HEART BREAK!
ANTIQUE WIRELESS ASSOCIATION INC.
HOLCOMB, NEW YORK 14469
"An amateur organization devoted to the history of wireless"

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AMATEUR STATION: W2AN

CALENDAR OF EVENTS

SUMMER MEET
in conjunction with the Indiana Historical Radio Society.
SATURDAY, JUNE 22
Stewart Center, PURDUE UNIVERSITY
West Lafayette, Indiana

1974 HISTORICAL RADIO CONFERENCE
Sheraton Inn
Canandaigua, New York
October 4-5-6
THREE BIG DAYS OF PROGRAMMING!

FALL MEET
New England Wireless Museum
East Greenwich, R.I.
SATURDAY, SEPT. 7
Luncheon 12 Noon
Historical Programming and Swap Session for Collectors

ANNUAL BUSINESS MEETING
Sunday, Nov. 10
Holloway House
East Bloomfield, N.Y.
Meeting: 2:30 P.M.
Dinner: 5:30 P.M.

BACK ISSUES

The following OLD TIMER BULLETINS are available for historical reference.
Order direct from: Bruce Kelley
Main St., Holcomb, N.Y. 14469
$1 each (First Class Mailing)

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Rare issues at $2 each
Vol. 9 #3 Vol. 10 #4
Vol. 1 #2, Vol.1 #3 and cover binding. All three for $1

Change In Address?

Mail information to the Treasurer who handles current mailing list.
(NOT the Secretary)
L.A. CUNDALL, W2QY
69 BOULEVARD PKWY
ROCHESTER, N.Y. 14612
"BABY EMERSON" -- a very rare receiver

The above regenerative set is most certainly in the rare category -- in fact, it is the only one we know of. Of particular interest is that it was manufactured by Clapp-Eastham at their Brooklyn Plant and not Cambridge, Mass. Now for the real point of interest: it is really a "J" tube -- the single tube projecting up thru the top is an extremely rare MULTIVALVE consisting of three triodes in ONE envelope making the set a detector with two stages of audio! (See writeup on similar circuit elsewhere in Bulletin). This little gem of a receiver is part of Del Barret's collection, Ft. Wayne, Ind.

--- NOTICE ---

The OLD TIMERS BULLETIN is published approximately four times a year at Holcomb, N. Y. by and for members of the Antique Wireless Association, Inc., a not-for-profit corporation.

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Communications History

Most amateurs think of single side-band as something originating after WWII and becoming popular in the '50s. Historians know that SSB was developed commercially for trans-Atlantic work in the 20's -- but how many are aware that Bob Moore, W6DEI wrote a series of articles on the subject over 40 years ago for the radio amateur? A popular ham magazine of the 30's titled "R-9" featured W6DEI's SSB in 1933!!

ABOUT THE COVER

There is little need to tell how one feels after spending an evening drilling holes in a panel and then have the misfortune of breaking it. This classic picture was drawn by cover artist Clyde Darr, BIZ and appeared on the February, 1925 issue of QST.
THE
MUSEUM

Philco
- APPRECIATION -

Our Association and the Bloomfield Historical Society are the joint recipients of $500 from the Ford-Philco Corporation. This fine gift was given to the Academy Museum Restoration Fund for work and material. The opportunity to apply to Ford-Philco was called to our attention by William Denk. A portion of the Museum will be dedicated to Philco — a pioneer radio manufacturing concern.

A.W.A. HISTORICAL MUSEUM FUND

The Museum Fund Drive has been extremely gratifying with donors giving amounts ranging from $5 to $200. The Fund was initiated with Grote Heber's outstanding gift and was perpetuated by Clarence Tuska's initial $100 donation.

There is a two-fold purpose in raising the money: to prepare new facilities, and to perpetuate the new museum. The latter objective is considered by some more important than the first. Members have indicated great concern over the safety and long range continuance of our museum. By housing our equipment in a public building (another public museum) promotes safety. By having a source of maintenance income controlled by A.W.A. and legal staff assures perpetuity.

General plans are outlined in the last Bulletin (page 3). A carpenter is under contract to build partitions, install doors and paint high areas requiring scaffold. On May 4, members appeared in old clothes bearing saws, hammers and paint brushes. It was a great start!

There is still much work to be done by AWA volunteers and much money will be needed to perpetuate the museum. EVERY bit helps! Museum Fund Chairman Ken Gardner is preparing a brochure outlining the entire project.
FCC Issues Revised Fee Schedule

A revised fee schedule effective in May will increase the Federal Communication Commission's total annual fee revenue from $24.5 million to $40.8 million. Amateur licenses may increase from current $9 to $10. If you think this is rough -- be glad you're not the owner of a large AM or TV station....

Foreigners Need U.S. Facilities

Bell Plans to Spend $10 Billion in 1974

U.S. Firms Facing Labor Problems in Singapore-Malaysia

Soviets Eager to Buy, U.S. Execs Find

Motorola's TV Business To Be Sold to Matsushita

‘Streaks’ Through Tek Plant

BEAVERTON, Ore. - A female streaker was cheered by fellow assembly line workers at Tektronix, here.

While Tektronix management wouldn't talk about it, the incident was described by eyewitnesses at the plant.

"A bunch of guys pooled $100 and dared her to streak for it," according to one source. Described as an attractive brunette of about age 30, she reportedly accepted the challenge on the 8:30 a.m. shift at assembly plant 39 on Friday, March 8.

"She ran nude through the main aisle of the assembly building with men and women cheering her, back to the rest room and dressed," a source related. She was then given a corrective interview and sent home by her supervisor.

A supervisor in the plant declined comment, adding "I would prefer no notoriety on this." He referred queries to a personnel manager who said "we don't want to talk about it."

World Phone Total Climbs to 312,900,000

Need More DC Power

At some point in the foreseeable future, a large amount of electrical power in this country will be transmitted by DC instead of AC as now used. This shift, already now underway, is a profound change, not just a technical difference. Most energy transmission today at long distance is 500,000 volts AC; transmitting the same amounts of energy by means of 800,000 volt DC lines would require considerably less copper wire, and cut transmission loss appreciably.

Hickok Elect. Re-Entering Service Tester Market

Countersuit Filed by Bell

Beall Steps Up To Presidency Of Collins Radio

Gov't Seeks Safeguard on Technology Exports to East
On the other side of the coin

I guess it is the way of life -- we had hoped there would be no need to increase dues in the near future but one cannot fight inflation.

It now appears it may be necessary to raise dues 50¢ a year. The postage on this issue was 30¢ -- add material and printing costs, general operation and one can readily see how $4.50 a year per member barely meets costs....

A decision will be made at the next Board Meeting. Your Editor firmly opposes reducing Bulletin size and third class mailing as a means of cutting cost. What are your thoughts?

--- NEW MEMBERS ---

who are or have been in the communication field......

ROB LANCASH (W6OCC) Telephone Communication (Winnipeg, Manitoba)

RICHARD ARMON (Mt. Carmel, Ill.) Radio Instructor Wabash Valley College Stations KICB, KRIC, KLME, WPJS, etc.

FRANK KONH (W4NM) Electronics Engineer U.S. Weather Bureau


CHARLES DAY (WALFD) Raytheon Corp.

BOB LEWIS (KLZZU, x-2ATW) Ship/Shore WSC, WPR, KSH, WCC, WSG, etc.

BILL IRVING (Gulfport, Miss.) U.S. Signal Corp., Electronics Navy Dept.

JOHN BALD (Loveland, Colo) Radio Shack dealer, electronics

HENRY KILLINGS (W2CFP, x-KH6IGI, W2CFH) U.T.C. Lab, Motorola

CHARLES HESS (W4PVY, x-3BLK) Ship/Shore WSC, WMD, WCC, WAJ, WPK, WNX, etc. Tropical Radio, CAA/FAA

ALAN SMITH (Lincoln, Mass.) Sprague Electric Company

CHARLES Hlava (Petaluma, Calif.) Pacific Telephone & Telegraph Co.

WILTON PARKER (Pocoono Summit, Penna.) Electronic Tech., U.S. Army

MERIDITH YOUNG (W50XK, ex-W9BMT, W9GPO) Radio/Electronic

DAVE THOMPSON (Tampa, Fla.) Station WUMS

GUNNAR CARLSTRÖM (SM9K) Malmö, Sweden Radio Tech. and dealer

WALT HOLLIDAY (Lombard, Ill.) TV/Radio sales/service

MARK THOMAS (Botkins, Ohio) Fowler TV

CHARLES BURLINGTON (Lancaster, Penna.) Manufacturer of Electronic Instruments and Systems

BILL NASH (W4CNY) IBM Corp., KNOT-TV

WILLIAM LEWIS (KE2XK) ex-W4QUL, W5VLF, W5DL, etc., U.S.N. Radio

JAMES MAXWELL (K6AQ, ex-6CUP) Ship operator and military.

A.W.A. welcomes Gunnar Carlström, SM9K, an active historian and collector in Malmö, Sweden. Gunnar’s interests are quite diversified including vacuum tube interests and early equipment.

--- NOTICE ---

The ANNUAL FALL MEET to be held at the New England Wireless Museum in Rhode Island has been changed from October 26 to September 7.
Digging through some old files we found a folder printed by Precision Coil Co. (New York City) describing the Lodge "N" Circuit. Being curious, we read the folder and found the circuit had been dubbed "N" by Sir Oliver Lodge, well known scientist/physicist. Although the rather odd circuit caught our eye -- it was something else that got our attention: the use of a Multi-valve for the detector and audio stages. Sure enough -- it was the Emerson Valve described by Gerald Tyne in last December's Bulletin on page 18. We note with interest that the parts list shows the 112 output tube is a Cleartron -- the same tube company noted in Tyne's article.

**THE "N" CIRCUIT**

![Schematic Wiring Diagram of the Lodge N Circuit using the New Multivalve](image)

The illustration above shows just how the parts for the N Circuit are spaced on the baseboard and panel.

**DUBILIER**

Tune in the Stations you've never heard with the Dubilier Duratrnan

**The Grebe CR-12 Broadcast Receiver**

Wave-length Range: 200–600 M.
CANANDAIGUA, N.Y.

RADIO CONFERENCE NATIONAL HISTORICAL
OCTOBER 4-5

TWO GREAT DAYS OF PROGRAMMING FOR THE HISTORIAN AND COLLECTOR

EARLY NETWORK BROADCASTING
Unusual pictures of pioneer stations and their affiliation with the great networks. Bob Morris, W2LV

JOHNSTOWN FLOOD -- 1889
Origin of communication emergency tradition as played by landline telegraphers. Rare pictures of a tragic event. Lou Moreau, W3WRE

POLAR ADVENTURE
Radio communication at the North and South Poles and the part played by the radio amateur. Early work by Don Mix (WNP) through to spectacular pictures by Bud Waite (K22K) with the Byrd Expeditions.

THE APGAR STORY
Fascinating WWI spy story centered around the Sayville German Wireless station. Rex Matlock, W3EFX

WORLD'S HIGHEST TOWER
Breathtaking views of the now completed CN Tower (Toronto). ..its construction and purpose. Fred Hamond, W3HC

ARC
Transmitter
Discussion of problems encountered in making an arc transmitter to be followed by an actual demonstration. Bruce Boyd, W3QA & Rod Mehlman, W3KXY

WORLD'S FIRST MARK I
The story of how the nation’s first Mark I transmitter was met with mixed reviews. DeForest -- $100.00

WORLD'S FIRST MARK II
The work of the Mark II transmitter. Economic -- $50.00

WORLD'S FIRST MARK III
The Mark III transmitter. Modern -- $25.00

WORLD'S HIGHEST TOWER
Breathtaking views of the now completed CN Tower (Toronto). ..its construction and purpose. Fred Hamond, W3HC

EDWIN HOWARD ARMSTRONG

EDWIN HOWARD ARMSTRONG
MAN OF HIGH FIDELITY

The life story of the world's greatest radio inventor, Maj. Armstrong, is now available in paperback in limited quantity. This rare book tells the history of radio development and is now out of print. However, through the efforts of Mr. Harry Houck, the Association has about 100 copies available to members. They will be sent postpaid for $1.75 each with proceeds going to the Museum Fund.

Make check out and mail to:
Richard Banley
9 Belden Avenue
Sodus, N.Y. 14551

ROCKY MOUNTAIN ANTIQUE WIRELESS CLUB
Congrats to Barney Wooters, W5KSO, new club president. The organization is located in the Denver area and welcomes new members. Interested? Write Barney for details: 3303 E. Mansfield Avenue, Denver, Colo. 80237

WWI SURPLUS
Members found the 50 year old "ads" in the last copy of interest -- so much they wanted more WWI surplus. Digging thru AWA archives revealed sales listings of the 20's which may give the collector an idea what was available and the then "going price". A rough estimate would place current value about ten times that noted - but remember, the average wage 50 years ago was between $15 to $20 a week!

SIGNAL CORPS AERO transmitter Type AR6 made by General Radio Co. -- $25.00
80 WATT PORTABLE SPARK COIL transmitter Type SCR-74-A -- $5.00
SCR-54 CRYSTAL SET made by W.E. and DeForest -- $10.00
U.S. NAVY RECEIVER CH-239 (1000 to 10,000 meters) made by NESCO -- $15.00
MARCONI RECEIVER TYPE 101 (without crystal detector) 100-7000 m. -- $60.00
U.S. NAVY RECEIVER TYPE CN-208 made by NESCO (240-3100 meters) -- $95.00
U.S. NAVY RECEIVER TYPE SE-950 made by NESCO (300-3000 meters) -- $75.00
AIRCRAFT RECEIVER CE-937 -- $25.00
W.E. TYPE CW-1403 three tube receiver (150 to 600 meters) -- $35.00
FRENCH make push-pull power 3 tube amplifier -- $25.00
POLAR ADVENTURE

"Bud" Waite, W2ZK is seen with Master Sgt. Paybins (left) five miles south of Wilke's Station, Antarctica, Jan. 29, 1958 when they were making history by determining the depth of polar ice by sending 400 Mhz. radio pulses through the ice and accurately measuring the response. Bud pioneered in this technique which eventually led to soundings up to 12,000 feet. His hand is on the receiver's antenna reflector plate. He will show spectacular aerial, water and ground pictures of the artic and antarctic as well as shots of K2HUSA, USB, etc. at the Canandaigua Conference, October 5th. W2ZK was one of the trio that rescued Admiral Byrd in 1934.

SILENT KEY

C. RUSSELL BARKER

Charles "Russ" Barker
April 15, Fredonia, New York
at 81 years. OT Barker was ship and shore operator on the Great Lakes as well as ocean vessels starting in 1910. "Russ" was a familiar figure at AWA Conferences. He will be missed.

THE SODION DETECTOR
SOLID STATE A-K BREADBOARD

Robert Morris, W2LV

Three or four years ago, a friend of mine gave me some "antique wireless" gear, included with which was a badly deteriorated Atwater-Kent two stage audio amplifier. On opening the amplifier, I found inside a shambles and quickly closed and put it aside. Sometime later I acquired an A-K variable condenser and still later a variometer and A-K tube socket. With the addition of an A-K vari-coupler from W3EFX I had a problem: what to do with this fine collection of parts that couldn't possibly work because of an audio amplifier that couldn't be fixed.

At this point a very unorthodox solution to the problem, from a dedicated AWA point of view, began to take form. As a start, all the broken wires, open circuit transformers and wax was removed from the amplifier base and it was cleaned, scoured and suitably painted and polished. Then a small 3-stage transistor printed circuit audio amplifier was connected appropriately to the input, output and battery terminals on the bakelite top of the 2-stage A-K amplifier. A test with a 6 volt battery proved the amplifier would drive an 8 ohm loudspeaker rather well. The input impedance, however, was very unlike the input impedance of a tube. Accordingly a miniature transformer (10,000 to 500 ohms) was mounted with the printed circuit board and connected between the input terminals and the amplifier board input. The result was a one watt audio amplifier operating on six volts with a gain of over forty dB. Two small pieces of thin polyfoam were placed on either side of the printed circuit board to insulate it from socket terminals and the case. With the insertion of a pair of 201A's in the sockets, the old amplifier looked and worked quite like the original.

Now the question turned to the making of a solid state A-K regenerative tuner using the rest of the available parts. The coupler, condenser and variometer were mounted on a "breadboard". Some initial tests were made using a conventional NPN transistor. Regeneration could be obtained and could be adjusted or modified by the variometer but the circuit was temperamental and unsatisfactory. The impedance were very different from those which these components were designed. The answer seemed to be a field effect transistor which is supposed to have characteristics similar to a vacuum tube.

FET's or MOSFET's (metal oxide semiconductor field effect transistors) are a bit tricky to use in a circuit. They have different names for their elements. The equivalent of the filament or cathode is the "Source", the equivalent of the plate is the "Drain", and the equivalent of the grid is the "Gate". The impedance between gate and source is in the order of 10 to the twelfth ohms, or a million megohms. The transconductance is rated at 7500 or 5 to 10 times that of the old tubes originally used.

In handling MOSFET's, it is necessary to keep the leads shorted until the device is connected in the circuit. The maximum allowable gate to source voltage is given as 15 volts. If one walks across the room on a cold dry winter's day, a static charge of between 500 and 5000 volts can be developed on the body,
which if applied with the finger to an insulated gate of a mosfet will cause that unit to cease to be operational. RCA recommends that a person's hand and the tip of the soldering iron be grounded when connecting mosfets in a circuit.

My plan was to keep a short length of #30 bare copper wire wrapped 2 or 3 times around the leads of the mosfet within an eighth of an inch of the body of the unit. The leads were then spread apart below the wrap and extended if necessary, so they could be connected in the circuit. In the final arrangement, the mosfet leads were connected underneath the A-K socket for the detector, (gate to grid, drain to plate, and bulk or body to filament). The source was connected through a biasing resistor to the same filament terminal. With these connections made, a one megohm resistor was connected between grid and filament terminals to protect the gate while final circuit connections were made. With this done, the short circuiting wire wrap was removed.

The circuit used with the mosfet is a modified A-K Model 4 as shown in the schematic. The variometer is connected in series with the drain (plate) circuit through by-passed headphone (or input transformer) to a six volt positive battery. Initially, a 25 mmf. condenser was connected between drain and gate to provide feedback in the same manner as grid to plate capacity of a tube. This proved to be too much, 5 mmf seemed about right, and the final arrangement was simply to plug in a tube such as the Moorhead, the CG 1162, or the VT 13 in the socket to provide the capacity. A test was made to determine whether a grid condenser - grid leak in the circuit was desirable.

It was found to make no noticeable difference in the operation of the detector. The gate does not act as a diode and its impedance is extremely high. In operation, the mosfet draws only about one half milliamperes. The voltage between drain and source is about 3.5 volts leaving about 2.5 volts as bias applied through the secondary of the coupler to the gate. If more gain is desired in the mosfet detector, the gate bias can be reduced by lowering the value of the 5000 ohm resistor in series with the source. This seemed unnecessary in my tests since ample regeneration was available.

It is believed that in many cases a dummy tube with a mosfet connected and hidden in the tube base could be plugged into certain old receivers to make them function solid state. Audio amplifiers can be made using transistors and other components, or as in this case, a complete multistage amplifier on a small printed circuit board or even smaller integrated circuit amplifiers can be obtained for anywhere from $1.50 to $6.00. Incidentally, if less regenerative feedback is desired, as perhaps on the high frequency end (Cont. on next page)
of the dial, the detector tube can be lifted from the socket leaving only the capacity of the socket terminals.

It is recommended that initial hookup of circuit components be made with clip leads or temporary wiring. The receiver can then be operated and connections changed readily so that "hot" ends of the variometer, variocoupler and condenser are at the rear to minimize hand capacity.

Regenerative action of this circuit is quite smooth. The operation of the solid state A-K 4 is at least as good and probably better than it ever was with tubes. Using a 90 foot wire antenna it is possible to separate stations 10 kc. apart and maintain stable regenerative reception for substantial periods of time. It has been a real pleasure to relearn the old art of adjustment of tuning, coupling and regeneration and to reaffirm the excellent results that could be had with the old regenerative receivers.

The appearance of this modernized receiver is quite traditional and authentic, but its handsome components hold secrets not designed by, nor known to Atwater Kent.

POLAR--WNP--DON MIX

Much interest was generated with the announcement A.W.A was making a show on Polar Radio work. Our leading participant, Bud Waite, W2ZK, has rallied from an operation and is reading his material. Copy from A.R.R.L. has been made to slides and several letters from members have been helpful. Clarence Tusa well remembers Don Mix's early association with ARRL and WNP participation....and W2ZK has donated the original QMlog with the call letters WNP on the disc which was used by the Zenith broadcast station as a preamble to their broadcasts to the expedition!

Roy Usher, W6BGA, writes from Alberta telling of work done by stations 4HI (Moose Jaw) and 9EP at Prince Albert. It was a pleasant surprise to learn that Jack Brikett, the operator of 4HI is still alive at 85 years. Jack still recollects handling traffic with the "Bowdoin" over 50 years ago.

Speaking of handling tfs--did you know that our own Bob Morris, W2LV, also did his share of traffic work and is mentioned in QST for his work with WNP!

---

50TH ANNIVERSARY
QSO LISTING

(All stations are listed as postmarked except the oldest.)

W6FM (2PM) -- W6CP (26P) W4FI (16F2) -- W3NM (3PN) 1911 - 1971
1914 - 1961
W4AYF (26PM) -- W6WY (26F) W6ID (226) -- W6CP (29P) 1922 - 1972
1920 - 1972
W2AX (26XK) -- W2YH (29F) W2GL (69F) -- W6UU (26BF) 1922 - 1972
1923 - 1973
W2CS (26F3) -- W6IF (26F2) W2XW (66F) -- W6IU (12BN) 1924 - 1972
1922 - 1972
W2SM (26PS) -- W2YL (28F) W6R (66F) -- W6IU (16BN) 1921 - 1970
1922 - 1972
W1ID (26F4) -- W6FF (26F3) W6QX (66F) -- W6IU (11BN) 1922 - 1972
1922 - 1972

Oldest Anniversary QSO
W6IM (MRK) -- W6SMI (PRK) 1910 - 1973
(61 years)

LATEST ADDITIONS

W9DZG (9DZG) -- W9CQP (9AMS) 1923 - 1975
1924 - 1975
W9BQP (9BQP) -- W9SUU (9EE) 1922 - 1974
1922 - 1974
W9BG (9ABB) -- W9DZG (9DZG) 1923 - 1973
W9CQP (9CQP) -- W9DC (9DC) 1920 - 1972

Send all Anniversary Listings to: Ken Gardner, W6BN
42 Oakdale Ave., S. New Hartford, N.Y. 13413
(See OTB 13-1-21 for details)

AWA NETS

PHONE
Sunday -- 12 noon
3903 Kc.

Tuesday -- 8 P.M.
3865 Kc.

Cw -- 3564 Kc.

8 P.M. First Wednesday of each month
4 P.M. Daily
E.D.S.T.
CLASSIC RECEIVER OF THE MONTH

NATIONAL THRILL BOX

FIG. 4

THE CIRCUIT DIAGRAM OF THE AC MODEL THRILL BOX SW-5.

The Thrill-Box (or SW-5) was contemporary with the early SW-3 (1930) but was short-lived as compared to the latter which was manufactured for about 10 yrs. The Thrill-Box was designed for the shortwave listener and had an extra audio pushpull output stage for speaker operation. The circuit was somewhat similar to the original SW-3 except it did not have band-spread coils such as were used for the amateur bands. A D.C. model was also available using tubes 232-232-230 and pushpull 231's. This regenerative set was manufactured for only a year or two and was replaced with a modified version known as the ACSW-58 and DGW-34. These sets had essentially the same circuit but with later type tubes and the FE-7 type dial. These sets are quite rare.

Toronto Gets World’s Tallest Communications Tower

Fred Hammond, VE3HC is scheduled to give an illustrated talk on the third-of-a-mile-high Canadian National tower at the forthcoming A.W.A. Conference.

When completed, the 1805 foot tower will be the tallest self-supporting structure in the world, although the tallest transmitting tower is the 2063 ft. KTHI-TV tower in Fargo, S.D.

The CN tower will be used for both FM and TV broadcasting services.

Reprint from COMMUNICATIONS NEWS
CLASSIC AMATEUR RECEIVERS

Readers of "73" magazine had a pleasant surprise when they found an article in the March (1974) issue titled "How the Communication Receiver Began" by Ray Moore of Walpole, Massachusetts.

The author feels the first real communication receiver for the radio amateur emerged in 1934. Following pioneer work by James Lamb (QST Technical Bk.) a few years earlier, several manufacturers designed and made receivers in 1934 which completely eliminated the old regenerative set and earlier super. This was the year for the National HRO, Hallicrafters Super-Skyrider, RME-9B, RCA-136 and the Patterson PR-12.

He tells of later development and generally concludes the end of the "classics" may have been the HAMmarlund HQ's and SP series of the 50's and the introduction of the Collins 75A-.....

Although not a communication receiver, the author spoke highly of the unusual technical specs of the Scott Philharmonic XXX circa 1937 --- a top receiver for the BC/SWL listener.

An interesting article well written and illustrated with a chart and several photographs. Ray plans other articles on a similar subject.

ALEXANDER GRAHAM BELL

ALEXANDER GRAHAM BELL AND THE CONQUEST OF SOLITUDE by Robert Bruce (Published by Little & Brown, Boston, Mass., §12.50

Reviewers believe this exceptionally well-written book will remain for some time as the standard biography of Bell and the authoritative history of the invention of the telephone. The author had access to the family papers and records which shed new light on the famous inventor. The book is divided in three logical parts: 6 chapters "before the telephone", 200 pages on the development of the telephone and another 200 pages after the telephone. The book is almost a must for a well rounded communication library.

(From Chris Sterling's Mass Media Booknotes.)

VLF WHISTLERS

(Popular Electronics, March, 1974, p.37)

Ever since the early days of the telephone (1890's) and then later on VLF, listeners have heard peculiar noises like a "whistle" which would slowly drop in tone and fade out. This intriguing phenomena was somewhat of a mystery until the 1950's when researchers at Cambridge University (England) positively identified lightning as the source of most of these strange noises.

Since then much has been done in the field. As an example: "Whistlers" have been monitored by Satellite proving they penetrate outer space. In addition to electrical storms, it has been found that under certain conditions our powerful Navy VLF stations operating between 10 and 30 kc. have on occasion generated "Whistlers". It appears the best time to hear these peculiar sounds is in the winter between midnite and dawn. At peak periods, up to 10 whistles per minute may be heard.

Read the article for more information which also tells how to build a simple VLF receiver.

FERDINAND BRAUN AND THE CATHODE RAY TUBE

by George Shiers (p.92, March., 1974 "Scientific American")

Readers may not get excited over CR tube development but they'll miss a good bet if they don't read this well written article since it covers the entire history of early indicator tubes.

The author briefly discusses the work of Geissler, Crookes, Rontgen and others which lead to the development of Braun's "indicator tube" -- the ancestor of the oscilloscope and television picture tube. The article is exceptionally well illustrated with pictures and diagrams.

April
1974
HIGH FIDELITY

The April issue of HI-FI mag. carries several top articles: Story of Dave Golden's remarkable old time radio program collection ("Radio Yesteryear"), Record re-issues 1930-1940 and short article on old BC sets. Recommended!
THE QRS "RED-TOP" TUBES

The QRS Red-Top tubes were first advertised in March, 1927 by the QRS Music Company of Chicago, Ill. (also a maker of player piano music rolls). There were numerous types, some with cylindrical, others with pear-shaped bulbs. Their appeal to the collector is their gaudy appearance.

The upper portion of the glass envelope was covered with red lacquer—the QRS marking was punched out of heavy paper having a gilt surface and stuck onto the glass. The base was of plastic—the same color as the lacquer used on the bulb. It was claimed that the element constriction, as illustrated, was "perfectly symmetrical in emission and control, and that this resulted in a clear tone."

Opposed to this was the ordinary tube where there was confusion in emission and control of electrons which interfere with each other and a muffled tone is the result.

QRS made a full line of these tubes including 200A, 201A, 112, 121, 199 and 210. They also made cold cathode rectifiers of 60, 80, 100 and 300 milliamperes rating, a 100 milliampere cold cathode rectifier for use at 500 volts and a glow tube for use as a regulator.

RARE UV-212 TUBE

If the A.W.A. member who approached Gerald Tyne last year to identify an old looking tube reads this notice—Jerry believes he now has the answer.

The tube was an unbiased cylindrical diode about 3/4" in diameter by 5 1/2" long, which had a cylindrical anode with tabs on both ends bent outward against the glass to hold the anode in position.

Jerry believes it is a variant of an UV-212 which was never released for general use. He discussed the tube with RCA historian George Clark in 1943. If the owner wants more information, drop Jerry a line at: 40 Kline Place, Berkeley Heights, New Jersey 07922

TUBE ADAPTERS

The use of tube adapters was commonplace in the 20’s and were even made for later tubes of the 1940’s. An adapter allowed the user to substitute a different tube without changing the socket. Those sought after adapter today are those that allow the owner of a Radiola III or IIIA substitute 199’s for WD-11’s. The UR-589 (illustrated) made it possible to use the "new" low filament consuming UV-199 instead of UV-210. A.W.A. Museum displays a variety including a rare UV base type with W.E. 215-A socket.

UX-210 REPLACEMENT

Members who plan to build or use a UX-210 tube in equipment are advised to use available VT-25’s. These tubes are available surplus and at times are listed as 10-Y. Good 210 tubes are hard to find and one trying out a piece of equipment for the first time (particularly a transmitter) will have better luck with a modern VT-25 which have about the same specs as the 'ole 210.

The same suggestion holds true for one using 50 watt tubes. Try a VT-4 which is a 211. These tubes were plentiful a few years ago surplus. For authentic operation, exchange the newer ones once the bugs have been eliminated...

EIA Plans for Golden Anniversary

Electronic Industries Association has planned a number of special events for its 50th Anniversary year. Key events include: Publication of a new book entitled EIA~~"The First Fifty Years" and several outstanding dinners in Washington, Chicago and California.
WITH THE COLLECTORS

Lauren A. Peckham
Ormosion Road
Breesport, N.Y. 14816

FRED RICE (Philadelphia, Pa.) came away from a local flea market with 2 Aerola amps., one had brass base WD-11s with good fila. !! He also found a huge RCA projection TV made in 1949.

BOB LOZIER (Monroe, N.C.) also has good luck at flea markets and auctions. He picked up a stack of RADIO NEWS mags, Bristol horn speaker, Crosley XJ and a Radiola 28. Another find was a 1" spark coil made by John Parks & Co. of Philadelphia in 1914.

WILFORD WILKES (Brisbin, Pa.) sent a beautiful photo of a Zenith 3-A. This rare rec. should look real nice on a shelf.

BILL HARDER (Lansing, Mich.) also sent some photos of his rare Mignon Hill-5 and an unusual glass plate cabinet set. We may publish the photo at a later date.

FLOYD LYONS (San Francisco) is toying with the idea of publishing a book of photos covering significant tubes and bulbs. Sounds like a great idea...we hope he follows through.

CHRISTOS PENGKOPULOS (Athen, Greece) added a nice 1928 British portable super by Igramco to his collection. He included a couple pixs in his letter showing a nice 1916 Marconi V-24 valve and the rare Lowe 2HF valve. This tube has 2 triodes and a complete two stage RF amp all in one envelope!

JOHN NOBLE (Loveland, Colo.) acquired a home-made rec. in real rough shape, but a close inspection proved the set was an early super. The Dec. 1923 issue of POPULAR RADIO described the circuit which aided in restoration. Other sets include a DeForest F-5, Apex 32-A, AK Model 10 and an early Sparks-Withington AC tube.

CAYLOR EWING (Breesport, N.Y.) got good results from his ad in the OTB--he acquired a very early tape recorder made by Brush Development Co.

WES CHATILLIER (Baton Rouge, La.) enjoyed the various methods of plugging holes noted in last OTB. Wes finds an occasional set in La. such as a Howe Crystal set and an AK-30. He tells us that he worked for Clinton Radio for a short time in the 30's.

DEXTER BARTLETT (Portland, Oregon) through the help of Jerry Tyne has been able to identify a rare tube in his collection. It is a rare VT-11 which is similar in appearance to the VT-1.

KEITH MCCANN (Natchez, Miss.) walked into a shop and asked the owner if he had any old radios? It didn't hurt to try for Keith walked out with a Zenith Super VII, three Atwater-Kents, a Polydync and a couple Philcos.

BARNY WOOTERS (Denver, Colo.) located a Freed-Eisemann NR-7 plus a small collection of W.E. and DeForest tubes.

JOHN WASTRICK (Pleasantville, N.Y.) displayed a fine collection of old sets, speakers and accessories at the Greenburgh Public Library back in April. Response was excellent. Good FR John ... hope you picked up a few sets for your effort -- hi...

JACK NELSON (Rotterdam, N.Y.) has been busy this past spring loading sets on his shelves such as Crosley XJ, Freeman Masterpiece, all kinds of old tubes including five nickel plated base types without identification.

NOTICE --- NOTICE --- NOTICE

Ralph Williams and Mel Coner are again in charge of the Receiver Contest at the National Historical Conference, Canandaigua, N.Y. Oct. 4-5. They plan to have a couple new "classes". Start cleaning up your old sets and watch for info in the September Bulletin.

REMEMBER fellows -- the DEADLINE for News in the next BULLETIN is JULY 15.

DEX DEHAAS (Rochester, N.Y.) placed some fine receivers on his shelf recently including a Grebe CR-18(1) and Radiola VII-B. Dex says our chief restoration expert, Linz Gundall, put the CR-18 in top shape.

REX MATLOCK (Reeders, Pa.) didn't let grass grow under his feet while in Florida -- he returned north with a mint Kennedy 110 and match amp., a sloping panel Ware circa 1923, a Crosley Pup, 1 tune Steinite and a mess of very early components plus a 1920 amateur phone transmitter with tubes!

(Cont. on next page)
BASIL ABBOTT (Mechanicsville, Va.) received an early Trumbill 3-way switch from an old time ham. Basil also found several early Edison cylinder type phonographs.

LAUREN FEEKHAM (Breesport, N.Y.) was a surprised fellow when he received a copy of the book "History of Communication Electronics in the U.S. Navy" from his XYL. Other gifts were 3 Geissler tubes from his two sons.

BOB LANCASTER (Winnipeg, Manitoba) writes that he has a 1927 Kolster, Victor Electra RB-37, an early Philco and a Victor Consolette. Bob is interested in both radios and early phonographs.

JOHN ALLEY (Raynham, Mass.) If we didn't know him personally we would think he was pulling our leg when he tells us he acquired a MINT I-P-501 with TP-503 longwave loading unit as a gift after purchasing a car load of "goodies" including DeForest tubes, telegraph sounders, spark coils, etc. all for $50.

BRUCE ROLOSON (Horseheads, N.Y.) is always on the lookout for rare books pertaining to early wireless and vacuum tubes. His latest find is "Works of Heinrich Hertz" by Sir Oliver Lodge.

MERETH YOUNG (Hot Springs, Arkansas) is in the process of setting up a radio/wireless museum in Hot Springs. He will keep us informed of progress.

DICK RANSLEY (Sodus, N.Y.) is the proud owner of a fine DeForest Interpanel set...good going Dick.

Karl Marquardt (Minneapolis, Minn.) is a steam and gasoline engine buff...who now finds radio more interesting. Latest for Karl is a complete set of Riders plus a large assortment of early TV gear.

JAMES McGRATH (W. Seneca, N.Y.) likes to pick up sets made in the Buffalo area such as Colonial, Federal, King and Stromberg-Carlson. Of special interest is a set made by the Wurlitzer Company -- a real rare one.

JAPAN-AMERICAN RADIO COMPANY

Rare receivers need not be pre-WWII, or large and costly or a set covered with dials. This little inexpensive battery set, circa 1924, was made in Tokyo, Japan. It is a rare one and a good "conversation piece" for Frank Atlee in St. Petersburg Beach, Florida.
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.
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.
7. All ads must be received 6 weeks prior to mailing date.
8. Mail to Antique Wireless Assn.
Main Street, Holcomb, N.Y. 14469

WANTED: cabinet for Radiola IV, AFT for early Pargono, info or AFT for Tuska Superlyne Junior, Federal 226 and 66 audios. Aerola Sr. for trade. Bob Carroll, 8 Yvette Drive, East Hanover, New Jersey 07936
WANT: Radiola III, IIIA or Sr. or Aerola Sr. State price and condition. F.V. Kohl, W4MM, 7116 Capitol View Dr., McLean, Va. 22101
FOR SALE: Old type 210s, 2 @ $4 each, later 10s and 50s @ $2.50 each, 1921 Consolidated Call Book $7.50 (some cover damage), 1922 "How to Pass Wireless Loc. Exams" by Bucher (cover missing) @ $5, new J-5-A key @ $5, Write: Geo. Hasske, WQLE, 1922 E. Indiana St. Wheaton, Ill. 60187

DEADLINE FOR OT ADS
March Issue -------- Feb. 15
June Issue -------- Apr. 15
Sept. Issue -------- June 15
Dec. Issue -------- Oct. 15

WANTED: driver and base for AK Model M horn speaker. Will buy base or sell horn. Ross Smith, 1133 Strong Avenue, Elkhart, Ind. 46514
HELP: Still need loop assembly for Radiola Super VIII console. Have many good 13L-A and Federal #16 tube sockets for trade as well as good Crosley XI with horn. Bob Lozier, 318 E. Houston Street, Monroe, N.C. 28110

WANTED: Horn for W.E. 10-D driver, headband & cord for Baldwin phones, socket & case for NR-7, three sockets for ACE 3-B, 2 AFT for Kennedy 525. Barney Wooters, W5KSO, 8303 East Mansfield Ave., Denver, Colo. 80237
WANTED: Two A.P.T. for Grebe CR-9, both "TA" units for AK-12, cabinet for AK-33. Harry Williams, W0IN1, 1303 College Hill St., Pleasant Hill, Missouri 64080
DESPERATELY need square panels, knobs, crystal detector Type D-101 or UD-100, 90 degree condenser or any other component for a DeForest 15 Panel set. Cash or trade. George Greene, 7612 Westmoreland, Clayton, Mo. 63105
WANTED TO BUY: Large or small radio or wireless collection. Will pick up. Jerry Vaniek, W9DOZ, 3313 So. Love Ave., Chicago, Ill. 60616
WANTED: Coil forms or coils for SW-3, Battery cable for AK-12 or cotton covered cable. Will reproduce A-K Service material. David Knepper, SIS, Penia, 15955 (W3BZ)
FOR SALE: 1400 lbs. of Pre-WWII tubes, receiver and xmtr types. Send S.A.S.E. for list. Reasonable. Darrell Parrack, W9KGM, 540 Woodland, Moberly, Mo. 65270
WANTED: Schematic and alignment data for AK Model 70 console with Type H super chassis (circa 1930). Write: Gary Mianek, 226 Henry Ave., Manchester, Missouri 63011
WANTED: Scott Super antenna, selecton parts and World's Record Super 8,9 or 10 receiver. Also need Jones plug of 7 pin type. Joe Holzer, 2438 South Howell Ave., Milwaukee, Wisc. 53207
TRADE: Hoyt volt/ammeter set, in 1200 by Hoyt Elec. Inst. Wisc. Would like a model 90 or 84 Cathedral radio. Also have older special purpose tubes. Send S.A.S.E. for list. T.A. Melsperger, 2372A Antietam Cir., Ns Lemoore, Calif. 93245
WANTED: Info on Wilcox Lab sets, W.E. #360 horn mike, also Duck cat. & ampion Bell & Neutrowound covers. Have DeForest,Grebe & AK parts. W. Harder, 911 Northrup W.,Lansing,Mich. 48910
WANT: DeForest spherical audion and other older tubes of this vintage for my tube collection. Will trade old battery radios or pay cash. Leo Gibbs, W8HRT, 701 Brookfield Road, Kettering, Ohio, 45429

WANTED: (1) mounted honeycomb coils, 150 turns of less, or honeycomb plugs, (2) straight spark gap. Yardley Beers, W9JF, 740 Willowbrook Rd., Boulder, Colorado 80302

SWAP: Have BC-11A, SW-3 and other goodies toward trade for IP-501. L.W. Elias, WE6DT, 3919 Poindexter Dr., HFD #8, Winston-Salem, N.C. 27106


WANTED: five 4-prong Kellogg bakelite tube sockets. Also have radices for trade. A. Harrison, 1021 Falcon Dr., Columbia, Missouri 65201

WANT: Copies of US and foreign tube handbooks and catalogues, especially cross-references, both broadcast and industrial or commercial tubes. T.H. Briggs, Juniper Lane, RD #1, Crefeld, Penna. 18069

WANTED: 1930's Spartan Table Model in blue mirror cabinet with chrome trim. Must be in good condition. R.J. Davis, 1577 Guilford Rd., Columbus, Ohio 43221

SELL or TRADE: large collection of early receivers (1918-1926), tubes, literature, etc. For 13 page list, send $1 to cover printing and mailing cost. Refunded with $15 purchase. John Brooker, 730 Randolph Rd., Mogadore, Ohio 44260. Tele: 216-628-3691


SELL or TRADE: Crosley Mod. 6-60, very clean inside and out with original warranty card on lid, $65. Keith Manus, 307 S. Pearl St., Natchez, Miss. 39120

TRADE: Very clean copy of "Practical Radio" by H.S. Williams, New York 1924, want old time radio publication of equivalent value. Bill Russell, VK3MR, 45 Apollo Rd., Bulimba, Queensland, Australia 4171


TRADE: Loose coupler (factory made) for Vocarola speaker and Tubular Audiotron (display for AK coupled circuit tuner. George Krauss, 141 Hannah Ave., Elkhart, Indiana 46514

WANTED—urgently need (4) WD-11's, preferably with good filaments. Also need several UX-201-A's. These tubes needed to complete personal collection. Leland Smith, W5KL, Box 38-B, Route #3, Jasper, Arkansas 72641

NEED: Heath "Radiant" $005 and $01 (23 & 43 plate) variable condensers and (2) Facet 6 ohm rheostats for 8 tube Ultradyne Superhet. Also need a 222 AC tube for 1929 R.I. Scott. R.T. Millard, 1420 Hollywood Drive, Lancaster, Penna. 17601

TRADE: Old books, tubes or parts for "The History of Radio" by Archer or other books on development of electrical/electronic technology. B.B. Davis, 1201 Riverside Drive, Indianapolis, Florida 32901

LOST, STOLEN or stolen from A.W.A. Library the book "Tinfoil to Stereo". Who has it ?? Bruce Kelley

FOR SALE: Jewell meters, 7" round, 4" deep, front of panel mount, 0-10 amp., D.C. and 0-300 v. A.C. Pattern #30. Working condition at $10 each. John Wasielwicz, WEDQ, 229 Barles Avenue, Pleasantville, N.Y. 10570

SWAP: AK Mod. 83 chassis with tubes, fair condition, rewired but no output. Want any portable dry cell set with tube(s)—need not be rare or perfect condition. Also want cross-brace for DeForest D-12 loop and 45 tubes. Mark Twitchell, 163 Hunter Ave., Fanwood, New Jersey 07023

FOR SALE: Fred-Eisemann NR-77 with folding loop antenna — $65 F.O.B. Richard Allbery, WATTZ, 6900 S.W. 195 Sp. 143, Beaverton, Oregon 97003

(Cont. on next page)
OLD TYME HAM ADS

TRADE: Two (2) Federal AFT's No. 65. Send for my want list items. Joseph Bemne, 494 Hirsch Ave., Calumet City, Illinois 60409

WILL BUY or SWAP RCA III or #2 Rider Manual for phonograph book "From Tin-foil to Stereo" first edition by Oliver Read. Basil Abbott, Rte. 5, Box 322, Colonial Fst., Mechanicsville, Va. 23111


INFORMATION-- on a 2 tube receiver of regenerative type made by Jewett Radio of Detroit, Mich. (no model number). Can you help? Dan Gaidoza, 342 West River Road, Orange, Conn. 06477


WANTED: Early and historic tubes such as Moorehead, De Forest, Emerson multi-valve and early European tubes. Also early point contact transistors, W.E., etc. Have similar to trade. Send list of dupes and wants. Warren Johnson, 2801 Euclid Ave., Ft. Wayne, Ind. 46806

WANTED: Info, sketches, photos or other material that will help me restore my Adams-Morgan Loose-coupler receiver circa 1916-17. Would like to buy or borrow catalogs with this set. Need to know about original parts other than coupler. Bill Holly, 26 Whipple Road, Kittery, Maine 03904

WANTED: Diagrams of photo layout of inside of Radiola IV cabinet. Already have schematic. Harry Watkins, WNBCH, 2163 Greene St., Augusta, Ga. 30904

BUY or TRADE: want National SW-3 Will trade Weissner Deluxe Signal Shifter or state price. Fenton Woods, 3122 Ann Arbor, Sugar Land, Texas 77478


WANTED: Two adaptors to adapt UX-99 tubes to WD-11 sockets. Also need two horn speakers. L.M. Pouler, K7/WQ 6344 Garwood Ave., Las Vegas, Nevada 89107

SOLD or TRADE: Approx. 600 early tubes of 20's and 30's new in original boxes. Very reasonable. Package deal only. Interested in trading for exceptional horn type phono or battery radios & horn speakers. Wilford Wilkes, Box 43, Brickin, Penna. 16620

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DE FOREST AUDION PANEL

A rare De Forest RJ-9 Audion Panel circa 1914 -- not so! This beautiful detector unit is a replica assembled by our Treasurer Lincoln Cundall with the help of Roland Mateen who made the nameplates. The RJ-9 was available with candlebra socket for spherical Audion (as seen) and later with binding posts for one of the several tubular types.

Use A.C.H. Sharp Tuner Dials A pleasant surprise awaits you

MAGNAVOX Radio Products
When the question is posed as to the wavelength used by KDKA during its first broadcast on November 2, 1920, the erroneous response "360 meters" is almost always forthcoming. For example, in his otherwise excellent essay on "Broadcasting" in the 1953 edition of the Encyclopedia Britannica, Walter F. Lanterman of NBC even converts it to frequency as "833 kilocycles." The little-known fact is that KDKA operated on 500 meters for many months.

The original KDKA license has long since disappeared, with not even a photostatic copy extant. Information from early government files, however, shows that KDKA began operation under a license for Land Radio Station, Class Limited Commercial, issued on October 27, 1920, by the Bureau of Navigation of the Department of Commerce. Use was authorized of the wavelengths 500 and 3200 meters, as well as "500 and 600 meters to be used as required in Regulations 42 and 44." It specified power levels of 2 kilowatts for radiotelegraphy, and 200 watts for radiotelephony; and further, authorized communication with Cleveland, Ohio; Springfield, Mass.; Newark, N.J.; and Brooklyn, N.Y.

The word "broadcasting" did not appear in this document; obviously, the Department viewed KDKA very much as a "Land Radio Station!" There is no clear indication as to the wave to be used for KDKA's broadcasts, but unmistakably, there was no authorization for 360 meters. The language of the license could have been construed to permit use of 300 meters (then a "working" wave in the maritime service). On the other hand, the assignment of 500 meters was entirely unencumbered.

To resolve the uncertainty definitively, an inquiry was made of Donald G. Little, which elicited the appended reply, establishing that the original KDKA wavelength was indeed 500 meters.

The first license authorizing broadcasting in so many words was issued to WBZ, Springfield, Mass., on September 15, 1921. In the tabulation of wavelengths assigned (in addition to 500 and 600 meters!) appeared the entry "360 meters to be used exclusively for broadcasting." Several weeks later - on November 7, 1921 - KDKA was issued a license modified to include this same specific entry.

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1. Letter of Nov. 10, 1934, from Herbert L. Petry, Secy., FCC, to George H. Jaspert, KDKA.
2. These Department of Commerce Regulations set forth the manner of use of 300 meters as a "working" base, and 600 meters as the "calling and distress" wave in the maritime service.
3. For a number of years thereafter, KDKA did operate a transmitter on 3000 meters in a radiotelegraph circuit with KDPM at the Westinghouse Cleveland office.
4. Department of Commerce Form 11-5071.
5. "D. G.," later Engineering Manager of the Radio Division of the Westinghouse Electric & Mfg. Co., was the Radio Development Laboratory engineer most closely associated with KDKA during the first decade of its existence. He is the author of papers on the first KDKA transmitting station in East Pittsburgh, and its successor in nearby Forest Hills, which appeared in the Proceedings of the I. R. E. in June, 1924, and August, 1926, respectively.
Seattle Museum - Federal Arc Exhibit

The Seattle Museum of History and Industry is becoming the repository for many fine pieces of early communication equipment, particularly material indigenous to radio development in the Pacific Northwest and Alaska. The museum management recognizes the important contributions made by wireless to early shipping and point-to-point services in the area. Equipment displays of wireless, telephone and telegraph appear quite frequently in exhibits of an industrial, marine, or historical theme. These are rotated about twice a year.

The museum collection was started about ten years ago by the late Howard Pyle, W70E, with material from the old YMCA radio school. The collection has been growing thru contributions from many sources, spark sets from the Alaskan fisheries, old Navy receivers, early broadcasting stations, submarine cable systems, communication companies and early manufacturers. The most recent contribution is the complete 2KW Federal arc transmitter that was used at KPE, the Seattle harbor ship-to-shore station of 50 years ago. This was donated by Earl Thoms, W7D1, (SCWP), one time operator at KPE and many of the big passenger liners of the 1920's.

The arc is now on exhibition in the Marine Wing of the Museum in a display depicting a radio room as it might have been on one of the early luxury liners. This is in keeping with the theme of the present exhibit at the museum showing life as it was on board the passenger vessels of those days. The photograph shows the arc equipment on the left being adjusted by the operator. The receivers in the center are a 1P-501A and 2-240 with audion box. On the right is a 1/4KW Amrad Navy Standard spark transmitter as a standby emergency set. An old Oliver typewriter is used for copying messages and press. An interesting sidelight followed when old ships news and passenger lists were brought out from the museum's library files. The operator's name appearing on the copies were none other than Earl Thoms then on the SS EMMA ALEXANDER, dated 1928.

We attempted to make the display as authentic as possible as we expected critical comments from the old salts. The only uniform available in the museum wardrobe was for a 'four stripe'. We reduced the operator one grade by folding under the cuff and one stripe but still got called on it. We also, in our haste, neglected to remove the casters from the operators chair which again brought adverse comment. We solved the
PROBLEM SOLVERS

MAKING PAKELTEUR panels, cabinets and leatherette material look new? Buy a can of LIQUID GOLD available at most grocery stores for about $1.50 and apply with cloth. The set will look like new. (Warren Johnson, Ft. Wayne)

REMOVING TAR from an old transformer? Forget the torch or oven -- just prop the transformer on a suitable bench so it will drain and focus an infra-red heat lamp on it. Heat can be controlled by distance between the two. About 15 minutes for an AFT at 6". It works great. (Jane Upton, Salt Lake City)

PHILCO CATHODAL sets (pre-WWII) are becoming popular but not for operation use since both paper and electrolytic condensers usually require replacement. To retain original appearance, the paper "caps" in metal cases can be easily replaced by removing the potting and replacing insides with Sprague "Orange Drops" which fit very nicely. Not so with electrolytic filter condensers such as wet "Mershone". Here I removed the cans from chassis, hacksawed a narrow cut to relieve stress on top cap in order to remove. After removing the top cap, saw off top about 1/2" down, loosen bottom stub and push out aluminum cathode. A little ingenuity, careful selection of modern replacement and replacing original top will yield a working set like the original. (Charles Day, S. Dartmouth, Mass.)

SUMMER MEET

The Antique Wireless Association Regional Conference and The Indiana Historical Radio Society Summer Meet

Saturday, June 22 - Purdue University West Lafayette, Indiana

PROGRAM

Purdue Memorial Union (Stewart Center) Room 206

8:00 A.M. REGISTRATION -- Coffee and donuts served. Old gear booths open.
9:00 A.M. SWAP SESSION -- Bring your old receivers, tubes, books, etc.
11:00 A.M. Room 202

"THE FIRST AMATEUR -- MARCONI"
An illustrated show on the life of Marconi and commercial interests to 1921. Script and photography by Lincoln Cundall, W2QY assisted by the Official Historian of the British Marconi Co., Chelmsford, England.

12 Noon LUNCH The Union Cafeteria is available.

1:00 P.M. OLD TIME RECEIVING CONTEST

CLASS I Best reproduction of early gear built before 1922.
CLASS II Best radio tube display.
CLASS III Best older radio headphones.
CLASS IV Best portable pre-1930. (Must be operating)
CLASS V Best spark transmitter part of commercial manufacture.
CLASS VI Best scientific or wireless instrument pre-WWI.
CLASS VII Best Telegraph Instrument (landline or wireless)

Room 206 Serge Krauss, Chairman

1:15 P.M. LADIES PROGRAM (Room 202)

1:30 P.M. THE RADIOLA STORY OF THE 1920's (20 minute show, Room 202)

"100 YEARS OF TELEGRAPH AND RADIO KEYS" Large display of keys used by landline telegraphers, ship and amateur operators. Their development and use told by Bruce Kelley, W2ICE, ex-6ACY.

5:00 P.M. Shop-talk and gab-fest for collectors and radio "hams".

6:00 P.M. MARCONI BANQUET An evening of good food, relaxation and fun...

ADVANCE REGISTRATION: Use inclosed card and mail to Indiana Historical Radio Society, 245 N. Oakland Avenue, Indianapolis, Indiana 46201.
George Grammer’s TNT

The famous TNT shown herewith was popular in the late 20’s and early 30’s. However several changes should be made in the interest of stability and to adapt it to modern transmission lines.

C1, connecting directly to the antenna should not be used as the coupling network. To obtain a flexible system, a loose coupled coil and series capacitor may be used to feed the customary transmission line, normally a 50 ohm.

Values at C1 at resonance should be as follows: 160m. -- 900 mmf.
80 -- 450 mmf., 40 -- 230 mmf., and
20 -- 115 mmf. Coil L1 should be similar to tank coil L1 and adjusted with a clip so that resonance occurs with approximately the values of C1 above. The ground end of L1 should be adjacent to the "cold" end of L1. These coils are formed on a 2 3/8" dia. pipe or tube and are wound with 1/8" soft copper tubing. Turns spacing as follows:
80m. -- 1/8",40m. -- 3/16" Number of turns per table. Note that L1 is shown as P1.

Tune up procedure as follows: Resonate the oscillator tank L1-C2 to the desired frequency. Very loosely couple L1 to L1 and adjust the network to resonance as indicated by a rise in plate current to a peak. Increase the coupling to a point where the desired load is obtained. Do not adjust the coupling network while doing this but re-adjust the oscillator tank C2 to maintain the desired operating frequency.

Do not overload the tube. Keep the tank condenser in its upper 25% range (High-C) and the grid current down and you will have a minimum of harmonic generation. Reduce L1 if necessary. The coupling net will also help harmonic reduction.

Frequency stability is a prime factor so mount all parts solidly. Put a substantial ground on the shaft of the tank condenser. This means moving C2 to a position between the tank and plate and re-connecting the plate feed choke directly to the plate; shunt feed in other words. Use a geared drive or a small vernier condenser if you expect to QSY easily. C2 may be anywhere from .001 to .01 and C1 anywhere from .002 to .1 while C4 should range from .00025 down to 25 mmf with the smaller values preferred. Smaller values are near the stabilization point for the circuit as explained by Llewellyn in the December, 1931 Proceedings of IRE. Also juggle the number of turns in Lp.

THE CIRCUIT OF THE SINGLE-CONTROL TRANSMITTER

L1 and L2 — Plated and grid coils. The specifications are given under the illustration of the coils.

L1 — A commercial "short-wave" receiving-type radio-frequency choke will do or one can be made by winding a two-inch length of half-inch tubing or wooden dowel with No. 20 d.c. or d.c. wire.

C1 — 30000-µfd. (0.004 µfd.) mica fixed condenser, receiver type.

C2 — 3000-µfd. (0.004 µfd.) mica fixed condenser, receiver type.

if plate voltage does not exceed 600.

C3 — 500-µfd. (0.006 µfd.) mica fixed condenser, receiver type.

C4 — 500-µfd. (0.006 µfd.) mica fixed condenser, receiver type.

C5 — 500-µfd. (0.006 µfd.) variable condenser. Any good receiving condenser will be satisfactory.

R1 — Center-tapped resistor, 75 to 100 ohms total resistance.

R2 — Grid leak resistor, 10,000 ohms. Any small resistor rated at 6 watts or more will do.

Two General Radio or similar stand-off insulators will be necessary, as well as 7 Pickautoch clips, some miscellaneous small machine screws and nuts, and a fine feel of bus wire.

Good keying is possible with amount of care. Of greatest importance is a good power supply having good regulation and brute force filtering. If an adjustable supply is available, so much the better. Use a heavy bleeder in any case.

Now a few tricks. R1 which was originally intended to provide a balanced hum suppressing center-tap on the filament source can be used to provide protective bias and compensating keying bias. It should consist of two 2000 ohm resistors or better yet, a 4000 ohm resistor with a slider for hum balancing. 5 or 10 watt resistors are OK. This provides an effective 1000 ohm cathode
bias resistance and in case the oscillator quits, its plate current won’t rise to catastrophic values. Remember, that the voltage drop across this resistance subtracts from the plate voltage and provides part of the grid bias in Class C operation. The balance of grid bias is developed in the grid leak. Exact values can be figured from tube tables; however, 1000 ohms is close enough for a 210. Likewise, 500 ohms effective (two 1000 ohm or a 2000 ohm with slider) is about right for a 1/5 tube....

This automatic biasing system helps stabilize the oscillator frequency while keying because the plate voltage fluctuations cause bias compensation and also tends to eliminate key clicks. Clicks can be further reduced by connecting a 2 to 5 mfd. condenser and a 200 to 500 ohm resistance in series with the key. By juggling the ratio R1 to R2 and adjusting the values of the click filter across the key, that “screetchy” DC note that clean keying can be attained which will make the signal sound crystal controlled. It has been done -- even with 100 watt oscillators.

Next in our series is a Hartley oscillator followed by a crystal controlled circuit, then amplifiers and different tube combinations. Look over the junk box or start trading for needed parts and join in the fun.

CONGRATULATIONS

to ED RASER, W2ZI on his receiving the MARCONI MEMORIAL GOLD MEDAL at the Annual Banquet of the Veteran Wireless Operators Association (N.Y.C.). This highly coveted award reflects a lifetime of outstanding professional service in the field of radio.

WITH THE COLLECTORS

A.W.A. welcomes another collector with an unusual interest: logging and collecting verification cards from broadcast stations operating between 530 to 1650 kcs. Dave Thomas (Tampa, Fla.) may have the world’s record in this field: 136 countries! Since 1923 he has collected nearly 5000 verifications from broadcast stations! A book on the subject may be in the offing.

Thomas has another interest—studying the effect of solar eclipse on radio transmissions. He has participated in person or assisted in eclipse expeditions to Africa and Australia.

FESSENDEN'S HATTERAS STATION

Early wireless historians will be pleased to know there is a campaign by residents of Hatteras Island to lease land from the county on which Reginald Fessenden’s station stood. They plan to reconstruct the wireless shack and have a small community park on the site.

Fessenden did much of his original work at this location between 1900 and 1905 where he transmitted signals from a 50 foot tower to a similar structure at the north end of Roanoke Island.

(Tom Jeffries, W8FP)

REMINDER

A.W.A. Summer Meet at Purdue Univ. on June 22, West Lafayette, Ind. See announcement elsewhere in Bulletin. Lots of activity....
After WWI valve manufacture was continued on a small scale by the three companies who had made most of the valves used by the British armed forces during the war. These firms were: The British Thompson Houston Co. Ltd., The General Electric Co. Ltd. and the Edison Swan Electric Co. Ltd. using the brand names B.T.H., OSRAM and EDISWAN respectively. In each case the company concerned was a large electrical manufacturing organization having its own lamp factory where the radio valves were produced.

The EDISON SWAN ELECTRIC Co., Ltd.
Contractors to H.M. Admiralty, War Office, Royal Air Force,
123/125, Queen Victoria Street, E.C.4, and
71 Victoria Street, S.W.1.
Works: Founders End, Middlesex.

As in the U.S., there was little demand and thus little development in valve manufacture in the period between the end of the war and the beginning of broadcasting. The first significant move in the industry came with the establishment in 1919 of the Marconi-_osram Valve Factory (M.O.V.). This was a jointly owned concern set up by Marconi’s Wireless Telegraph Co. and the General Electric Co. (no connection with G.E.C.). Initially valves were produced only for Marconis, but later when G.E.C. commenced receiver manufacture in 1923 the brand name OSRAM was added.

Another post-war manufacturer was the Western Electric Co. Ltd. although this firm’s products were initially made by Mullard and sold under the brand of WECOVALVE. In 1925 British Western Electric Co. became Standard Telephones & Cables Ltd. and henceforth used the brand name STANDARD. As in the U.S.A. production was confined to telephone repeater and transmitting types with one or two exceptions. American designs and type numbering were used but the British products were identified by the prefix "d" added to the type number. For example: 215A became 4215A.

In the following year (1926) a short lived venture into the field of domestic radio was entered into with the Birmingham Small Arms Co. (B.S.A.) whereby S.T.C. contracted to provide valves for use in B.S.A. receivers. Such valves were branded B.S.A.-STANDARD and are now collectors' items owing to the short duration of the enterprise (about one year).

Another large electrical firm entering the field was Metropolitan Vickers Ltd. who produced valves under the name COSMOS. Once again we have an example of a short-lived venture as production of radio equipment ceased after little over five years. In this case cessation of production was not due to failure of an enterprise but a change in policy resulting from an important merger of three of the largest companies: B.T.H., Met-Vick and EDISWAN.
in 1928. This merger resulted in the (A.E.I.) and a policy of rationalization of manufacturing activities was soon put into effect. By 1929 all valve production was confined to Ediswan who then introduced a new brand name of MAZDA for receiving types whilst retaining EDISWAN for transmitting types.

Apart from these large organizations only two independent manufacturers succeeded in establishing themselves in the industry. These were Mullard (1920) and A.C. Cossor Ltd. Both became leading manufacturers whereas other smaller independents had been unable to survive much later than 1926.

One other firm whose valve production was of very short duration was Burndez Ltd. This company was unique amongst smaller receiver manufacturers in that it set up its own valve making division. September, 1925 was the date, but in little over a year valve production had ceased.

Another short-lived venture in 1925 was the establishment of a valve factory by Cleatron Radio Tube Co. of New York. The British company was known as Cleatron Ltd., and it produced distinctive designs showing little American influence. However, as Cleatron was a foreign-owned firm it was denied entry into the recently established British Valve Makers Association (B.V.A.) which made it difficult to compete successfully in the British market. Production ceased in 1929.

By far the most notable event in British valve making history occurred in August, 1925 when the Dutch firm of N.V. Philips Gloeilampenfabrieken was able to secure a foothold in the British market by the purchase of half interest in the Mullard Company. Production of Mullard valves continued as before but the Philips main claim to fame in those days was the invention of the pentode valve in 1928. Although it was not an immediate success it was to have far-reaching effects in receiver manufacturing throughout the world. Quite apart from the pentode, Philips' move was to have ramifications which are still being felt today, not only in the British electronics industry but throughout the world.

For the benefit of tube collectors, the following are some brand names which were on the market between 1920 and 1930. With the exception of Amplion, Benjamin and Six-Sixty which were not made by the owners of the brand name and Loewe which was German owned, all were the products of small independent manufacturers, not one of whom survived into the thirties:
AMPLION, ANELOY, BURNDEPT, CLEATRON, DEXTRAUDION, LOEWE-AUDIOX, LUSTRAVOX, LOUDEN, NELSON MULTI, OCTRON, RADION, S-T, SIX-SIXTY and VOLTRON.

Most Powerful TV Station

WTAF-TV in Philadelphia recently went on the air with five million watts of effective radiated power with a RCA 165 KW transmitter and high-gain UHF gylon antenna. It was noted that while other stations have five-megawatt capability, WTAF-TV is first to radiate that power—the maximum permitted by the F.C.C. in an omni-directional pattern.

FOOTHILL MUSEUM
Spring Meet
SMASHING SUCCESS!

Coverage on our first California Meet is limited since this copy was sent to the printer immediately on return from the West Coast. Full details in next OUTB. A big THANKS to Thorn Myres, Paul Giganti and Dave Brodie for an outstanding event..... (E.K.)
TUESDAY SSR NET at 8:00 PM has changed over to 3965 Kh after struggling with impossible QRM on 3902 for some time. Frequently the Net broke up and disappeared. Due to the distances covered, the various antennas and power used, there are times when a transmitting station may be unheard in some areas and a non-member station may jump into the hole and start a QSO. For these reasons transmissions MUST be kept SHORT!!! It might be better to take more than one or two turns or to direct short comments to a specific station under permission from Net Control. Let us keep operation in the efficient pattern of smart operators.

THE CW NETS are getting to be a high speed bug, side-sweeper and key-board nets because most of the men are old timers at it. The new-comer may feel frozen out and justly so. If you can't copy some of the stuff, don't hesitate to join at your own speed, we can all slow down or increase spacing so it's comfortable. That's just good Ham Radio. It would help if the slower men join at the beginning of the Net so we all know you are there, rather than have the speed artists proceed unknowingly to gab away.

LAST YEAR we missed hearing W0TRY, Dick, in the OT Xmr Contest but now he has asked for a 3584 Kh xtal. SU on the Net?

ART, W1DM, roars in on the 4 PM Net with his new antenna and we hope to hear that good old 1925 xmr again soon with it vague 500 cycle note.

TED SCHEEYER, W4TH, started something with his report on a 50th Anniversary QSO. Many who have followed suit are not satisfied with one 50th contact but have tried for many because of the fun of renewing old friendships. The eager beavers include W4LV, W9AQ, W5CP, W9EZG, W5DC and W9DU. W9AQ leads with 5 contacts. W6LM and W6SHRI hold the record of the oldest Anniversary QSO, 61 years and they carry the thought one step further. They make one official Anniversary contact each year and as many others as possible -- sometimes two or three a month. Al, W6SHRI is 82 years and old Sam (W6IM) is 80 and they are both shooting for 100!

OUR CORRESPONDENCE uncovered a real piece of Public Relations for Ham Radio. W9CP, Ralston, and W9LC, Willis, received a nice write-up in the Times of Hammond, Indiana for their 53rd Anniversary QSO. These old friends make frequent contacts and promote friendship between other old timers. Congrats. Ralston's picture graced a page of the Dec. 11, 1973 Times as he and W9TH were celebrating their 52nd Anniversary QSO. The pix shows a Bunnell Gold Bug near the mike.

WHEN CONDX are right, our southern friends, Lew W4BET from S.C. and Rex, W3EFX/4 check into the Tuesday 8 PM 3865 Net. Besides enjoying the Florida sun, Rex has been collecting some Fb Pocano Museum and codgitatin' up a slide show for Bruce which will appear soon at one of our Meets.

PRESIDENT Chuck Brelsford, who has been vacationing in Tucson as K2WW/7, has spread the AWA word throughout the Southwest. He and Jim, W7JER, put on an Old Timers Nite in Tucson which thrilled radio club members. Gross, W0EKM, kept a schedule with K2WW on 15 but we could not seem to get thru from here in the East as skip was generally too long.

OSCAR 7 Satellite, or more properly Spacecraft, is competing with AWA. Bob, W2LV has forsaken his Atwater-Kent project and Audion activities for DX hunting via orbital repeater and can be heard on 29460 or thereabouts whenever it is overhead. His 2 meter PA is landing him many DX contacts. FB! From Spark to Space ala VE5AA.

OT TRANSMITTER CONTEST -- results are not all in yet but it promises to be the best one yet with many new stations participating. don't forget to send me your score sheets..
A Pictorial History of Radio

Historical slide/tape shows made by the Association have been hitting a new high in the past few months. Chuck Brelsford presented 120 YEARS OF BRASSPOUNDING at the "Old Pueblo Radio Club" (Tucson, Arizona) the GOLDEN TWENTIES was featured at the California Meet and the Schenectady (N.Y.) Radio Club and word comes in from A.R.R.L. that the several AWA shows they loan out to affiliated clubs are in constant demand including THE FIRST 30 YEARS made 15 years ago!

In fact, on one occasion a show wasn't returned to Headquarters (THE WORLD ABOVE 50 MC.) and the League requested another copy from the master tape because of demand.

These shows are not available from AWA. Masters are NOT loaned and most other AWA shows require special dissolve projection equipment.

HELP!

Edward May recently acquired an interesting old set made by RADIO PRODUCTS MANUFACTURING CO. of Chicago. He has been unsuccessful in finding information about this company. Can anyone help? Write: Ed May, Lovell & Elm St., Shenandoah, Iowa 51601

PHILCO

Ed Allison (Sacramento) has three Philco "F" eliminators with poor rectifiers cells. He has sought in vain the liquid ingredients for the jars. Can anyone help? Chemicals? The power supplies were popular in the mid and late 20's and were usually housed in a brown metal perforated box. There were two models -- one an "A" & "F" supply and the other just providing "F" voltage.

Who's Who

Three men who won the Nobel Prize for their work in inventing the transistor were recently inducted into the National Inventors Hall of Fame, a project established last year by the United States Patent Office.

John Bardeen, Walter Brattain and William Shockley, who shared the Nobel Prize for Physics in 1956, will join the only other member in the Hall of Fame, Thomas A. Edison.

Alexander Graham Bell and Eli Whitney also will become members.

(Rob Cobleigh, W2NX)
The cartoon taken from the 1907 Commercial Telegraphers’ Journal.
Only after a long bitter strike did conditions improve for the old time telegrapher who worked a 12 hour day for minimum wages.

**NEW GEAR AT A.W.A.**

**HISTORICAL TAPE** on founding of A.R.R.L. by Clarence Tusa -- W4ZM
KEY -- Everett Berry
FEDERAL RECEIVER -- Bob Holmes
MISCELLANEOUS -- KG2BB, W2QD, W2CTB

40 YEAR OLD VHF 2XTR

The group at Holcomb had a pleasant surprise recently when they received a self-excited oscillator of 1934 vintage from Pete Borski. Homemade VHF gear of this period is quite rare since most hams junked equipment of this type for in time it became illegal. A breadboard affair, it uses two tubes in push-pull and tunes the 56-60 mc. band. Quite a departure from a slick solid-state transceiver now used for repeater work!

Vacuum Tube Lightning Arrester
For Receiving Stations
DO YOU KNOW THAT

The following excerpt is from a book titled MODERN RADIO OPERATING printed in 1922. While thumbing through the book, Bill Orr, W6SAI, came on this interesting explanation, how a vacuum tube works. Its great reading until you get near the end, then you say "How's that --- ?" --- and read it again. So you think present day solid state theory is rough -- go back then 50 years and see what they went through.....

**Tube Fundamentals**

When electrons are emitted by the filament and form a path through the space of the tube to the plate, this path becomes a conductive medium, and allows a certain amount of current to flow from the plate to the filament. This flow is known as space current and can be measured by means of the proper indicating instruments. The space current is a direct result of the plate circuit voltage applied to the tube. The circuit, therefore, begins at the positive and negative poles of the generator, or battery, employed as a source of "high" potential, the positive is connected to the plate of the tube, the negative to the filament and the circuit is completed through the space in the tube between the filament and plate which, as has been explained, is made a conducting medium by reason of the electron flow from filament to plate. This electron flow occurs, of course, only when the filament is made incandescent and a source of high voltage impressed on the plate and filament, and, as above stated, this electron flow takes place in the opposite direction to the plate current flow. In other words, the space current of the high potential plate-filament circuit flows from plate to filament; the electrons flow from filament to plate. The electron flow, which consists of a stream of negative ions released by the filament when in a state of incandescence, while of prime importance in the operation of a tube can be ignored insofar as ordinary operation is concerned, as it is an action which takes place automatically providing the tube is properly operated.
Don’t worry—

Grid Leak Drip Pan

The exact value of the grid leak has always been a question amongst authorities and yet this simple device easily settles the question for all time. Consider a two megohm grid leak installed with a Muter Grid Leak Drip Pan, in a position requiring a three megohm grid leak. One megohm immediately drips into the pan which with the value of the grid leak itself gives the proper value of three megohms.

Close-Up

On a recent visit to A.R.R.L. Headquarters I noticed a memorial plaque prominently displayed which read:

Museum of Amateur Radio
Dedicated to the Memory of
ROLAND B. BOURNE, W1ANA
Curator 1963-1972

(Bob Wright, W3KHI)

YUGOSLAV HONORS NIKOLA TESLA
Serbian-Born Inventor Will Be Subject of a Film
(Headlines from New York Times)
Nikola Tesla was honored at a recent film festival held in Belgrade, Yugoslavia (Tesla’s birthplace). Plans are being formulated to make a film on the life of the inventor of the system of alternating current and other inventions. There is a very active Tesla Society in Yugoslavia as well as a museum bearing his name. (Bob Cobough, W2NX)

JIM RUSSELL CATCHES AN ATWATER KENT

—and we mean it literally! Jim (W3BU) reports that while fishing about 1/2 mile offshore (Lake Erie) his line acted "kinda funny". There was give, so he reeled it in and hooked on the end was the chassis of an old Atwater Kent battery set. We believe this is the prize catch of the season. Jim hasn’t decided whether someone in a fit of rage threw it in the lake 50 years ago or if accidentally slipped off the fantail of a passing freighter....

ATWATER KENT

CTB 14-2-10 tells of a new company manufacturing stereo equipment using the name ATWATER KENT. This was a bit of shock to AK buffs. Word has been now received (March 19, 1974) that the Kent family, through the efforts of their lawyer, have prevented the entrepreneurs from "using the name".