nature of the weld-seam can only be detected by a careful examination.

Later, probably in '39 or '40 some experimental single-piece headers were made. The outer header-diameter of these as well as some two-piece headers (probably made about this time) were made slightly smaller than the diameter of the outer rim of the shell-flange. This resulted in an exposed 'single ply' weld-seam. Label-style dating must be used to distinguish these from the earlier 'single ply' weld-seam tubes.

I) Starting in January '41, for economic reasons, the gage of the metal used in the manufacture of the metal tubes was reduced to about half its former gage. This made the practice of tack-welding the base-skirt to the bottom side of the header impractical. Over a period of time (no dates available) several methods were tried to solve the base-skirt problem: a) The shell and base-skirt were formed of a single piece of metal shell -- easily detected. No exposed weld-seam. b) The diameter of the inner-rim of the base-skirt's inward-flange was made to fit snugly over the shell and crimped to support the octal-base. (P #2P) (Shell and base-skirt two pieces -- easily detected. No exposed weld-seam). c) Same as method (b) above except the base-skirt was welded to the top of the shell-flange for better support of the octal-base. Ultimately, probably early in WW II, method (c) became standard practice.

Except for the 6F6 which made the change one year earlier (probably for field testing) and the 6L6 and similar size tubes which never lost their exposed weld-seam, an exposed weld-seam automatically dates the manufacture of a metal tube prior to January '41. (Exposed weld-seam P #2O, R, S) (Covered weld-seam P #2A, T) (6L6 P #2Q).

J) The original and early 6L6's and similar size tubes were taller and wider than the
conventional metal tubes and were made of heavier gage metal. The shell-flange to header weld was exposed and "two ply" (Left P #2Q). The base-skirt was made with an inward-flange and was tack-welded to the bottom-side of the header. Because the inward-flange had a slight inward-flair (due to heavy-gage metal) and the base-skirt diameter was smaller than the header diameter, a noticeable 'indentation-ring' appears between the base-skirt and header. (P #2Q-Left)

When the 'gbs' was applied, the base-skirt could no longer be welded to the inner part of the header. The base-skirt was then made with an outward-flange having the same size outer diameter as the header. It was then welded to the bottom of the header simultaneously with the header-to-shell weld. From this point on the exposed weld-seam became 'three ply' (P #2Q-Right) and the 'indentation-ring' disappeared. This change took place in the 6L6 in June '39. The weld-seam in the 6L6 and similar size tubes always remained 'exposed'.

K) The original 1851 metal tubes, issued early in '38, were equipped with a top grid-pin that was about half the diameter of the later 1651's.

L) The original and early metal tubes with top grid-caps used a 'brown wafer' to insulate and support the grid-cap. Late in '40 'black wafers' began to replace the 'brown wafers'. By January '41 the change was almost complete. Exceptions probably resulted from the clean-out of old stock. The 'black wafer' has been used ever since. (P #2H-Top)

M) In the original and early metal tubes with top grid-caps the grid-cup (metal cup welded to the top of the shell and crimped to support the insulating wafer) was embossed around its entire bottom circumference. Later, probably in '44, the grid-cup was only partially embossed, leaving too small unembossed 'bumps' on opposite sides of the grid-cup (P #2H-bottom). These 'bumps' are visible between the underside of the grid-cup and the top of the shell (P #2H). The 'bumps' were probably added to strengthen the grid-cup to shell weld.

N) Probably during '45, either just before or shortly after the end of WWII, the practice of die-stamping the tube identification on the side of the base-skirt started. On most tubes a letter-number code, probably a date-code, is also found die-stamped into the base-skirt. (P #2A)

O) Throughout '38 & '39 a few grid-cap tube-types were manufactured in several different shapes. When the 'gs' was first applied to the metal tubes a disk was punched from the center of the header-insert to allow for the insertion of the 'gs'. For a while RCA experimented with different ways of using these disks to form the top grid-seal. Three forms of the 6K7, two forms of the 687 and two forms of the 6K8 have been verified.

P) Metal tubes with exposed 'weld-seams' (Manufactured prior to January '41) were found with war-time labels. Some of these were marked 'for replacement use only'. Evidently RCA cleared its warehouse of old tube stocks during the war-time tube shortage for distribution on the home-front.

Last month the 'Giant' was put quietly to sleep -- on April 30, 1976, the RCA Receiving Tube Plant at Harrison, N.J., ceased all production of their metal, as well as their glass, receiving tubes. Even though greatly understaffed, Harrison was true to its fine tradition until the very end. Its last days were spent in feverishly stockpiling receiving tubes to meet contract commitments.

Sylvania has taken over the manufacture of the RCA 'Nuvisor' line. Perhaps it is most fitting that the only tube to survive Harrison, the 'Nuvisor', is the youngest member of the all-metal receiving tube family, the family that played a bigger role than any other tube-family, in establishing RCA's reputation in the receiving tube field.

The demise of the Harrison Plant brings to a close another era in the memorable history of communications. Although the era that lies ahead will doubtless prove technically far superior to any past era, it is doubtful that it will ever match the 'romance' of the vacuum tube.

"THE VACUUM TUBE IS DEAD -- LET'S HELP PRESERVE ITS MEMORY"
<table>
<thead>
<tr>
<th>TUBE TYPE</th>
<th>REGIST. DATE</th>
<th>COILED GETTER</th>
<th>BUTTON STEM</th>
<th>HIBBON GETTER</th>
<th>TUBE TYPE</th>
<th>REGIST. DATE</th>
<th>TUBE TYPE</th>
<th>REGIST. DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERIES #1-A</td>
<td>The ORIGINAL</td>
<td>NINE metal tubes</td>
<td>Released early fall 1935</td>
<td></td>
<td>SERIES #1-B</td>
<td>Released 1st half of 1936</td>
<td>(Start of paint-stamped label)</td>
<td></td>
</tr>
<tr>
<td>6L7</td>
<td>04/29/35</td>
<td>04/21/37</td>
<td>05/21/38</td>
<td></td>
<td>697</td>
<td>11/12/38</td>
<td>03/17/38</td>
<td></td>
</tr>
<tr>
<td>524</td>
<td>05/07/35</td>
<td>---</td>
<td></td>
<td>2526</td>
<td>12/09/35</td>
<td>01/29/38</td>
<td></td>
<td>524</td>
</tr>
<tr>
<td>697</td>
<td>02/11/36</td>
<td>---</td>
<td></td>
<td>697</td>
<td>---</td>
<td>---</td>
<td></td>
<td>697</td>
</tr>
<tr>
<td>615</td>
<td>12/09/38</td>
<td>02/26/39</td>
<td></td>
<td>615</td>
<td>12/09/38</td>
<td>02/26/39</td>
<td></td>
<td>615</td>
</tr>
<tr>
<td>1551</td>
<td>---</td>
<td>(orig.)</td>
<td>11/23/38</td>
<td></td>
<td>1551</td>
<td>---</td>
<td>(orig.)</td>
<td></td>
</tr>
</tbody>
</table>

**Suffix (X):** Micaenol base (spec. ground)
**Suffix (Y):** Ceramic base (spec. ground)

**'IM' LOCAL METAL TUBES**

| 7A7-4M | 09/21/39 | made by RCA
| 7B6-4M | 03/13/40 | made by RCA
| 12B7-4M | 06/06/39 | made by G.E. (Blue)

**'MG' (Metal-Glass tubes were used by at least the following companies: CeCo, Arcturus, Champion, Cold Seal, Republic, Hytron, Ken-Fad, Baytheon and Triad.**

**1960 METAL TUBE SERIES**

| 1611 (6F6) | Selected for cut-off
| 1612 (6L7) | Low microphonic application
| 1613 (6F6) | Selected for trans. ratings
| 1614 (6L6) | Selected for trans. ratings
| 1619 Trans. pentode (quick heating filament cathode) (09/24/13)
| 1620 (6F7) | Low microphonic application
| 1621 (6F7) | Selected for long life
| 1622 (6L6) | Selected for long life
| 1631 (6L6) | 12.6 volt fila. version
| 1632 (2B16) | 12.6 volt fila. version
| 1634 (12BCT) | For matched triode sect.
| 1649 (6ACT) | Low microphonic appl.
| 1655 (6ECT) | For matched triode sect.
| 1656 -- Special 446-A
| 1664 -- Special 1208

**Note:** Readers of this article should refer to Part I on page 12 of the March, 1976 issue of the A.W.A. OLD TIMERS BULLETIN.

Cross-sectional views of the original all-metal tube and of the 'S'-line metal tube.
A conventional Radiola III -- ?? Look twice and you will see it is unlike any set you have seen. It is a rare Canadian version of the Radiola III-A built by Westinghouse and owned by Wayne Nelson [W4AA]. The main difference between this Canadian version and the American type is that it has 2 audio stages cascade rather than the familiar push-pull stage.

SALES OF RECEIVING TUBES
U.S. Manufacturer's Total Sales, Millions of Tubes

Cable & Wireless Acquires ITT Cableship Neptun

The Cableship Neptun has been purchased by Cable and Wireless from ITT's International Marine.

The Neptun, gross tonnage 8,909, has the greatest carrying capacity of any cable laying ship in the world. She was built in Germany in 1969 as a combined cabled layer and bulk carrier. Cable and Wireless will bring the ship to the United Kingdom for extensive modernization and conversion.

The vessel will enter service under a new name in 1977 as a part of the world's largest commercial cable fleet.
THE TUBE COLLECTOR
Conducted by Gerald Tyne

QUE.--"I have started to collect tubes and find it difficult to locate Western Electric tubes. The only piece of equipment I have using W.E. tubes is a W.E. 7A audio amplifier. Didn't other manufacturers use W.E. tubes in their sets?"

ANS. --"They did not. By terms of the cross-licensing agreements (to be noted in next month's column) the Western Electric Co. was permitted to sell vacuum tube radio transmitters, public address systems and radio receivers for use in conjunction with THEIR radio transmitters. This included the right to sell tubes for replacement service in their equipment. Western Electric was specifically prohibited from selling radio tubes for use in broadcast receivers. This situation continued until 1932 when the licensing situation was re-negotiated and Western began to sell tubes for amateur and experimental use."

"The 7A Amplifier was primarily a component of the 10D Loud Speaking Telephone Outfit, produced for small low power public address systems and as an auxiliary amplifier for use in connection with Western Electric broadcast transmitters. It was a two stage audio amplifier (audio) using three W.E. 216A vacuum tubes. Although the element assembly was mechanically different, the electrical characteristics of the 216A tubes were essentially those of the 101B but with wider tolerances. Hence, 101B or 101D tubes can be used in the 7A amplifier. In fact, when the manufacture of the 216A tube was discontinued in 1944, the 101D was recommended as a replacement."

QUE. -- "I have some National Union tubes made in the 1930s. Did this company make tubes in the 1920s?"

ANS. -- "Probably not. The formation of the National Union Radio Corporation was announced on August 24, 1929 in the New York Times. This concern was a merger of Sonastron, Magnetron, Marathon and Televocal, and was licensed by RCA about September, 1929."

It is rather unlikely that the corporation, as such, marketed tubes before 1930, although some of the merged companies might have changed the markings on their product to "National Union" after the formation of the National Union Corporation was announced. The first advertisement offering "National Union" tubes for sale appeared in April, 1930."

CORRECTION
TUBE COLLECTORS COLUMN, March, 1976
OTB, p. 18 states "filament current for 201-A was 2.25 amperes." This is of course a typographical error and should have read .25 amperes.

WORLD'S FIRST INTEGRATED CIRCUIT

Fig. 2: the circuit diagram of the Loewe OE333 radio receiver. The triple triode IC comprised all those components within the solid dark line.

in 1926.... I wonder where they are now? Of interest, Dr. Siegmund Loewe of Berlin, Germany was granted a patent for his multi-valve tube in 1924. (Tks Perry Ferrell)
A.W.A. ON THE AIR

Send all old time transmitter construction and operation news to: W2BGN
Ken Gardner
42 Oakdale Ave. S.
New Hartford, N.Y. 13413

Results AWA Old Time Transmitter Contest

The 1976 Winner is WLDN, Darien, Conn. Congratulations, Art Goodnow for a good operating job, well done, with a sweet sounding 1925 Xtr and a 1928 RX that does its thing.

Second place was taken by another old pro, W2LV, Sparta, N.J. Congratulations also to Bob Morris, who made an equal number of contacts with his 1931 TX and 1937 RX.

TOP TEN SCORES

<table>
<thead>
<tr>
<th>Station</th>
<th>Score</th>
<th>TX Year</th>
<th>RX Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLDN</td>
<td>585</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>W2LV</td>
<td>280</td>
<td>31</td>
<td>37</td>
</tr>
<tr>
<td>W2BGN</td>
<td>217</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>W2BTI</td>
<td>198</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>W3VYU</td>
<td>112</td>
<td>38</td>
<td>32</td>
</tr>
<tr>
<td>W2QY</td>
<td>110</td>
<td>36</td>
<td>Mod.</td>
</tr>
<tr>
<td>W6AF</td>
<td>88</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>W2AE</td>
<td>88</td>
<td>27</td>
<td>Mod.</td>
</tr>
<tr>
<td>K4TS</td>
<td>80</td>
<td>Mod.</td>
<td>36</td>
</tr>
<tr>
<td>W2AN</td>
<td>66</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>W3QA</td>
<td>57</td>
<td>Mod.</td>
<td>Mod.</td>
</tr>
</tbody>
</table>

1976 brought letters! Everyone commenting on how enjoyable the challenges were - the building--testing--operating so carefully--the friendly QRM--the not so friendly QRM of KTMY and the Russian trailers--the QRM and QSB as long skip set in....

Propagation seemed to be normal in the early evening hours then shifted to long skip and oscillated back and forth. Those who persisted made both long and short haul contacts as the upper layers shifted in the later hours. Moral: don't give up and turn on the "boob" tube.

Yardley, W6AF, celebrated 1976 with the call AGA, and both he and W7KE worked Bud, W6CG, but we didn't hear Bud in the East this year. Yardley, with his stack of xtal's and his 210-203-A rig, shifted nicely around and picks 'em off with his '35 HRO. QRM doesn't bother him.

Warren, W7LY, worked W7KE, AGA, W6AF, W2LV, and W2BGN. He heard WLDN, W2QY, W3QA, W6CG and W6AQ. He says condx were poor as W Lav only K2/3 S2/3. His RX is a beautiful PM-69.

Fran, W2BJI, took a vacation during the second Contest Period in the Windward Islands (13N and 6LW) where the white sands burn your feet. He was assigned the call VP2LCR and was going to surprise the gang. Was he surprised when he called AWA AWA de VP2LCR and was beset by a pileup of AWA Contestants!

Cliff, W2AE, got a surprise when his 35 watts was answered by VP2LCR with "Hi Cliff, this is W2BJI"...what a hobby! You should see Fran's mermaid QSL card. Cliff was riding so high that he turned around and worked Dick, W5TOS in New Mexico.

Wes, W2DEH, says his PP 451's had less than a T9 signal but he sure sounded nice like in the old days...and he worked a goodly number of stations.

Clarence, W7KE, comments that his SW-3 didn't hear as many as last year but he did make 13 contacts. Next year he will have an OT xtrn on the air.

Unusual Station: -- all battery operated! W2BJI used a 12 volt battery to feed his 220 Hartley/220 PA with a Westminster 1918 dynamotor! His Grebe CR-18 with 201-As was powered by dry cells and "F" batteries. TX rating - 192th RX rating - 1926. Here is a genuine Old Yme Station.

Other OT features: WLDN's 500 cycle motor-generator with a special heterodyne RX, both both of which have been described in previous QST's. W2BGN used a 1922 Bay-Di-Co 350 volt MG set to feed the 205D osc and bfr. Also, he used a battery powered Honeycomb tuner and Type 30 tube detector and two step AF for most contacts. The MG belongs to old BAKA, Frank Keiper.

Mystery -- Bill, W6OGF, advises that during QSO with W2BWL that Dick broke down. What gave up we don't know but recently we QSOed Dick on the 4 PM Net and he was feeding his xtal controlled 807 with a rectified and filtered SPARK COIL plate supply!! Arc-over ??

20 Meters showed little activity and the only known QSO's were W3QA and W6QA and W7KE with W2BGN. 40 meters turned up a

(Cont. on next page)
few with W2ARX, W3QA, W6QA, W6LIV, W6LO, W5TOS and W6HON operating there. These two bands should be dropped, perhaps, until 80 meters is less favored by the lack of sun-spots.

Ever notice how Linc, W2QY, winds up his rotary with ----? We tried to identify the 4:00 P.M. net with this long ago signal but its really hard to break custom and start a transmission thus. Of course we used to wind down the rotaries with a . . . . . . . . . . . . . and now CW still uses . . . . . . . . . . . . .

There are a few Xtal oscillators or MOPA rigs where one can hear the Osc singing in the background with the key up like W4JF, W2BON, W2FW, W2QY, etc. and this year they were joined by W2AN and W2ARX. Sweet music of the 30's!

A FEW STATISTICS:

Participants ----- 37
Logs received----- 26
OT Xntrs--------- 19
OT Revrs--------- 20

Greatest number of contacts -- 36 made by W1DM and W2LV.

Newcomers: W5DFN, W6VYU, W2ZUX, VP2LQB, W2BLU, W2IOJ, W8DCN, W3GJR and W3VBL.

50TH ANNIVERSARY QSO LISTING

W1AOG (LAOG) -- W1BWN (LBWN)
1920 -- 1975

More on the Logo

Our Logo is a Hertz Resonator which for all practical purposes is the FIRST RADIO RECEIVER. In the late 1880's, Heinrich Hertz made several experiments with a large spark coil. Energy (RF) from the spark coil transmitted was detected by a nearby crude loop of wire broken with a gap of two small closely spaced bells.

The amount of wire in the loop approximated the same amount in the spark transmitter. On pressing the transmitting key, small sparks would jump between the gap indicating the loop was picking up RF. By turning the loop at right angles to the transmitter, the spark would diminish.

Hertz made many experiments with this simple receiver as noted above and discovered antenna directivity and polarity. It is befitting that A.W.A. use this device as their Logo. A full size replica of a Hertz Resonator has been on display in the A.W.A. Museum for several years -- a gift from Treasurer Cundall.

ANTIQUE WIRELESS ASSOCIATION
Regional Conference
SOUTHERN MEET
July 9-10
HOLIDAY INN NORTH
3050 N. Cherry St.
Winston-Salem, North Carolina

PROGRAM

FRIDAY
12 Noon - 9 P.M. Registration and get-together for early arrivals.
8 P.M. GWA Meet

SATURDAY MORNING
8:00 A.M. REGISTRATION
9:00 A.M. DISPLAY and JUDGING of sets
Categories: Best homebrew
Best restored
Most unusual
Components

10:00 A.M. Break
10:15 A.M. HOME-BREW RECEIVERS of 1920
Vintage Talk by Prof. Marshall Helms
(Show & Tell 100% Homebrew Receiver)
11:00 A.M. TECHNICAL QUESTION & ANSWER PANEL
with Jim Fred and Geo. Haymans
12:00 Noon LUNCH (You're on your own..)

SATURDAY AFTERNOON
1:30 P.M. RESTORATION PANEL
with Bob MacFarland and Bob Lozier
2:30 P.M. Break
2:45 P.M. FLEA MARKET: receivers, components, books, magazines, etc. This is one of the big events of the Meet for collectors -- don't miss it!
4:45 P.M. Break
5:00 - 5:15 P.M. WANTED ANNOUNCEMENT (on P.A. system)

SATURDAY EVENING
6:15 P.M. SOCIAL HOUR
7:00 P.M. ANNUAL SOUTHERN BANQUET
Speaker of the evening:
Chuck Brailsford, President of A.W.A.
Distribution of Prizes and Awards

LADIES PROGRAM: Transportation for tour of: Museum of Early Southern Decorative Arts, Old Salem, R.J. Reynolds Whitaker Park and Hanes Mall Shopping Center.
(Ladies are welcome to attend Radio / Technical sessions.)

THE TAB: REGISTRATION -- $2.75 per person
BANQUET -- $6.25 per person
HOLIDAY INN: $15. Single $20. Double
Full details and Hotel Information -- Write: L. W. ELIAS, W4DBT
3919 Poindexter Drive
Winston-Salem, N.C. 27106
(Tele. -- 919-921-2162)
WITH THE COLLECTORS

Collectors -- this is your column telling of your activities. The deadline for the column is about the time you receive the OTB -- so please write now: LAUREN PECKHAM, ORMISTON RD., BREESPORT, N.Y. 14816

PAUL THOMPSON (Santa Barbara, Calif.) says collecting has been slow but he has some recent additions on the shelf such as an Infradyn, Model 15-A and a Pacific Claratone.

FLOYD LYONS (San Francisco, Calif.) has his magazine collection in fine shape with all issues of Radio News from 1922 through 1931. He is also very pleased with an 1890 Bernstein light bulb he recently acquired.

JACK BACON (Minneapolis, Minn.) has been collecting only a year but has a great start with an AK 108 breadboard, Westinghouse RC and Eagle Neutrodyne.

JOE PAVEK (Minneapolis, Minn.) is now the lucky owner of a Grece CR-18. Joe is in the midst of moving his large wireless museum and while sorting out he came across a 1916 Yearbook of Tel. and Tel. that once belonged to M.I. Pupin.

CHEST WISNER (Dalton, Mass.) has one of the rarest CHL sets -- a 2-NTH tuner. Others include Aeride Sr with matching amp, Crosley 51 with 1 tube amp plus an assortment of early tubes such as WD-11 and UV-202.

GLEN ZOOK (Richardson, Texas) discovered many sets in old barns and chicken coops such as Crosley 5-38, Annecogrand Console, Acme Y-1 detector, AK-44 and 46 plus Freshman Masterpiece. The location doesn't matter if the sets are there!

PAT STEWART (Walla Walla, Wash.) really covers the Western El. market with a 7-A amp with 4 extra 216-A tubes, horn spkr, manuals and the seldom seen matching power supply. He then topped his collecting spree with a complete spark station.

EV BERRY (Anchorage, Mich.) is active again and is now collecting telegraph material -- he now has over 200 items. In the rec. dept. he located a couple supers including a Leutzi Mod. C. Ev sent several nice fotos including one of a very rare 1897 Edison Projecting Kinetoscope!

BASIL ABBOTT (Richardson, Texas) has an interesting Bunnell No. 3-A stock ticker. Basil's collection was featured in a newspaper article which created much interest.

DAVID and LAUREN Peckham (Breeseport, N.Y.) added several new sets and tubes including an AK breadboard, Emerson Multivalve, Electrad diode and Welsh WT 501.

JOHN ALLEY (Raynham, Mass.) added some fine items to his collection including an AK Mod. 10 breadboard, Federal 61, Clapp-Bestham HR, loosecouplers and an Amrad Type C spark set.

CLIFF DAYKIN (Geneva, N.Y.) found a mint Grebe AC-6 console. Other than some pot metal problems, restoration is going smoothly. This set was originally sold by Cliff when he was a dealer in 1928.

JOHN ELMWOOD (Incasance, Calif.) has a good telegraph collection (keys) with the most recent addition being Bunnell KUB made for Postal Telegraph and a Bunnell submarine key with dual levers.

AL JOCHEM (Quincy, Ill.) has an Electric Appliance Co. catalog containing an AK ad of great interest. There is a picture of a very rare AK Model 8 (Set #4325). The set looks like the Model 5 but has a variable condenser AND tuner.

RON McCLILLAN (Haverton, Pa.) found a rare Vocolra horn speaker at a flea market. Items found at an auction included a Type D crystal receiver made by G.E. and a Runkorff spark coil.

JOSEPH SZABAT (Oil City, Pa.) has picked up 50 sets recently: AK breadboards, DeForest D-10, Federal 61, HRL-9, Pup, Grebes, S-M, plus dozens of others. Joe is a new member who has really been hitting the jackpot!

CLAUDE RYDE (Fort Hueneme, Calif.) made up a beautiful double hinged display board for tubes. Each display cabinet will hold up to 40 tubes and is easily carried. He plans to have it at the Foothill AWA Meet.

A.G. WENTZEL (Trenton, N.J.) sticks to real old gear. New acquired pieces are a Chamber's loosecoupler, Murdock antenna switch, De Forest Audion cabinet, DB mike, etc. This type of equipment is real hard to find but an OT such as "BB" shows where to look.

GLENN ECKLEY (Baltimore, Md.) found an old radio item in a flea market: a small candy bottle shaped like a 3 tube set of the 20's with 3 dials and horn speaker on top -- all glass. As a glass collector, it is valued at $65.00. It is only 2½" in length.

BOB FABRIS (San Jose, Calif.) is another becoming interested in early amateur receivers such as Hi-Q, Wasps, etc. Guess Bill Orr started something.
Confused about RIDER MANUALS? We were too until we read this description in a 1940 Sales Listing. As noted, there is much over-lapping. It would appear your best bet is No. I unless you are interested in the Classics. Warning: sometimes you will find an early Rider Manual with more "over-lapping" than anticipated. This is because some serviceman 40 years ago exchanged and added sheets to existing Manuals. [Sorry for the small print but it is the only way we could reproduce the copy.]

**MYSTERY CRYSTAL SET**

Look familiar? It is an odd one --- and more so since the crystal is mounted under the knob cover immediately above the coil. It appears to be commercially made even though one cannot find a name tag or label. Of particular interest is the fixed crystal detector consisting of two minerals pressed together in a round hard rubber tube with adjustable pressure screw. One of the two minerals appears to be pyrite. (Charles Day)

**ARC not ALTERNATOR - or BOTH?**

Keith Olson, W7FS caught an error in the March QST which definitely needs correction. On page 30 under "Rare Recordings" it was noted the signals Appar recorded were transmitted by an arc transmitter. This is obviously not true since the Foulser arc was not installed at the Sayville station until our Government took over in 1917-18., all prior transmissions were from the German Goldschmidt alternator.

On the subject of the arc -- AWA is proud to own the original relay that was used to key the Foulser arc -- and also the huge oil immersed keying relay used at Sayville's companion Tuckerton station. These historic relays were acquired during several AWA field trips made in the 1950's.

**DeFOREST PIONEERS**

Congratulations to A.W.A. members: E.J. Quinby and Ed Raser for receiving the DeForest Award Certificates for their contributions to historical radio.
Here’s real help...

The beautiful loose-coupler receiver built by Alan Douglas (p.15, Dec. 1975 O&B) brought many requests for construction articles on very early wireless equipment. As a start, we reproduce two basic detectors from A.P. Morgan’s book WIRELESS TELEGRAPH CONSTRUCTION FOR THE AMATEUR. Note: The Flame Audion detector will only receive strong nearby signals. Let us know your results.

The Audion. — Dr. Lee DeForest was led by the flickering of a sensitive gas flame to investigate whether or not it would respond to Hertzian vibrations as well as to those of heat and sound. His experiments led to the invention of the audion, a peculiar instrument making use of ionized gas for its operation.

The audion consists of an incandescent lamp having a metallic filament, on either side of which are a grid and a plate made of nickel. When the filament is lighted it throws off ions which act as a relay to high frequency oscillations passing between the plate and the grid. A properly constructed audion is exceedingly sensitive and produces very loud tones in the telephone receivers. It has the further advantages of entire absence of adjustment except the governing of the battery voltage, and is capable of extremely fine tuning.

Fleming originated the oscillation valve illustrated in Fig. 118. It consists of an ordinary incandescent lamp with a carbon filament, having a metal cylinder, C, placed around the filament, but attached to an independently insulated platinum wire sealed in the glass. When the lamp is lighted by passing a current through the filament, the incandescent carbon liberates negative ions. If oscillations are then set up in a circuit which includes a pair of sensitive telephone receivers and is formed by connecting the negative terminal of the filament with the platinum cylinder, negative electricity will be enabled to pass from the filament to the cylinder but not in the opposite direction,

and so sounds will be produced in the telephone receivers. High frequency oscillations themselves could not be made to pass through the telephone receivers because of the choking action of the iron cores of the electromagnets.

The simple but sensitive form of detector illustrated in Fig. 119 is not of practical value for commercial work, but is very interesting as the progenitor of the audion, and provides a good field for amateur investigation. Its only drawback is that the gas flame is very difficult to keep steady and every flicker registers as a sound in the telephone receivers.

A Bunsen burner using coal gas furnishes the flame, and a salt of an alkaline metal heated in the flame, the ions. The hydroxides of cesium, potassium and sodium give the best results in the order named.

The salt is contained in a piece of trough-shaped platinum foil, about 1 inch long and 1/8 inch wide. This trough is made the cathode or negative of the telephone circuit and placed in the outer oxidizing flame just above its juncture with the interior reducing flame and must be kept incandescent. The upper electrode or anode is a piece of platinum wire about 3/8 inch above the trough.

The arrangement and construction of the detector is clearly indicated by the drawing so that it is unnecessary to go into details. The block, E, which sits on the tube of the Bunsen burner, is made of fiber. Two double binding posts, D, are fastened to E to support the rods, R, which are fitted at the tops with binding posts, B, into which the electrodes may be clamped.

Twelve dry cells are connected with a multiple point switch so that an electromotive force of 6-18 volts, varying in steps of one cell at a time, may be secured. The flame is best provided with a mica chimney to protect it from drafts. By keeping plenty of salt in the trough and carefully adjusting the voltage, this detector may be made marvelously sensitive.
1944 Carrier Pigeon

That was the title given to a feature story in the October 21, 1944 issue of the Saturday Evening Post, written about Press Wireless by Henry Pringle. He equates its accomplishments with those of Julius Reuter who made history back in 1894 by using carrier pigeons to bridge the telegraph gap between Germany and Belgium.

Press Wireless, formed in 1929 by seven of the country's largest newspapers and four big press associations was licensed by the old Federal Radio Commission to act as a news gathering agency, but as a common carrier for all entities disseminating news and information to the public. Few people outside of the magazine, newspaper and broadcasting fields ever heard of the company or knew what it did. Yet virtually everyone around the globe read or heard the information transmitted and received. By 1944 it was handling over 100 million words of press dispatches a year. Among its pioneering developments in the transmission field was "presscasting" and "newsphtocasting" where transmissions by HF radio were made to as many as 100 points simultaneously around the world. Such new techniques made possible a fantastic growth in the volume of news, information and newphotos. Because of the limited cable and other point-to-point facilities, press rates were comparatively high—14 cents a word between the US and Europe.  China was 35 cents per word, for example. The average cost on PW presscasts reached something under a tenth of a cent per word. Much of this was accomplished with the genius of the President of the company, Joe Pierson, former Cable Editor of the Chicago Tribune, and through the skills of a superb engineering staff in developing such things as frequency shift keying, high gain antennae techniques, and highly sensitive and selective receivers. Names **like** Bergstedt, Eldredge, Hillyer and Simpson will go down in history of HF radio development as great contributors to the art.

When World War II broke out, PW sent a mobile station unit and staff with the invasion forces to handle press dispatches filed by war correspondents. The British had organized a similar unit but it sank in the English Channel during the invasion. As a result the PW unit carried all the press dispatches and voice broadcasts from the front. Henry Pringle's fascinating story develops the hardships faced by the magnificent crew, the explosions, and the accomplishments of the PW unit. Briefly it ran 2214 miles between the Normandy invasion and its final arrival in Berlin on July 1, 1945, making 24 set-up stops. It stretched 26,000 feet of antenna wire and operated 8600 hours to handle over 8 million words of press copy and over 400 voice programs for CBS, NBC, MBS, ABC. A very similar PW unit and staff accompanied McArthur's invasion of the Philippines and it turned in a similar performance with a story all its own.

Back home the PW engineers had also been hard at work designing and building hundreds of transmitters (with powers up to 40 kilowatts) and receivers for the Signal Corps. These units were sent all over the world. Some years after the end of WWII global travelers found these transmitters even in Cuba working Field Castro's private circuit to Moscow! PW had no publicity staff and most of its accomplishments were carried out as a sort of "silent service", recognized only by those using its facilities. At its peak it had over 100 HF radio transmitters operating in its own stations in New York, San Francisco, Manila, Rio de Janeiro and Montevideo, and it maintained press and telephone circuits with government telecommunication agencies in England, France, Germany, USSR, Italy, Japan, Taiwan, and Argentina. It handled press material in a multitude of languages—Even in Japanese and Chinese characters by means offacsimile systems.

Its efforts without doubt made the peoples of the world better informed than ever before in history. **Bergstedt W6AUH, Hillyer WSTOS, Simpson W7WM all now retired. (Eldredge passed away last year).**

D.K. deNeuf
Box 329 Southbury Conn

The above article was written by M.T.C./S.W.O.P./A.W.A. member Don deNeuf, W43PM, retired President of Press Wireless, Inc. and appeared in the January issue of MTC paper "DOTS & DASHES". Don will be a speaker at the 1976 A.W.A. Radio Conference.

The Lecture

Professor Shenton will lecture on Joseph Henry's Electrical Researches on Friday, February 5, 1976 at 3:15 p.m. in Room 301, Palmer Laboratory. He expects to show some experiments using Henry's original apparatus.

From 1820 to 1832, Joseph Henry taught and did research at the Albany Academy. While there he developed new principles for building magnets, and discovered mutual magnets. Electric induction and self induction independently of Faraday's theory of self induction is universally recognized.

Henry accepted a professorship at Princeton in 1832. For 18 years at Princeton he was able to continue both teaching and research under relatively good conditions. His brilliance as an experimenter became widely known, and he was much respected by his students and his colleagues. His scientific achievements were many and notable. Perhaps the most interesting one was the discovery of induced electric discharges. He was able to set up such a discharge in a circuit on one side of Nassau Hall and to detect it on the other side. It is reasonable to call this the first transmission of a wireless signal. Joseph Henry's work at Albany and Princeton, taken together, put him among the handful of men who founded the science and technology of electricity.

Return with us to those golden days of yesteryear...

1976 AWA CONFERENCE...See page 14
"THE MARRIAGE THAT ALMOST WAS"
February, 1976  I.E.E.E. "SPECTRUM"....
--a fascinating factual story how Western Union almost took over Bell Telephone back in the 1970's. The author goes into some depth on telephone development and legal litigation associated with the Bell Company -- info seldom found in most textbooks. Good copy for the Centennial Year of the Telephone (WJAW)

PICTORIAL HISTORY OF RADIO IN CANADA
by Sandy Stewart

Although the book may be of greater interest to our Canadian members, radio historians in other countries will find this documentary of value. Contents include stories and pictures of Fessenden, Marconi, Montreal's famous pioneer BC station XWA and a host of Canadian radio personalities. Pub. by Gage Publishing Ltd., Toronto, Ontario (Canada)

Hardcover: $12.95 (For Bob Mac Intyre)

7. Synty and Spark-
The Origins of Radio
Hugh G. J. Atkinson, Amherst College
Investigates the earliest developments of radio technology from a fresh perspective: integrating historical narrative with social analysis. The author explains how the his of Hertz, Lodge, and Marconi were expanded and transformed into usable technology, and how, in turn, an industry was created to utilize that technology. In addition to getting a sense of the emergence of a new industry, the reader will learn how technology mediates between science and practical employment, and the important inter-relationships between science, technology, and economic life.
Feb. 1976 0-471-01616-3
approx. 400 pp. $14.95 (tent.)

GOOD NEWS --- BAD NEWS

Inflation has finally caught up with VINTAGE RADIO publications. A letter from Morgan McMahon gives the bad news: Vintage Publications will have an approximate 30% increase in prices. Reason -- increased paper and printing costs and mailing. An example -- the popular "Vintage Radio" will go from $5.95 to $8.95, "Flick of Switch" from $6.95 to $8.95, etc.

Now for the good news. The increase doesn't go into effect until July 1st -- so, members still have an opportunity to buy at the old price if they order now.
"1929 - 1941 THE GOLDEN YEARS"  
by Bill Orr, W6SAP  
April, 1976 "HAM RADIO" magazine (p.34)  
Bill again does his unusually fine job of describing equipment -- and this time about gear used by the amateur in the 30's, with emphasis on the famous Hartley circuit. He recently built such a transmitter (using a single UX-245) and tells of its operation as of 1976. Bill reviews a typical power supply of the depression period which used the then almost obsolete BH rectifier tube.  
Good technical info for the amateur contemplating building an OT xmt. Tube collectors will value his brief history of the Raytheon BH tube.

PUBLISHER'S OUTLET  
Peter Kallus doesn't mind spending a few extra hours at WALDEN'S BOOKSTORE or searching the surplus book list of one of the several surplus book outlet houses. He tells us that the following books have shown up as publisher's overstocked items:  "Marconi" by W.J. Jolly (1972)  
"I Looked & I Listened" by Ben Gross (1970)  
"The Marconi Scandal" (1962)  
"Television Jubilee" (1961)  
and several others. A book he highly recommends is TUBE OF PLENTY by Eric Bannow published last year (1975) by Oxford Press which is a condensation of several other books published by Oxford. These books, unfortunately, never seem to appear on the surplus shelves.

On the subject of books -- we understand that Oliver Read's classic "Tinfoil to Stereo" has just been re-issued in paperback form...this book is a MUST!  
-- and lastly, we have received word that Jerry Tyne's book on the history of the vacuum tube will be released in early fall in time for the Conference. This is the best news of all...more later.

50 YEARS OF TELEVISION (1925-1975)  
February, 1976 "HAM RADIO" magazine, p.36  
One of the best magazine articles we have seen on television development for the average radio historian. The author shows graphically how the various television systems work starting with the Kinehaw scanning disc. He then progresses to Ewrykin's Iconoscope, the Parnsworth's image dissector, image orthicon and finally the Vidicon. He even illustrates field-sequential color transmission using 3-color rotating disc.

A.W.A. finds the article of particular interest since the Association's Museum is currently featuring all the tubes noted above...for good reason...several of the pictures in the magazine article were taken in the Museum by AWA Photographer W2BWK.

RESTORING EQUIPMENT?  
The advanced craftsman will find the 1976 ALFA catalog of great value, and good reading. Some of the items listed for sale: Abrasives, Swiss files, all types of adhesives and cements, brushes, wide assortments of bushing wheels, sand casting kit and mold compounds, precious metals, chemicals, chemical bottles and vessels, laboratory equipment, tapes, paints, cleaners, strip and rod stock (steel, alum., copper, brass, plastic), craftsman tools, etc...had enough?  
Interested? Send 31 for catalog to: Ventron Corp.  
52 Andover St., Danvers, Mass. 01923

FLYING TO A.W.A. CONFERENCE?  
Members attending the AWA National Conference in Canandaigua, Oct. 2, may obtain transportation from the Rochester Airport to Canandaigua by a special limousine bus. There is also a special tour of several days being planned for those who would like to see more of the beautiful Finger Lakes Region and Western New York. For information, write: John Spare,  
3402 West Lake Road  
Canandaigua, N.Y. 14424

MAGAZINE DOCUMENTARY  
Magazine collectors and radio historians will welcome Floyd Lyons Part II of his Magazine Documentary on the next two pages. This is the first time anyone has seriously investigated the chronological history of radio publications. Floyd is to be congratulated for an outstanding job. He wishes to acknowledge valuable assistance from: Alan Douglas, Jim Fisk [W1DTY], Frank Jones [W6AFJ] and John Nagle [K4KJ]
<table>
<thead>
<tr>
<th>Name of Magazine</th>
<th>Remarks</th>
<th>Date of Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RADIO TOPICS</strong></td>
<td>Absorbed by Radio Age July 1924</td>
<td>Feb. 1921</td>
</tr>
<tr>
<td><strong>RADIO &amp; MODEL ENGINEERING</strong></td>
<td>Changes to Radio Engineering</td>
<td>May 1921</td>
</tr>
<tr>
<td><strong>RADIO ENGINEERING</strong></td>
<td>See above. Changed to Communications</td>
<td>Sept. 1924</td>
</tr>
<tr>
<td><strong>COMMUNICATIONS</strong></td>
<td>See above.</td>
<td>Sept. 1937</td>
</tr>
<tr>
<td><strong>RADIO IN THE HOME</strong></td>
<td>Tabloid</td>
<td>June 1922</td>
</tr>
<tr>
<td><strong>RADIO JOURNAL</strong></td>
<td>Absorbed by Radio (Pacific) Jan. 1926</td>
<td>June 1922</td>
</tr>
<tr>
<td><strong>TELEVISION</strong></td>
<td>Two issues only; Vol. 1 - Nos. 1 &amp; 2</td>
<td>Summer 1927</td>
</tr>
<tr>
<td><strong>RADIO-CRAFT</strong></td>
<td>Absorbed Radio &amp; Television July 1929</td>
<td>July 1929</td>
</tr>
<tr>
<td><strong>RADIO-ELECTRONICS</strong></td>
<td>See above.</td>
<td>Oct. 1948</td>
</tr>
<tr>
<td><strong>SHORT-WAVE CRAFT</strong></td>
<td>Changed to Short Wave &amp; Television June 1930</td>
<td>June 1930</td>
</tr>
<tr>
<td><strong>SHORT WAVE &amp; TELEVISION</strong></td>
<td>See above. Changed to Radio &amp; Television Jan. 1937</td>
<td>Sept. 1938</td>
</tr>
<tr>
<td><strong>EVERYDAY MECHANICS</strong></td>
<td>Hugo Gernsback, Pres. &amp; Editor. Nov. 1930</td>
<td>Nov. 1930</td>
</tr>
<tr>
<td></td>
<td>Changed to Everyday Science and Mechanics.</td>
<td></td>
</tr>
<tr>
<td><strong>EVERYDAY SCIENCE &amp; MECHANICS</strong></td>
<td>See above.</td>
<td>Oct. 1931</td>
</tr>
</tbody>
</table>
TELEVISION NEWS
Bi-Monthly. Vol. 1, Nos 1-6; Mar/Apr 1931 Sept/Oct 1932

RADIO REVIEW & TELEVISION NEWS
See above. Vol. 2, Nos. 5-6 Nov/Dec 1932 Jan/Feb 1933

MODERN RADIO
Absorbed by Radio (Pacific) July 1933
July 1933

R/9
Jan. 1936

SHORT WAVE RADIO
One Volume only; Nos. 1-12 Nov. 1933 Oct. 1934

ALL-WAVE RADIO
No issue published for Oct. 1935 Sept. 1935 June 1938
or June 1936. Merged into Radio News July 1938

RADIO TODAY
Changed to Radio & Television Sept. 1935 Mar. 1939
Today Apr. 1939

RADIO & TELEVISION TODAY
See above. Apr. 1939 Nov. 1942

AMATEUR RADIO DEFENSE
Published by Pacific Radio Nov. 1940 July 1941

CQ

AUDIO ENGINEERING
Purchased Radio magazine and May 1947 Jan. 1954
took over their serialization. Changed to Audio Feb. 1954

AUDIO

* Cutoff date 1950 not including spinoffs.

Supplemental Notes (Summaries): -

History/Recap of "Radio" - Parts I & II:
Pacific Radio News -
Jan. 1917 - May 1917 (discontinued for dur.)
Jan. 1920 - Oct. 1921
Radio -
Nov. 1921 - Feb/Mar 1947 (skipped issues: Apr & May 1933)
Audio Engineering -
Purchased Radio outright May 1947 - Jan. 1954
Audio -
Name shortened Feb. 1954 - still pub.

Absorbed by Radio down thru the years:
Modern Radio -
(7/31 - 4/33) on July 1933
Radio Journal -
(6/22 - 10/25) on Jan. 1926
R/9 -
(prev. known as Oscillator)
(9/32 - 12/35) on Jan. 1936

Condensed data on R/9:
Absorbed the Oscillator Jan. 1932
Plus the following:
Ham News Dec. 1933
Sparks Dec. 1933
Calls Heard May 1935
Listening In May 1935
The Collector

Just off the press!

ANOTHER COLLECTOR'S CLUB
and PUBLICATION

A.W.A. recently received a copy of the SOUTHWEST VINTAGE RADIO and PHONOGRAPHIC SOCIETY'S "Newsletter". It's an informal publication of 10 pages telling of club activities, an article on vacuum tubes, listing of early BC stations, etc. plus the usual "Want Ads".

As indicated by the club's name, membership is primarily in the Southwest with concentration in Texas. We have the impression, however, that membership is open to radio collectors out of the area. For more information, write:

Southwest Vintage Radio Society
Box 19406, Dallas, Texas 75219

The December OTB Editorial mentioned the recent increase in radio historical/collecting interest and noted there were 11 publications devoted to the subject. Since then, 3 more have been added making 14 publications!

They are somewhat alike -- a few are printed by individuals while others are the official publication of an organization. If you belong to a historical radio/collector's club -- send us a copy of your publication and membership/subscription information for a notice in AWA OTB.

Just before we went to press two other collector groups were called to our attention. Treas. Cundall tells of receiving a letter from John Alley who is one of a group starting a club in New England called "The Bristol Antique Radio Club". They are publishing a paper titled "Loose-coupler" which will be mailed 10 times a year. Membership is $4.50 a year. Write John for more information: 48 Judson St., Raynham, Mass. 02767

Jack Nelson writes that a group in the Albany-Schenectady, N.Y. area are also planning a collectors club. More on this group later. Incidentally, Jack tells of the excellent luck he has been having by advertising in Super Market Bulletin Boards.

ELECTROPLATING

The response from the request for information on home plating of small parts was so overwhelming it was decided to summarize the various methods and let members make their own decision. Results will be in the next OTB.

COLLECTORS: DO YOU HAVE A COLOR SLIDE OF YOUR AMATEUR MUSEUM?

If so, would you loan it for showing at the 1976 Historical Conference at Canandaigua, October 2nd? Fred Hammond (VE3HC) has volunteered to assemble member's slides and project them at the Conference, thus providing an opportunity for members to see "what the other fellow has..."

If possible, send 2 or even 3 (no more) showing your amateur radio collection and maybe an unusual piece of equipment. Mark each slide with your name and an identification number with brief description on a separate sheet of paper which will be read during projection.

All slides must be received by Sept. 1. They will be returned after the Conference. Send slides to Fred Hammond, 1394 Edinburgh Rd., North Guelph, Ontario, Canada.

CROSLEY BOOK CONDENSERS

While scanning the April, 1975 issue of "Automotive Electrical Engineer" magazine, Jim Hagan noted this item of interest:

"The Crosley Company was making 4000 book condensers a day using .001" thick sheet mica cut to 2 15/16 x 3 5/8''.

Do you know...

--of an economical source of 2 and 3" dia. glass discs to restore old panel meters? The glass is just under 1/16" thick. Plastic will work but most collectors prefer glass. (Bob Lozier)

RADIO COLLECTORS IN FRANCE

A.W.A. member Jean Engelking in Velli-Villecaucay, France writes that buying and swapping early radio equipment is becoming very difficult and the prices are always on the increase. In an effort to raise funds for their small club, they are planning either an auction or a flea market. We wish Jean and his friends success in their venture and would like to know the results.

DUES: PAYABLE TO TREASURER

Lincoln Cundall
69 Boulevard Parkway
Rochester, N.Y. 14612

FIRST CLASS MAILING: 1 year- $ 6.50
2 years-$12.00

THIRD CLASS MAILING: 1 year- $ 5.00

35
THEODORE DUTSCHMANN
Theodore Dutschmann, 89, who along with his father started out selling parts in a store called The Shack to wireless experimenters in Boston, died Wednesday in Coral Gables, Fla. Jointly agreeing to change the name later, the early father-and-son collaboration led to Radio Shack Corp., a worldwide concern.

In 1962, when Radio Shack was bought by the Tandy Corp., Deutschmann, a native of England, retired to Florida. He is survived by his widow, Sylvia; a son, Arthur; three brothers and three sisters.

DE LA CROIX
FCC Engineer
Alfred G. de la Croix, a retired employee of the Federal Communications Commission, died Wednesday at Doctors Hospital.

Mr. de la Croix had joined the FCC after coming to Washington in 1940. He retired in 1968 as an electronics engineer with the safety and special services bureau.

He was born in Jemmerville, L.a., and attended Loyola College in Chicago. He had been a sales engineer for the Westinghouse Electric and Manufacturing Co. of Springfield, Mass., before coming here.

Mr. de la Croix was an amateur radio operator with the call letter K3AO. He was a member of the Quarter Century Wireless Association, Inc.

BENJAMIN MIESSNER
Inventor, 85, Of Electronic Piano, Organ
MIAMI, Fla. (UP) — Benjamin Franklin Miessler, inventor of the Wurlitzer organ, electronic piano and other musical and radio equipment, died at his Miami home Thursday at the age of 85.

A native of Indiana, Mr. Miessler graduated from the U.S. Navy electrical school in New York City and studied electrical engineering at Purdue University.

After several years of working in radio research who was instrumental in the development of radio broadcasting and television, he died yesterday at his home in Meadow Lakes Village, New Jersey.

As the first vice president of RCA Laboratories in Princeton, N.J., he directed the program's radio receivers, and at the research center that directed microphones for sub-provided radio, television and radio electronic devices.

By the time he dissolved his company and retired in 1959, Mr. Miessler had sold more than 150 patents. RCA Corporation of America bought more than 50 of his electrical inventions.

H.R. BAUKHAGE
Hilaro Robert Baughke, 87, at one time a noted radio commentator and a veteran newspaperman, died Saturday at the Washington Home for Incurables after a long illness. He had been in the nursing home for about a year.

Mr. Baughke, who opened his radio broadcasts in the 1930s, had a number of major firsts to his credit.

When ABC's Blue and Red networks split in 1942, he went with the American Broadcasting Company, remaining with ABC until 1951. He spent three years as a commentator with the Mutual Broadcasting System.

Copy in this column from W2AY, K3OCL and W9MSN. Readers are invited to send information to OTB Editor. Note -- The Silent Key Column is devoted only to AWA Members.

RUBE BLOOM DIES at 73; Pianist and Song Writer
NEW YORK (AP) — Rube Bloom, a pianist and composer who collaborated and recorded with some of the great names in the music industry, died in Philadelphia. He was 73.

A native of Manhattan, Mr. Bloom first attracted attention in 1928 when he won a Victor Recorders song contest with "Sing of the Bayou," which became a big hit of the time.

He went on to write such popular numbers as "Don't Worry About Me," "Fools Rush In," "The Man From the South," "Truckin','" and "Sailboat." Mr. Bloom also headed a small jazz group known as "Rube Bloom and the Bayou Boys."

LUDWIG ENGELR, Ex-Aide OF RCA Communications, 68
Ludwig R. Engler, former vice president for commercial activities of RCA Global Communications Inc., died Saturday in Sarasota, Fla. He was 65 years old.

Mr. Engler joined the RCA radio marine division as a radio operator in 1928 and transferred to a predecessor of Global Communications in 1929. He retired in 1970.

He served in the Army Signal Corps in World War II, rising to major, and during that period escorted David Sarnoff, late chairman of RCA, through the Italian war zone on a visit to the widow of Guglielmo Marconi, inventor of the wireless.