ANYBODY COPY MARS LATELY?

In this age of space travel and communication, it is interesting to look back and see what some of the "greats" were thinking a generation ago. These two clippings were copied from the December 1937 issue of Hugo Gernbeck's SHORTWAVE & TELEVISION magazine and illustrates a slight difference of opinion. What do you think?

Dr. Lee de Forest's Opinion on Signalling Mars

IT has been quite conclusively demonstrated that ultra short radio waves, in the neighborhood of 5 meters or less, are ordinarily not reflected by the Heaviside-Kennelly and other refracting layers of the upper atmosphere but ordinarily traverse these. Especially is this true if the wave is directed vertically.

It is therefore probable that such ultra high frequency waves can be directed by means of a parabolic reflector in the direction of Mars, when that planet is near the zenith. The question then is—how much power would be required to transmit signals from such a source to the distance of Mars from the Earth?

Then comes the question as to whether or not the weak signals arriving could penetrate the very dense atmosphere surrounding Mars. Then admitting that a certain extremely small fraction of all projected energy should penetrate the Martian atmosphere, have the inhabitants of Mars a sufficiently sensitive detector and amplifier system to pick up these Earth signals? A yet more important question is whether or not Mars is inhabited by intelligent beings. Current astronomical evidence and opinion now seem to be overwhelming against the probability of there being any such life on Mars; however, there is sufficient contrary opinion to permit us to induce, from time to time, in such idle speculation as I have here set down.

It seems certain that if Martians exist and are attempting to signal the Earth, there is not the slightest evidence of this fact.

Nikola Tesla's Opinion On Martian Communication

NIKOLA TESLA, one of the greatest electrical and radio inventors of all time, recently made the statement that he believed that he had heard signals from a distant planet, nearly forty years ago.

In about the year 1899, he was making a series of careful listening tests on short waves, when he heard a series of signals which had a peculiar measured cadence, and which were repeated many times. Dr. Tesla's interpretation of these signals was that they spelled out—"1-2-3-4," etc. It is his opinion that if these signals had been sent by Martians, they had used numbers in an attempt to establish communication with the earth, for the good reason that numbers constitute a very broad universal language.

Dr. Tesla was one of the earliest investigators of short-wave phenomena, and, about fifty years ago—even before the year 1890—he was producing short-waves in his electrical demonstrations by means of his high-frequency Tesla coil. Without a shade of doubt a great part of the credit of the early establishment of radio should go to Dr. Tesla. His early patents and scientific papers establish a record of the remarkable work he did long before the dawn of the century. His opinion on the possibility of communicating with Mars is, therefore, of more than usual interest.

(Ed. note: SHORTWAVE and other magazines of the 30's are becoming rare. The amateur collector is particularly interested in Gernbeck publications since he printed unusual news items as well as technical articles-WALNAU.)
MINUTES A.W.A. ANNUAL BUSINESS MEETING  
Nov. 17, 1968  
W2RTH, Victor, N.Y.

Meeting called to order by Pres. Batterson. Roll Call indicated 9 of 13 Officers and Directors present plus several members. The Secretary read the minutes of the 1967 Board Meeting. Motion by W2QY they be accepted, 2nd by W2GMN. Approved. W2GB discussed the Association's incorporation papers and the tax exempt status. W2XW reviewed incorporation problems of local Rochester club. It was determined that the original Trustees of the corporation had the power to establish the first official election after incorporation. The following Officers and Directors were nominated and elected after W2RTH made a motion, 2nd by W2GMN the Secretary cast one vote for the slate as presented.

<table>
<thead>
<tr>
<th>Office</th>
<th>Name</th>
<th>Tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESIDENT</td>
<td>Geo. Batterson</td>
<td>2 years</td>
</tr>
<tr>
<td>VICE-PRES.</td>
<td>Charles Brelsford</td>
<td>1 year</td>
</tr>
<tr>
<td>SECRETARY</td>
<td>Bruce Kelley</td>
<td>1 year</td>
</tr>
<tr>
<td>TREASURER</td>
<td>Lincoln Cundall</td>
<td>1 year</td>
</tr>
<tr>
<td>DIRECTORS</td>
<td>Jack Armstrong</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>Ken Gardner</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>Joe Marsey</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>Henry ElIDGET</td>
<td>2 years</td>
</tr>
<tr>
<td></td>
<td>Harold Smith</td>
<td>2 years</td>
</tr>
<tr>
<td></td>
<td>Harry Lott</td>
<td>2 years</td>
</tr>
<tr>
<td></td>
<td>Clarence Dengler</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Larry Triggs</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Dex Deeley</td>
<td>3 years</td>
</tr>
</tbody>
</table>

Info on three new Directors:
Harry Lott, W2ARNX, engineer and Official Historian for Stromberg-Carlson Tele.
Joe Marsey, W2EMX/W2UDV, radio sales and representative for past 45 years.
Hugh Deeley - former radio attendant and Internal Auditor for U.S. Air Force.
Harry Lott, W2ARNX, was named Official AWA Photographer.

The Annual Treasurer's Report showed a balance of $1203.20 after current bills paid. W2QY called to the Board's attention that this sum was far greater than previous years but quickly pointed out that most members are now paying their dues on a 2 year basis. The above sum had to be stretched over a longer period of time.

New Business: The Board approved the new restrictions on membership and discussed some questionable practices among certain members. Approval was made to pay a sum of one dollar ($1.00) for museum facilities. Motion by W2RTH, 2nd by W2XW, the A.W.A. accept invitation to hold the 1969 Annual Historical Conference at the New England Wireless Museum. Motion by W2UX, 2nd W2QY, to hold the 1970 Conference at Dearborn. Motion by W2YTH, 2nd W2YTM, the A.W.A. join the American Association of Museums. Meeting adjourned at 5:30 P.M.

Submitted by W2RTH.

QRS

Is a familiar name to the collector of player piano rolls... in fact, one can still buy them... but I wonder how many know the same company once made radio tubes back in the 20's?? There were two common types: a cold cathode type rectifier closely resembling the BH (3 sizes of different current capacities) and a triode. The latter could be recognized by the large red label QRS... now a real collector's item.

Coto-Coil Inductance Units
SEPTEMBER, 1922

<table>
<thead>
<tr>
<th>Size</th>
<th>Inductance in mh</th>
<th>Capacity in mH</th>
<th>Length</th>
<th>Mass Length</th>
<th>Mass Length with 300 mt</th>
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<tr>
<td>25</td>
<td>.63781</td>
<td>26.80</td>
<td>60.0</td>
<td>133</td>
<td>379</td>
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<tr>
<td>35</td>
<td>.67810</td>
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<td>92.4</td>
<td>192</td>
<td>332</td>
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<tr>
<td>50</td>
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<td>140.0</td>
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<td>748</td>
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<tr>
<td>50</td>
<td>.1690</td>
<td>28.55</td>
<td>179.0</td>
<td>386</td>
<td>1062</td>
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<tr>
<td>100</td>
<td>.3614</td>
<td>35.98</td>
<td>288.0</td>
<td>527</td>
<td>1438</td>
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<tr>
<td>150</td>
<td>.52915</td>
<td>21.18</td>
<td>312.0</td>
<td>771</td>
<td>2160</td>
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<tr>
<td>200</td>
<td>2.219</td>
<td>18.98</td>
<td>383.0</td>
<td>1094</td>
<td>2838</td>
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<tr>
<td>250</td>
<td>3.450</td>
<td>22.76</td>
<td>528.0</td>
<td>1372</td>
<td>3570</td>
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<td>300</td>
<td>6.702</td>
<td>18.72</td>
<td>672.0</td>
<td>1739</td>
<td>5915</td>
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<tr>
<td>400</td>
<td>9.00</td>
<td>17.21</td>
<td>742.0</td>
<td>1990</td>
<td>5720</td>
</tr>
<tr>
<td>500</td>
<td>14.45</td>
<td>17.30</td>
<td>910.0</td>
<td>2515</td>
<td>7220</td>
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<tr>
<td>600</td>
<td>21.18</td>
<td>19.10</td>
<td>1284.0</td>
<td>3368</td>
<td>9280</td>
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<td>700</td>
<td>32.31</td>
<td>18.19</td>
<td>1445.0</td>
<td>3865</td>
<td>10880</td>
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<tr>
<td>800</td>
<td>48.50</td>
<td>16.65</td>
<td>1709.0</td>
<td>5200</td>
<td>14000</td>
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<td>900</td>
<td>65.00</td>
<td>12.41</td>
<td>2293.0</td>
<td>6580</td>
<td>18730</td>
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<tr>
<td>1000</td>
<td>121.00</td>
<td>17.50</td>
<td>2825.0</td>
<td>9040</td>
<td>22890</td>
</tr>
</tbody>
</table>

Ready reference for honeycomb coils provided by Lou Hardy, W2QO. More on this pioneer company (Coto-Coil) in QST, Vol. 9, Issue #1, page 6.
EDITORS' NOTE

Many years ago (Fall, 1960) we undertook the task of establishing some kind of dollar value on old gear. This was done by sending a list of miscellaneous items to most of the well known collectors at the time and having them mark down roughly what they thought each receiver, tube book, etc. was worth. Approximately 3000 members were returned, classified and averaged. The results were published in OTB, Issue 3, Vol. 2.

My Friends -- times have changed. In less than 10 years the market for historical equipment has gone up almost 10 times!! -- the only exception being the book/magazine trade where the prices have maybe only doubled. True, cost of living has risen plus the affluent age in which we live people don't mind paying high prices -- but 10 times -- you will have to admit is quite an increase.

What's the reason? -- it can't be that our incomes have gone up tenfold -- did we get some bum info to start with?? Is the stuff becoming more difficult to find? Have we reached a plateau??

The increase is universal--amateur, collector, antique shop dealer, etc... they all think alike if they're "in the know". Examples: Start with Item #1 - a Paragon NA-10. This rcrv is now selling for $50 junk and worth over $150 mint. Item #6-an IP501 is good for $250 if it is any good at all, etc. Tubes--(items #32 thru 44) vary from 200 to a 1000% increase! The deForest Audion (#37) certainly can be multiplied by 10 but not, however, the lowly UX-201A. It would appear the earlier the item -- greater the increase -- which makes sense.

We may in the future revise the entire list from current sales and publish it in the Bulletin -- it will give you something to think about. We still remember a philosophical remark made by a well known engineer/historian, "I'm pleased to see the value of old equipment go up. This means less will be thrown away and the owner will cherish his possessions that much more. This should have happened long time ago when many historical pieces were just plain junked!!"

SAMUEL S. ROBINSON, author of the famous book MANUAL OF WIRELESS TELEGRAPHY for Naval Electricians, was born May 10, 1867 and was educated at the U.S. Naval Academy.

VOL. 1 NO. 1 NOW AVAILABLE

A.W.A. has received numerous requests from members and collectors who want a copy of the club's FIRST "Old Timers Bulletin" for their historical file. The big hitch in making additional copies was the old format -- full unfolded sheets. Al Marcy, W4ID, came to the rescue and re-arranged the original issue to the present size. Since this arrangement left a blank page in the center, we lifted Kelley's writeup on the A.W.A. in May, 1959 QST and placed in the center -- and now you have it -- Vol. 1, #1 as originally printed in December, 1959 and sent out in January '60. Available at printing and mailing cost: 4¢ plus 8¢ postage and envelope or 48¢ per copy. Send me eight (8) 6¢ stamps:

LINCOLN CUNDALL
69 BOULEVARD PKWY.
ROCHESTER, N.Y. 14612

If sufficient interest is shown, we may prevail on W4ID and W2ICE to get out #2 and 3 of Vol. 1.
CLUB BADGES AVAILABLE

for $1 postpaid. These big beautiful badges are very conspicuous when worn at a "Meet" or hamfest and will immediately identify you as an A.W.A. member. Each badge has a large plastic window where you insert your name, call (if any), hometown, collecting interests, etc. Send $1 to Treasurer W2QY, 69 Boulevard Pkwy, Rochester, N.Y. 14612

SILENT KEYS

JOHN CAIN (W4MB, ex-4LX, 5ER) Nashville, Tenn. after long illness.

HAROLD SMART (W6MCC) Flint, Michigan Original A.W.A. member and participant in many club activities.

FRED PARSONS (W2EM, ex-2AMB) New York City. Adept historian with particular interest in early high power coast stations. He will be best remembered for his beautiful replicas of old "CC", South Wellfleet, Cape Cod.


WILLIAM DIVER, Clearwater, Florida Retired Officer U.S. Air Force.

Way back in the 20's a friend of Phil Cantano (W2JAV) found this hookup in a magazine. He followed the circuit with meticulous care but alas! -- the results were disappointing....

On examination the author found -- you guessed it! --- the "spigot" lying on the table exactly as shown above. Our home constructor had purchased a water faucet, wrapped wire around the nozzle and placed it on the table near the receiver!!

THE SINGLE SLIDER WITH A CRYSTAL

This is a hook-up showing the best method of using a single-slide tuning coil with a crystal detector.

READY REFERENCE LIST

Grebe Radio Receivers 1923

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR-1</td>
<td>170-680</td>
<td>1 tube regen. det.</td>
</tr>
<tr>
<td>CR-2</td>
<td>170-680</td>
<td>Tuner only</td>
</tr>
<tr>
<td>CR-3</td>
<td>150-1200</td>
<td>Same as CR-3 plus an antenna condenser</td>
</tr>
<tr>
<td>CR-4</td>
<td>150-1200</td>
<td>1 tube regen. det.</td>
</tr>
<tr>
<td>CR-5</td>
<td>150-3000</td>
<td>Det. plus 2 audio</td>
</tr>
<tr>
<td>CR-6</td>
<td>150-1000</td>
<td>1 tube regen. det.</td>
</tr>
<tr>
<td>CR-7</td>
<td>500-30000</td>
<td>Det. plus 3 stage audio</td>
</tr>
<tr>
<td>CR-8</td>
<td>150-1200</td>
<td>Same as CR-5 plus 2 step audio</td>
</tr>
<tr>
<td>CR-9</td>
<td>150-3000</td>
<td>Same as CR-5 except 3 stages of audio and mtd. in floor cabinet</td>
</tr>
<tr>
<td>CR-10</td>
<td>150-3000</td>
<td>RF, Det. plus 2 aud.</td>
</tr>
<tr>
<td>CR-12</td>
<td>200-600</td>
<td>RF plus det.</td>
</tr>
<tr>
<td>CR-13</td>
<td>80-300</td>
<td>Det. plus 2 audio using 199's</td>
</tr>
<tr>
<td>CR-14</td>
<td>200-600</td>
<td>1 tube Unit</td>
</tr>
<tr>
<td>RORC</td>
<td>Tuned RF amp, 1 tube</td>
<td></td>
</tr>
<tr>
<td>RORF</td>
<td>Det. plus 3 stage audio (3 tubes)</td>
<td></td>
</tr>
<tr>
<td>ROK/ROR/RORC</td>
<td>Same as RORF but with less controls</td>
<td></td>
</tr>
<tr>
<td>ROKAB</td>
<td>Variable coupler</td>
<td></td>
</tr>
</tbody>
</table>

You may note that the wavelengths given do not agree with your lists. For some unknown reason there appears to be a discrepancy from Grebe catalog to catalog....What's the reason?

(Info from W2QO)

1969 WNY Hamfest to be Held
May 9th, 10th, 11th

For your own information and for the information of friends who may ask, the dates for the annual Western New York Hamfest is May 9th, 10th and 11th.

The usual Hamfest proceedings will happen as usual on Saturday, May 10th at 6 Acres. In addition, this year we are scheduling activities on Friday evening at the Greenadier Hotel and on Sunday morning at the American Wireless Association Museum in Holcomb.

A.W.A. is now member of
AMERICAN ASSOCIATION OF MUSEUMS

Our interest in educational displays and historical material warranted the modest fee of joining this national organization. Notes of interests from their journal will be printed in OTB.
EXPOSED!

Why go out in the big cold business world when you can stay home and pick up a few bucks from your buddies? As a starter -- grab recent copies of popular ham magazines and scan the personal ads for fellows who want to buy or sell equipment. What beautiful mailing (sucker) list at someone else's expense! Using this information you can make up your own "flyer" of which there are several approaches or you can even sell the list -- each enhancing your pocketbook.

If you don't want to work up this kinda business which requires lotsa typing, etc. -- then try these two tricks: Using the same personal ad column, have some unsuspecting soul send you a piece of equipment on approval. Once it is in your possession refuse to pay the asking price. Claim it was broken in shipment or the owner had misrepresented its condition and offer him a lesser price than agreed on. It is surprising how you can pick up a nice piece of gear worth $100 for only $60 using this method.

If the victim gets nasty -- smash the equipment and return express COLLECT.

Now of course you can do this in reverse -- peddle your old junk as mint and insist on payment in advance. You may receive some threatening letters but they can be easily filed in the wastebasket. Warning: Confin e your activities to a victim at a distance...otherwise he may end up in your doorstep ready to belt you one...

'tuf sed.

TUBE REPAIRS

If enough interest is shown, there may be a source of tube repair available in the future according to Rodney Schrock. Repairs will consist of new filament and whatever is necessary to restore an old tube -- just like the old days when tube repair was quite common. Cost would be maybe $10 or $12 per tube.
Old Tyme Ads are free to members. Material must be over 25 years old. Please write ad on SEPARATE sheet of paper and be sure to give your name, address and zip code. If you "want something" -- better results are obtained if you have something to swap. The Association is not responsible for any transaction.

NEED: for rehab. Series-parallel switch Wilcox Type 103 or Belmor equivalent. Al Marcy, W4DF, 461-3rd Ave., Sea Park, Bu Gallie, Florida 32936

WANTED - Scott Philharmonic receiver in mint condition. George Carter, P.O. Box 11167, Winston-Salem, N.C. 27106

FOR SALE: Old time brass knurled nuts-screws; cap, wing, screw & bolt nuts. Brass machine, wood, screws; bolts, threaded rods; silicon bronze, stainless lock washers; brass/stainless flat washers, eye bolts, bronze bolts, Much more. send de Forrest's crew, cap, wing, screws; cap, wing, screws; cap, wing, screws. Have material to trade. Warren Johnson, 2001 Euclid, Ft. Wayne, Ind. 46806

WANTED: Thordarson 1/2 or 1 kW spark transformer, Benwood rotary gap or similar items. Will pay good prices. Gordon Paterson VE7WJ, 903-2246 Bellevue Ave., West Vancouver, British Columbia, Canada

WANTED: Tilt base for Hallicrafter SX-42 receiver, speakers for AK-51501 3 tube det & audio container. Have material to trade. Warren Johnson, See 3rd. Ave., Sea Park, Bu Gallie, Florida 32936

WANTED:急需 something" -- better results are obtained if you have something of paper and be sure and give your material to trade. Warren Johnson, 2001 Euclid, Ft. Wayne, Ind. 46806

SALE: Atwater-Kent Mod. 20. Make offer. Joe Young, WZYL, 717 W. Gray St., Elmira, N.Y.

FOR SALE: Back numbers, 1921 to 1948 single copies or complete volumes of QST. Excellent condition. Just what you need to fill in missing copies for your library. Very reasonable. State your needs with S.A.S.E. No dealers. Ted Duvall, Box 409-1, Forest Drive, Owings, Maryland 21054

WANTED: E.H. Scott receiver, AC or DC with or without cabinet. Also need WF amp meter for de Forrest OT-3 transmitter. Have material to trade. Warren Johnson, 2001 Euclid, Ft. Wayne, Ind. 46806

WANTED: Thordarson 1/2 or 1 kW spark transformer, Benwood rotary gap or similar items. Will pay good prices. Gordon Paterson VE7WJ, 903-2246 Bellevue Ave., West Vancouver, British Columbia, Canada

LOOKING for factory made spark transmitter with rotary gap such as Murdock, Clapp-Bastham, etc. Also interested in rotary gap. Have rare items to trade. Harry Cap, 150 Beach St., Bridgewater, Mass. 02324

FOR SALE: Why dig out the old staples when restoring your AK breadboard sets? A kit of more than sufficient new staples and eyelets to restore a set for only $2.50. Also have "boards" -- exact match to originals. Want AK components and a tube set known as the "Green Receiver". Roland Matson, KLOKO, Highland Road, Pinehurst, Mass. 01366

SALE: General Radio #274 Wave Meter and G.R. 247 cased var. condensers for old radio gear, catalogs and books. Want de Forrest panel units, loose-couplers and cased variable condensers, spark gear and slide tuners. Glen Angle, KTFN, Clear Lake, South Dakota 57226

WANTED: Greene receivers, Greene Concert Selector, Audio Amplifier, parts, ads, diagrams or literature circa 1920 thru 1927. Write: Millstream, Chelmsford, Mass., 01824

WANTED: Old AK battery and AC receivers. Have for "swap only" dupes Mod. AK-33. $10, $0, 44, 55 and several AK horns and speakers. S.B. Weidner Jr., W5QW, 1131 S. Main St., Ottawa, Kansas 66067

FOR SALE: a few pre-WWII common type tubes Canadian brand--Marconi,Rogers, etc. Make offer. 4 only - Rogers early A.C. (similar to McCulloch) @ $3.00 ea. Early Erla magnetic pickup (phono) arm with pickup with built-in volume and plug for 227 socket. Make offer. George Publow, Box 590, Picton, Ontario, Canada
FOR SALE: Kodel 1 tube port, Crosleys Tridyne 3-R-3, Tridyne 1122 and Mod. 5-50 slant panel, Eagle Neutrodyne, Grebe Synchrophase MU-1, Radiola III. Any set @ $20.00 each. Also 50 to 75 lbs. of old parts (some new) i.e.: condensers, knobs, transformers, sockets, etc. $20.00 Sell Radiola 24 (leather bad) and Fada 192 A (top peeled) @ $15.00 each. A Zenith 3R for parts $10. Chris Reismueller, WB6CZR, 9509 Oak Glen Road, Cherry Valley, Calif. 92223

WANTED: Old wireless gear, early transmitters and receivers. Have some dups for swap or will pay cash. Also need QST and CQ binders. Dave Mc Kenzie, K1SVJ, 1200 W. Macil, Indianapolis, Ind, Iowa

WANTED: early broadcast receivers, magazines, etc., info on Patterson PR-10 appreciated. All letters answered. Will be at W.N.Y. HAMFEET (Rochester) May 10. Bill McPherson, VE3CMM, 1066 Finch Ave., Pickering, Ontario, Canada

FOR SALE: 22 battery sets of various makes including Radiola III, Aerola Sr. and several AKs. Want Radiola I and VI, Radiola "Concert" and Crosley VI. Have Radiola VII-B to trade. Lauren Peckham, Breesport, New York 14816

WANTED: Early wireless items, battery sets, crystal components, de Forest spherical Audion (burned out OK) Duck catalog, etc. Not for re-sale -- wanted by new collector, Ernest Woods, WIDEZ, Beaver Meadow Rd., Higganum, Conn., 06441

WANTED: Radiola 103 loudspeaker, DB carbon microphone with transformer, dials for AK-33 and early crystal set. Art Peterson, W7CZB, P.O. Box 397, Garfield, Washington 99130

WANTED: Candelbra socket for de Forest RF4 audion control box. Will pay cash or trade equal value. Frank Atlee, K4PI, 90-31st Ave., St. Petersburg, Fla., 33706

FOR SALE: Western Electric spherical tubes 101P @ $3.00 each. Sell or swap 7" Firestone antique TV set. Works good. Rodney Schrock, 402 Lincoln St., Somerset, Penna., 15501

FIRST USE OF THE TERM "VACUUM TUBE": "A glass vessel containing air or other gas which has been rarified to a pressure at which the discharge ceases to be disruptive, and takes the form of a glow or brush-like discharge through the space."

This term was first suggested by Prof. A. J. Fleming, conceiver of the Nomenclature Committee of the Institution of Electrical Engineers in 1886.

--- John Stokes, Auckland, N.Z.
The Collector

Del Barrett is a new member in Fort Wayne, Ind. who is an ardent collector and historian. He is particularly interested in old BC station WOW -- first station in Ft. Wayne...Del is an old time employee of the Resonant Wire Co.

Norm Burton (Sydney, Australia) will be in Europe about the time you read this bulletin. He and the XYL are making an extended vacation to their original home country-- England. Norm plans to visit old Folsom site as well as several famous German pre-war I landmarks. We'll be looking for his report.

Everett Berry (Lansing, Mich.) is a relatively new collector having built up a nice collection of over 25 sets in less than a year -- everything from Grebe to a 1936 Scott!

Warren Green (WJVI) sent a beautiful color closeup of the little Kilbourne & Clark crystal set seen on page 1 of Vol. 8, No. 4. They were sold for $16.50 in 1921 and 22. Warren promises to send a little story on K & C -- a famous Pacific coast manufacturer.

Warren Johnson (Pt. Wayne, Ind.) landed a Mod. 6 AK breadboard, a de Forest OT3 transmitter plus a pair of de Forest oscillation transmitting tubes ---- all three items very rare and next to impossible to find. Warren plans to make the trip to Rhode Island in October.

Ed Crammer (ex-LWP) would like to see photos of old coastwise ships in the Bulletin. Hi, we plan to have some and as a starter the old SS CITY OF TOPEKA sent by WSPS will be printed.

Vern Thompson (W9FW) had to cancel his European trip due to death in family. Vern has added several interesting tubes and lamps to the shelves and hopes to make the Rhode Island affair.

John Caperton (Louisville, Ky.) has so many new choice pieces of gear it is difficult to keep up with him. John sent a photo of his Golden Leutz and Norden-Hasck C-10 which he plans to copy over for a future OT8. In the same batch were photos of a Marconi 106, SE-1A3 and SE-95A all of which proves he is working away from the BC field.

Glen Angler (K5DM) out in South Dakota managed to garner a Kennedy 220, a looseecoupler, 2 slide coil plus several de Forest units for his future panel job. All told, Glen now has 8 AK's -- but no breadboards...some fellows have all the luck....

Lauren Prechum (Breeport, N.Y.) has added lots goodies including a Paragon RA-10, a double slide tuner from the XYL for Xmas, etc...all on display at the Spring Meet, May 3.

Dave Mc Kenzie (K8WU) run across a mint "Marconiphone" -- a 1 tube set with amplifier. Patent dates are 1915 and 1923. Anyone have info on this set?

Ben Wood (WLOKX) acquired from Rev. Patterson (Middleton, Conn.) Hiram Percy Maxim's spark coil. Rev. Patterson is the un-named operator pictured on page 6 of "50 Years with the AERL." He was a friend of Maxims while employed by the Hartford Times newspaper as radio reporter.

Howard Bergstrom (Omaha, Neb.) writes that H.W. Dickow, former Editor of Radio is in ill health and may not be able to finish his book on early wireless pioneers.

Ross Smith (Elkhart, Ind.) found a Hallicrafter Super-Skyrider SX-5, a rare one. Hang on to it Ross because pre-war commercial receivers are now becoming collector items...

Frank Adler (KVPI) suggests some member (preferably in the Newark, N.J. area) do a little research on the "Delores De Luxe" receivers -- an unusual custom built set of the 20's--any offers?

Gay Emmer (Breesport, N.Y.) is still experimenting with early recording devices. A Radiola VIII joined his restoration efforts.

L.J. Schindler (WJBDX) wants info on the RCA UX-274. Sounds like a rare one, supposedly a 5 v. triode made in 1927.

Ted Hannah (K3CUT) picked up a couple early Western Electric Red Label "BLUE BELL" dry cells which have a rectangular carbon rod protruding from the top. Can anyone guess their age? Maybe about 1915?

Jack Nelson (W5FW) has been trying to stay clear of collecting--but he has finally succumbed and admits he has a few old sets. Jack has his eye on an old Grandfather clock radio -- better grab it -- they're rare.

George Stahrn (Iatrobe, Pa.) is another who landed an AK-10 very reasonable -- making two in his collection. George finds antique shops are a good source providing the propprieter is reasonable. At another location he loaded his car with all kinds of early receivers plus 300 magazines. You gotta keep looking.
JACK GAY (W5JHV) is currently working on his booklet "Bits of Wireless History". More info in future QST.

RUSS WOSLEY (N. Adams, Mass.) is still in there working on his hi-fi classics. Russ also has other interests including antique cars. We're counting on him to bring a couple receivers to exhibit at the Rhode Island Conference in October.

RALPH BARNETT (WY UT A) tells us he now has over 200 battery sets of the early 20's, 13 crystal sets and 32 A.C. sets before 1930 made by 67 different manufacturers. In addition he counted up 75 cone and 50 horn speakers. WOW! Ralph thinks he should start thinking about another hobby. hw abt chasing DX?

CHARLES CLOSSON (San Jose, Calif.) is another who proves there's lots of activity on the coast. In the past year he acquired a Kennedy 311, a couple Kennedy 525's, a Magnus regen., etc. Of particular interest was an Army BC-144 made by Wireless Speciality Apparatus in 1928 using four VT-5's.

MEL COMER (Andmore, Pa.) tells us he has compared Paragon to Grebe -- set for set -- and he will take a Paragon for performance. Here's a fellow who gets the sets in operation!

LOI MORGAN (WB6EBO) reports she's real busy (Elltor QST YL Column) but not too busy to drop her interest in Morse Instruments -- particularly semi-automatic keys which may sometime make a real good story. Lou would like to see an AWA meet out West sometime.

ROLAND WATSON (KLOKO) find more enjoyment in restoring than collecting old sets or operating his ham rig. He plans to show some of his craftsmanship at the National Conference.

ANDY CHAPLER (W5TE) built a beautiful table-top model of his 1914 home complete with flat-top antenna, mast and guywires -- plus trees and grass.

WAYNE NELSON (W4AA) now has part of his fabulous collection in a traveling van which can be driven to hamfests and conventions for everyone to admire -- a wonderful idea. Wayne promises to send a photo for the next QST.


JOSH SCHNEIDER (W6JHE) has been looking all over for an AK-10R. He finally found one -- you guessed it -- only a 1/4 mile away down the road. Set complete with tubes and speaker for $2.

EARL DRINKER (W6KMW) has just completed restoring an FT-500 and just acquired a de Forest Reflex D-10. He wants to know if anybody knows when and how the POLLY ROYAL -- a set his folks once owned around 1925. (W6KMW, Box 736, Taunton, Mass.)

BOB MARGER (W2ZJ) plans a trip to New Zealand and Australia later this month (March) to supplement their ib safari to Europe last year. BO hasn't been neglecting the collecting business however with another Marconi magnetic detector, a de Forest "Replusco" and matching "Syntonizer", de Forest Audion box CF-122A plus many other goodies including another rotary spk set...

More About Morse's Home

As mentioned in earlier issues, Morse's home (located in Poughkeepsie, N.Y.) was designated a National Historic Landmark by the Department of Interior. However, somewhere along the line there was a lack of communication and the plaque outside the building gave very little -- if any -- information. Hearing of this, the New York Chapter of the Morse Telegraph Club raised funds for a suitable bronze plaque bearing the following information. (Info from W8TW and N.T.C.: "Dots & Dashes")

SAMUEL F. B. MORSE
FATHER OF THE TELEGRAPH
BUILT THIS HOUSE
LOCUST GROVE
IT WAS HIS SUMMER HOME
1852 to 1871

New York Chapter
MORSE TELEGRAPH CLUB
1968

Page 9
Part Of Franklin Atlee Collection

Here's a member who retired to Florida and managed to hang on most of his collection -- at least the more significant items. Originally from New Jersey, Frank now displays some interesting gear at his St. Petersburg QTH. At random, we picked out some rare AK's (his speciality) plus many other "goodies" as we examined the photo. At far right on top we see a Dolores Deluxe BC set in a glass case and several DB mikes. The upper shelf holds an Audion detector and a Kilbourne & Clark crystal set. The second shelf holds a Signal Navy Type loose-coupler and a 1919 Audion control box. The center case has several fascinating things which are kind of hard to make out such as rare detectors, keys, spark gaps and condensers. K4PI (ex-K2PI) has had several nice writeups in the local newspapers, "Antique Trader", SGT, etc.

FRANKLIN MAST CARD -- Several beautiful (and quite original) cards were received at AWA HQs. this past Xmas. After careful selection the award goes to Warren Green, W7JY, for his Kodachrome picture of gifts under a tastefully decorated spruce tree. Sharp as life were all the ingredients of a pre-WWII ham wireless station: large shiny OT, Blitzen ½ kw. spk xfmr, straight spk gap on porcelain, large straight lever key, loose-coupler, Murdock variable and crystal detector. Oh yes, back under the branches could be seen several copies of MODERN ELECTRICS...

HELPFUL HINTS IN RESTORING ATWATER-KENT receivers will be a feature in the next QTR. Roland Matsen, K6KO, will tell how to obtain and mix some of the paints and finishes so hard to duplicate.

AWA Nets

PHONE

Every Sunday - 12 Noon
3890 or 3885 Kc. depending on conditions. AM or SSB.
CW
First Wednesday each month.
6 P.M., E.S.T.
3580 Kc.

MURDOCK CORP.
is still very much in business according to Don Guptall, WA40G. Their QTH is: 158 Carter St., Chelsea, Mass.

Page 10
On Review


In this book, the second of a three volume series, Mr. Barnouw recounts the development of the networks. Though the emphasis is on the business, programming and regulatory sides of broadcasting, there are some good but brief profiles of such men as Armstrong, Croasley and Farnsworth. The book concludes with the beginning of television broadcasting, the development of which will probably be the subject of the concluding volume of the series. (Reviewed by K3CUI)

THE EXPERIMENTS OF HENRICH HERTZ - part of the EARLY HISTORY OF ELECTRONICS in the I.E.E.E. Spectrum, December, 1968. This article is a continuation of the series in the "Spectrum" and covers the biography of the grand-daddy of them all - more so since certain people prefer the expression "Hertz" to cycles...

TWENTY YEARS OF TRANSISTORS is a three page article in the Dec. 14, 1968 issue of SATURDAY REVIEW. Hard to believe transistors are already historical - and to have an article in a literary magazine!

ELECTRONICS DIGEST mentioned on page 15, Vol. 8, #3, has proven to be an excellent magazine. We've seen several copies of this magazine and find the historical articles "tops". Well written and illustrated, the Editor has done a fine job in covering the communication field. Subjects include early wireless, Morse telegraphy, early TV devices, etc. Available in the "Radio Shack" stores or one may subscribe direct:

Electronics Digest
2615 West 7th Street
Fort Worth, Texas 76107

FINAL VINDICATION OF EDMUND H. ARMSTRONG in Feb. issue of FM GUIDE is last and revised chapter of Lessing's book "MAN OF HIGH FIDELITY". Entire book released this month (March) as paperback for $. Top buy for 1969. More on this later...

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S.R. MULLARD, British radio tube authority, was born in 1884. He first served as head of the Elison & Swan research lab where he developed the Pointolite arc lamp. After the war, he founded the Mullard Radio Valve Company.

Steamship CITY OF TOPEKA of Pacific S.S. Co. (The Admiral Line)

50 Year Reunion of Three Former Shipmates held at Wohler Home, Sebastopol.

Three former shipmates gather at Wohler Home, Sebastopol, Calif. for a 50 year anniversary reunion from 1918 to 1968.

The above headline appeared in a local paper a little while back. Earle Wohler (W6FS) was the host to his old buddies Josiah Knowles and Walter Lachett. Of particular interest was that all three were former radio operators on the SS "City of Topeka" 50 years ago - and signals from this ship were duplicated by W6AX and sent at the recent 1968 ANA Conference at the Smithsonian call letters: WGY.

PROSPECTIVE MEMBERS

First must obtain application form from either the Secretary or Treasurer. The application must be properly filled out with signatures of two A.W.A. members of good standing and sent to the Secretary who will place it on the waiting list. On approval, the applicant will send $2.75 to the Treasurer. New members will not be allowed to pay dues for two years. Over 15 applicants were refused membership through lack of endorsement. Why the need to have someone sponsor a prospective member? It is a story in itself - and an unpleasant one we might add.

SUGGESTIONS WANTED

For the 1969 HISTORICAL CONFERENCE, what do you like in the way of program material? Exhibits? Demonstrations? Do you have a short talk or paper you would like to present to the group? Joe Pavek, W6EP has volunteered to handle the old equipment auction again and has several new ideas. How about it???
Lauren Peckham is shown in the South end of his museum where radios made between 1920 and 1925 are on display.

**Plug-In Coil Bit**

Ken Conrad's (W2IIE) National receiver with 3 plug-in coils which appears to be a hybrid between a FB-7/AGS/HRO has brought comment from W3QA. He thinks it may be a special job designed specifically for airline base stations... Bruce also called to our attention that Westinghouse came out with a receiver in 1930 with coils mounted on a common plate (similar to HRO) known as their Navy Type 80 receiver.

**Deforest Pioneers**

held their 17th Anniversary, Feb. 7th at famous Fraunces Tavern, New York City, Pres. Jack Poppele called to the group's attention that the list of "Silent Keys" was gradually increasing with Elmo Pickerill being added along with John V.L. Hogan, George Clark, Hugo Gernsback, Allan Dumont and other "greats". Pioneer Oliver Wyckoff has assumed the post of Secretary since the passing of "Pick". (Tax W2IX)

**The Greatest Sale of Wireless Instruments in the History**

SPECIAL OFFER Send 290 Complete Mammoth Bargain and we will send you FREIGHT PREPAID THE DEFOREST AUDION DETECTOR, AMERICAN RELIABLE CO. for Six Weeks NOLANS & E. 98th STREET BROOKLYN, N.Y.

Page 12
A large player reed organ, a 1920 nickelodeon and antique phonographs form part of Lauren Peckham's collection.

Need we say more?

In all the furor about the FIRST broadcast station, we found our old friend Clarence Tuska could even "throw his hat in the ring" if he wanted to. A very interesting authenticated account was received about Tuska's early broadcasts which preceded KDKA. Clarence maintained a regular schedule over his station WQB which broadcasted music, news items, election returns of 1920 and other programming. One of the early broadcasts was a talk by Hiram Percy Maxim addressing an M.I.T. dinner! Interested in facts? --- we have the info - or you may write Clarence Tuska directly.

Another strong contender is Elman Myers (of Myers Audion fame) according to a news clipping sent by Howard Schrader. Myers, a real pioneer, who now lives in upper Jersey, has had a fascinating career starting with broadcasting from his private station in the year 1908! A copyrighted picture in 1909 by Underwood & Underwood verifies his efforts...which makes him a strong contender with Herrold out on the West Coast. These pioneers along with Lee de Forest made broadcasts which by definition were different than those made by tube transmitters immediately after WWI. Back to Espenchedahl again "It is all in the definition of what constitutes broadcasting."

PETER SCHROEDER, W1PHY, ex-9AHQ, author of "CONTACT AT SEA" will be featured speaker at the 1969 NATIONAL HISTORICAL RADIO CONFERENCE in Rhode Island.
COMING EVENTS

SPRING MEET
Saturday, May 3rd
Breeseport, N.Y.
(See announcement elsewhere in Bulletin.)

A.W.A. OPEN HOUSE
Sunday Morning
May 11th
(Part of Western N.Y. Hamfest)

SUMMER MEET
August
Information in next Bulletin

ANNUAL HISTORICAL CONFERENCE
Oct. 3, 4 and 5th
New England Wireless Museum
East Greenwich, Rhode Island

FALL MEET
Saturday Evening, Oct. 25
Locust Lodge, Ionia, N.Y.

ANNUAL BUSINESS MEETING AND ELECTION
Sunday Afternoon, Nov. 8
QTH: W2UTH, Victor, N.Y.

Dear [Name],

You are cordially invited to attend a unique facility in New Haven for the evening of [Date]. The event will include a sound exhibition and a special feature('~)

Please dress in black and white to any
what you will come. Sincerely,

RADIO PARTY IN THE 20'S

The above postcard was received from WIDEY and is similar to present day "kitchenware" parties. Radio broadcasting was in its heyday and tens of thousands stayed up to the early morning hours tuning for broadcast DX with their "bloopers", 5 tube neodynes or a modern super. HC qsl cards were in vogue as well as HC stamps -- another form of qsl......

THE SKINDEKIZED BUTTON is a very sensitive carbon microphone less than an inch in diameter.

The short biography on Michael Faraday (opposite page) is reprinted from the book TELECOMMUNICATION PIONEERS published by the Radio Engineering Laboratories with permission from R.E.L. President Frank Gunther, W2AIS. The A.W.A. will reprint other biographies from the same book in the future. Contents of the volume (now becoming a collector's item) reflect critical selection of outstanding pioneers by the engineering profession.

Improper Use of Storage Battery

It has been brought to the attention of the Bureau that operators have been using auxiliary sources of power (storage battery) for the operation of audions.

The auxiliary source of power must not be used for any purpose other than that required by Section 1, Act of June 24, 1910, amended July 23, 1912.

The battery must be kept fully charged and ready for immediate use.

Any defects in the battery or any other part of the Radio equipment should be reported to the Master of the vessel immediately.

Such neglect of duty on the part of operators may be considered sufficient cause for the suspension or revocation of their license.

The above notice appeared in an old commercial magazine warning wireless operators not to use those new fangled tubes.....but more than one operator sneaked aboard an audion and when no one was looking hooked it up replacing the much less efficient crystal detector -- the latter being used since the equipment wasn't licensed for vacuum tube use.
MICHAEL FARADAY 1791-1867

It was left for an unschooled journeyman bookbinder to discover the laws of electrical induction which form the basis of the development of the modern magneto, dynamo and generator.

Michael Faraday, now renowned as an English chemist and physicist, was a largely self-educated man. While serving out his apprenticeship to a bookbinder, he attended a series of lectures given by Sir Humphry Davy on chemistry and physics.

Faraday wrote up the lecture notes, illustrated them and sent a bound volume to Sir Davy along with an application for a position in the laboratory for which Davy worked. He was hired.

Although he began his research in chemistry by discovering two new chlorides of carbon and successfully liquefying several gases, Faraday’s chemical research was soon overshadowed by his electrical discoveries.

While mathematicians of his day were wholly involved in the construction of many elegant equations leading in the wrong direction, Faraday discovered by physical experiment and reasoning the essential principles of electromagnetism.

This kind of direct experiment and reasoning was also the basis for the Inventions of Edison, Armstrong and many other great pioneers of science.

He established the identity of electrification produced in different ways; the laws of definite electrolytic action of a current, known as Faraday’s Law; and the fact that every unit of positive electrification is related in a definite manner to a unit of negative electrification. Thus it was impossible to produce what Faraday called “an absolute charge of electricity” of one kind which was not related to an equal charge of the opposite kind.

He further introduced the exceedingly apt terms — electrolytic, electrode, anode, cathode, ion, cation and anion — still in use throughout the world.

Faraday’s crowning discovery showed the world how man might produce electricity by more reliable means than rubbing amber or rotating glass balls in friction machines. On August 29, 1831, after years of tests, he obtained the first evidence that an electric current can induce another in a different circuit.

This was the man whose “powerful, unschooled mind which moved among electrical abstractions as if they were visible currents of matter” made him the life-long model for the late Major Edwin Howard Armstrong — the inventor of FM. This was the man whose experimentation made considerable progress for the world.

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RUDOLF GOEBELMURK, born in Mecklenburg, Germany, 1876, designed a practical high frequency alternator in 1912. He was also instrumental in establishing the two high power pre-WWI stations in Tuckerton, New Jersey and Elvesen, Germany.

EVER TRY A SOLIDONE OR COPPER CIRCUIT?
These two circuits were popular in the 20’s and consisted of a single tube regenerative detector -- WITHOUT an “E” voltage. Both circuits appear to be of the reflex type and only an “A” battery is shown...how come?
Announcement

ANNUAL SPRING MEET
SAT., MAY 3, 1969
PECKHAM AMATEUR RADIO AND MUSICAL MUSEUM
Breeaport, N.Y.
--- 11 A.M. - 5 P.M. ---

Guest of Honor:
FIN STEWART, Sidney, Australia

Exhibit:
Large collection of early radio equipment and rare tubes.

Swap Session at 3 P.M. --------
Bring your old gear and books.

Entertainment for wives:
Your favorite tunes of the 20's played by Dean Robinson on the huge THEATER PIPE ORGAN!

DINNER:
12:30 noon at Methodist Church
$1.75 plus tip.

SEE YOU MAY 3
(Note: Breesport is a little town on Rte. 223, just off Rte. 13 & 14 south of Watkins Glen and Ithaca, north of Elmira. Lauren Peckham lives on Omiston Rd. - turn right at bridge as you enter town from the west -- follow signs until you see house and barn.)

REINARTZ
The Coil That Talked With France
In November, 1923, messages were transmitted between John L. Reinartz at his home in South Manchester, Conn. and M. Leon Deloy, Nice, France, conversation covering several hours.
The Genuine Reinartz Coil bears the signature of John L. Reinartz. If your dealer cannot supply, send us $2.50 Money Order, for coil with his latest copyrighted hookup and instructions.
TRISTAN SALES CORPORATION
National Distributors
No. 1 Union Square, New York City

QUESTION: With today's sophisticated communications systems, why are there continued applications for commercial radio-telegraph licenses; and why are military communications men still trained to copy CW; and why are amateur radio operators required to pass a code test as part of their examination for a license?

ANSWER: International Morse Code continues to be the most reliable communications mode. In case of transmitter failure, if only the RF-producing circuits can be made to function, the message will get through. Indeed, it is the best form of emergency backup. It is required for international distress calls. When used in military communications, it is often the only means of combating enemy jamming. Further, because one of the reasons for the existence of amateur radio is to provide communications in the event of an emergency, amateurs must be able to transmit and receive International Morse Code, because it may only be possible to set up a CW station during an emergency. Because of the narrow bandwidth required for CW transmissions, this mode will often be copied through heavy interference whereas other modes might not.

You're always hearing the pro and con about this business of knowing the code for a radio license. The above appeared in a recent issue of COMMUNICATION NEWS in their "Question & Answer" column. We feel the reply is one of the best yet -- and the publisher Bruce Howat has given permission to reprint it....

A GONIOMETER is just an old name for a direction finder....
MODERN MECHANICS

APPLARATUS EXCHANGE DEPARTMENT

HAVE the following to exchange: One Indian motorcycle engine, 2¾ H. P., one electric train and tracks and one fan motor, D. C. 12-inch fan. Want a film type camera and ¾ inch spark coil or any good offer will be accepted. John C. Pfister, 127 Factoyy St., Canal Dover, O.

HAVE moving picture machine and films, receiving set, receivers 2,500 miles, ¾ K. W. sending set, and one 10 H. P. Robbins & Myers motor. Will trade the above for a complete cabinet receiving set and ½ K. W. sending set, or what have you? I also have a pocket typewriter to exchange. Wireless station, 580 W. 161st St., New York City.

FOR exchange: One-half inch wireless coil, spark gap, galena detector (homemade), two 75-ohm receivers and headband, two snap switches, one 10-volt light and socket. Also have a collection of 150 different stamps mounted in Scott's 20th Century International Album. What have you in exchange? Drayton McNeilan, Box 194, Bamberg, S. C.

HAVE a three H. P. gasoline engine and a jlg saw, both in A No. 1 condition. Want a first-class receiving set (not home-made) and a kodak. Alfred Rush, 323 Traymore St., Pittsburg, Pa.

WILL trade a good lunch coupler or pair of 2,000 ohm phones for a No. 3 set of Meccano. Allan B. Colby, Box 157, Fair Haven, N. J.

GERMAN, studying electricity, wishes to correspond with wireless amateurs. Please write to Bulbert, Marschner-Str. 24, Hanover, Germany.

WANTED: Audion detector or audion bulbs. Have loose coupler, ferron detector and 3,000 ohm receivers. F. Hargan, 239 Broadway, Newport, R. I.

HAVE for exchange: Good receiver; want wireless apparatus. Edward A. Crozier, Fair Haven, N. J.

WANTED: One ¾-inch spark induction coil in exchange for new $35 Oxypather (thermoelectrical instrument for curing most any kind of disease). T. Tecgell, 2351 Park Ave., St. Louis, Mo.

ADVERTISING IN BULLETIN

The A.W.A. DOES NOT accept or solicit advertising from distributors or manufacturers. The only "ads" in the OTB are those from individual members in the OLD TIME AD section which are printed free. This means ALL OTHER ADVERTISING is of HISTORICAL nature!! and printed for informational purposes only. Several letters were received from new members complaining their mail had been returned after writing the Ws. B. Duck Company for their latest catalog as advertised in the OLD TIMERS BULLETIN. If they had carefully read the accompanying article they would have realized catalogs were not available since the company had folded up during the depression.

Reproduction of a "Swap Column" printed 55 years ago. Times have changed a wee bit....

$1,000 PER Man per County—Strange invention startles world—agents amazed. Ten inexperienced men divide $40,000. Kordy, a farmer, did $2,200 in 14 days. Schleicher, a minister, $195 first 12 hours. $1,200 cold cash, made, paid, banked by Stoneman in 30 days; $15,000 to date. A hot or cold running water bath equipment for any home at only $50. Self-heating. No plumbing or waterworks required. Investigate. Exclusive sale. Credit given.

Send no money. Write letter or postal card. Allen Mfg. Co., 4027 Allen Blvd., Toledo, O.

WILL exchange a new telegraph key, single contact switch key, push button, buttons, books, and first baseman's mitt. Mass. WANTED: One-half a three H. P. gasoline engine and a spark gap, galena detector (home-made) for exchange. John C. Pfister, Canal Dover, O.

WANTED: Motorcycle In exchange for $98 electrical course. Ralph Terry, Phoenixia, N. Y.

AGENTS—The biggest money maker out in years. Concentrated Liquor Extracts. Makes the real article at home, saves over 50%. Something new, enormous demand, sells fast, coins you money. Can be sold anywhere, wet or dry. Guaranteed strictly legitimate. Small condensed package. Territory going fast. Just send postal today. Universal Import Co., 123 Third St., Cincinnati, O.


HAVE Remington Standard Typewriter in good condition. Want good sending set or first-class audion. Edward French, Paaeskili, N. Y.

I HAVE for exchange 250 boys’ books, 5,000 foreign stamps and album, two flash-lights, two electric motors, printing press for calling cards. Want detectors, preferably silicon or perlkon, Antennae Switch and tuning coil, factor-made. If interested write John Allen, 2320 Newton So., Minneapolis, Minn.

DE FOREST — CROSLEY

appeared to be an odd combination (so we thought) until several wrote confirming the company. To top it off — George Publow up in Picton, Ontario, sent a beautiful brochure covering various model receivers bearing the same name. Apparently the the organization was tied in with a Canadian firm named Consolidated Industries. According to George, the sets were basically of Crosley design and were made just before the war.

VAIDMAR POULSEN, born in Copenhagen, Denmark, Nov. 23, 1869, invented the famous system of arc transmission in 1903.
Following World War I various engineers at Westinghouse became interested in a serious way the commercial side of radio communication. The International Radio Telegraph Company was purchased and plans outlined for entering commercial telegraphy such as ship to shore communication, etc.

The Westinghouse Lamp Company were experimenting with vacuum tubes, mainly of sizes like the 50 watt and 5 watt type then made by General Electric. On account of the voltage limitation of the 50 watt size by reason of all the leads coming out through the base, the company built some tubes with the plate lead coming through the top of the tube. These were successful up to 2000 volts with a material increase in power.

To further this development 10,000 tubes were bought from the Moorehead Company. These tubes were made under the Marconi patents and could be sold in various apparatus.

In 1919 a receiving set was developed known as the RC set. The range was from 700 meters downward in order to cover the ship to shore channels. Shortly after this the company started to work on another tube known as the WR-21. This tube had a plain tungsten filament and was more or less interchangeable with the Moorehead tube. Both these tubes were of the high impedance type and were used in the first Aeriola Grand which was resistance coupled. Work was also being done in the Research Department during 1920 on tubes with an external grid and tubes with two internal plates, one serving as a control electrode. This was of course for the purpose of avoiding the grid patent. Much experimental work was being done at the same time with the oxide coated filament. These early filaments were platinum iridium base with salts of barium and strontium as the coating.

The whole situation with regards to patents on both tubes and circuits was clarified by the entrance of the company into the Radio Corporation of America setup.

Following this, the WD-11, together with the Radiola Sr. were put on the market with the WD-11 being the first dry cell tube for broadcast reception. Its filament was oxide coated 1.1 volts and ½ ampere, with mutual conductance of 350 to 400. Other sets were built around the WD-11 in later years.

The next major step in vacuum tube development was brought about by the demand for greater amplification and loud speaker operation. This resulted in the WL-112 during 1924. The tube was in the 5 volt class and had a rectangular plate and grid structure with an oxide coated filament in the shape of an "M" and was one of the first of the low impedance type. The filament required ½ ampere and the mutual conductance was approximately 1700 -- four times that of the WD-11. It gave much better results in receivers at the time than any other, both for interstage and last audio. On introduction of the RCA X base, it became the UX-112 and later the UX-112A when the filament was reduced to 1/4 ampere without lowering the quality of tube.

At the same time the UX-171 was changed over from a 1/2 ampere thoriated tungsten filament to 5 volt 1/4 ampere oxide coated filament and became the UX-171A.

Major steps of tube development after the UX-112 were mostly all toward A.C. operation. As early as 1921 considerable work was being done on A.C. tubes of the indirect heated type and practical tubes were used in experimental sets in 1922 with good results, very little hum being noticed. Many designs were tried such as different types of cathode, insulators and heaters and bringing heater wires out of the same end and different ends of the tube. An article on the development of this tube was published in December 1922 ELECTRIC JOURNAL.

In 1926 the demand for A.C. tubes became urgent. The "mu" A.C. tube development was started very late in 1926 resulting in the UX-226 around the Radiola Model 17 which was built in 1927. The UX-227, the outgrowth of previous indirect heated type developments, was used as detector. The technical design and development of the UX-226 is given in a paper by Mr. Kimmel in the August 1928 issue of the I.R.E.

For all electric A.C. receivers there must be of course a "B" and "C" supply too. This was taken care of by the development of the UX-280 and UX-281 rectifier tubes. These two tubes were developed during the same 1926 and 27 period. The UX-280 is a doubler rectifier for low voltage supply while the UX-281 is a single wave rectifier for high voltage requirements. These tubes were the first successful oxide coated filament rectifiers for heavy current demands. Emission from the plates on the
Reverse half wave cycle had been practically eliminated by use of a carbonized plate resulting in a long life tube.

Concurrent with these various A.C. tube development, the UX-250 power output tube was being developed. The demand for greater undistorted power and low loud speaker efficiency, made a larger and more efficient tube tube imperative. The best output tube before the UX-250 was the UX-210. Using the same energy in the filament and only 6% increase in plate voltage, the undistorted power output was trebled. This was brought about by the increased filament efficiency of the oxide coated filament and the increased plate dissipation possible.

The UX-245 tube was developed along the same lines later to fill the demand for a lower voltage tube. The general structure of the UX-245 is similar to the UX-112-A except the filament is 2.5 volts, 1½ amperes, and the plate is carbonized to increase radiation. The latter part of this development was coordinated with General Electric. In the above, unless otherwise specifically mentioned, the developments are entirely the results of Westinghouse Research. (The above information was obtained by Lauren Puckman at the time he acquired on loan a vast collection of early tubes from Westinghouse. Many of the experimental tubes mentioned in the article are on display in his museum.)

NEW GEAR IN A.W.A. MUSEUM

RECEIVERS: W2QO, W2TK, J. MacFarlane

Several new pieces of gear arrived in the club's museum this past winter worthy of note. W2QO delivered an early Echophone receiver of the 30's. If you recall, Echophone was made in Chicago and was tied in with Bill Halligan's Hallicrafter setup at an early date making it historical. Next ---- W2KND rescued several pieces of W-U telegraph equipment destined for the junk pile. He promises to setup an old fashion telegraph circuit between the Museum's main room and the mock broadcast station setup in the commercial area....and lastly; and most unusual -- or at least spectacular, a Jacob's Ladder and a ½ foot high Tesla coil...both brought in by Wally Nielsen. These two pieces are operable and make quite an impression with visitors.

AERIOILA DIAL REPLACEMENT

There is hardly a Westinghouse Aerioila receiver without a tarnished dial. Since these early receivers are now highly treasured by the amateur collector, Roland Matson, K1OKO, our amateur chemist has come up with a method of making these dials like the original. We tried to photograph one received at A.W.A. (see photo) which looked like new.... Interested?? Drop him a line at:

Highland Rd., Pinehurst, Mass., 01566

FOR SALE

AUTOGRAHPS

Andrew Jackson. Signature framed with portrait. 85.00
Michael Faraday. Autograph letter signed June 26, 1849 on scientific matters. Framed with interesting engraved portrait. 100.00
Franz Liszt. Striking portrait handsomely framed above telegraph signed envelope addressed to the noted Milan publisher, Ricordi. 75.00
Giuseppe Verdi. Autograph letter signed Feb. 1, 1868, concerning frightful robberies in the woods and disposal of some property. Translation. Framed with photograph. 395.00
Hannibal I. Highly significant and angry letter signed 28 Verdi, Year 14 (Oct. 20, 1863), to Josephine's son Eugene. Decoratively framed in gold-plate silk mat. 400.00
Nicola Tesla. Signed signature of the brilliant inventor, on large card. 15.00

Bob Cobsigh (W2KNX) sent the above copy from a local newspaper which indicates the historical significance and value of autographs. Of particular interest was Farns's signature for $100.00 and Tesla's at $15.00. This reminds us of the session held at the 1966 Historical Conference (Franklin Institute) when a panel was asked to evaluate autographed books. Let's have more thoughts on this subject.....
BURNDY LIBRARY
Nerwalck, Connecticut

is a fascinating place for the advanced historian. Bern Dibner, the founder, has accumulated under one roof one of the largest collections of original scientific material (books, manuscripts, etc.) in the world. The building on Electra Avenue, is open to the public Monday through Friday, from 8:30 A.M. to 5:00 P.M. There is usually a special exhibit which is changed periodically. As an example, during January the visitor would have seen rare documents and papers of Michael Faraday dating back to 1817.

Reproduced below are excerpts from a folder sent to A.W.A. by Gordon Friedlander, Assistant Director, which tells more about this fascinating place.

Among the most fascinating of the special collections at the Burndy Library is the gathering of over 300 incunabula — a term which, in bibliogrophy, refers to books printed in the "cradle period" that followed the invention of printing with movable type. In that period, from about 1455 to 1500, there was literally an explosion of the printed word. It is estimated that in these 45 years, over six million volumes were published — all by the clumsy, time-consuming process of printing one side of a leaf, letting it dry, then printing the other side. These early books were stitched but not bound; binding was a later development. Books in science, as might be expected, formed a very minor portion of the total — Euclid's Geometry was published in only two editions during the first 45 years of printing as compared to 70 editions of The Consolations of Philosophy by Boethius. It is a tribute to the young library that it contains several hundred books in science published in this critical period — books which have exerted a profound influence on men's thoughts and interests.

The Burndy Library also houses a fine collection of scientific manuscripts, many of which are from the collection gathered by the Czech engineer Dr. Armin Weiner and brought to this country during World War II. The Weiner collection alone spans a period of four and a half centuries; it contains over a thousand letters, notes and manuscripts, ranging from notes on the calendar by Regiomontanus in 1475 to a four and a half page summary, in Einstein's hand, of The General Theory of Relativity.

The prolific Isaac Newton is represented in the Burndy Library by over a dozen manuscripts, including a 66-page autograph manuscript of his notes on alchemy and chemistry, written in several languages. Only a dozen pages of Darwin's manuscript for The Origin of Species survive (the original Darwin used the manuscript of the book for household purposes after the printer finished setting type) and one of these rare pages is at Burndy. Also rare and invaluable to scholars are notes, letters and a manuscript by Roentgen in the Burndy collection; before his death, Roentgen had destroyed the record of his studies and asked his friends to do the same.

Because Bern Dibner's professional interests were in electrical development, this field has formed the only truly comprehensive area of the collection. It was possible to achieve this goal because "electricity and magnetism prior to 1900" is a relatively manageable subject.

In The Novels of Science, a bibliography of the 200 most important books at Burndy, are listed such great classics in this field as Gibbon's De Magnete, published in 1600, and the first modern comprehensive study of magnetism, as well as early and significant works by Boyle, Franklin, Volta, Ampére, Faraday, Gauss and Maxwell.

Many of the important innovators in electricity are also represented in the manuscript collection. From Volta's own library have come nearly 200 items, and Faraday is represented by some 40 letters including several of outstanding importance. In one of these, Faraday outlines the formal announcement of his epochal discovery of electromagnetism — an outline later to be expanded into the famous series in the Transactions of the Royal Society.

The former industrialist is today the administrator of the Burndy Library; a gentle and erudite man whose devotion to science has made these treasures available to all of us.

RARE LOUDSPEAKER owned by Ted Woolner, WA1AGP. All you need to do to get it in operation is to fasten a pair of earphones on the bottom!
### THE MOUNT VERNON MUSEUM OF INCANDESCENT LIGHTING

**Baltimore, Maryland**

This museum had a full page workout recently which included pictures of some of Dr. Hick's rarest bulbs. The museum was mentioned in the Bulletin last year and a visit recommended by those attending the National Historical Conference. Unfortunately, the tight schedule did not allow much time for the visitor in Washington to go to Baltimore. Dr. Hick values his personal collection at the sum of $250,000 and needless to say, according to the newspaper article, he has taken every precaution to insure its safety. Visitors are welcome by advance appointment. (Tnx W3KOU)

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**GLASS INSULATORS**

Although we don't want to get too deep in this area -- we might call to your attention the tremendous interest in this field. There are at least three books on the subject and one publishes a price list -- certain pole insulators are now going for $30.00 each!!

(Tnx K3CUI)

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<th>Wave</th>
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**NEW FOR OLD**

Sometime back a couple members called to our attention a practice of several firms and organizations who swapped "new transistorized radios for old sets". At the time it appeared rather a clever way of obtaining quite a collection in rather a dubious manner. No further thought was given to the subject until recently when I had an opportunity to briefly discuss the matter with the head of a concern who had tried this. It developed it wasn't all on the "plus side".

First of all -- he had to accept everything sent in including an awful lot of junk which had to be thrown away. Next, there was no choice, so he ended up with many unwanted duplicates. And lastly, he was obligated to consummate the "swap" as advertised and had to give a fairly decent transistor radio in turn if than for no other reason than to maintain the company's reputation. So you see -- it wasn't everything you might think...SK.

DORIS STOCKELBURG (XYL-exW3BSS) sent a nice letter and Xmas card. Doris is living with her son and says "hello" to all of Art's old friends...
EXPERIMENTS
WITH
ALTERNATE CURRENTS
OF
HIGH POTENTIAL AND HIGH FREQUENCY.
A LECTURE DELIVERED BEFORE THE INSTITUTION OF
ELECTRICAL ENGINEERS, LONDON.
BY
NIKOLA TESLA.

WITH AN APPENDIX BY THE SAME AUTHOR
ON THE
TRANSMISSION OF ELECTRIC ENERGY WITHOUT WIRES,
REVIEWING HIS RECENT WORK, AND PRESENTING ILLUSTRATIONS
FROM PHOTOGRAPHS NEVER BEFORE PUBLISHED.

With a New Portrait and a Biographical Sketch of the Author.

NEW EDITION.
Second Impression.

McGRAW-HILL BOOK COMPANY
239 WEST 39TH STREET, NEW YORK
6 BOUVERIE STREET, LONDON, E.C.
1904

Above is title page from a rare book sent to A.W.A. by Irvin Weir, K2POI. The
162 page volume is rather small with numerous pictures and sketches including
Tesla's famous Long Island installation. Of particular interest were his HF
experiments with vacuum tubes. A collector's item -- it is currently selling
in bookstores for $25 to $35 -- providing you can find a copy!
At Last!
A Fixed Detector

The most recent discovery in wireless fields: it cannot even be jarred out of adjustment. This means that all your messages will be received complete. Moreover, it is the most sensitive detector on the market—bar none—strongly made and should last a lifetime.

PRICE $20.00

Goodchild Electrical Co.
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Furnished in Early English Oak or Mahogany

CRYSTALOIL
The New Permanent Wireless Detector

EXTREME LONG DISTANCE
MICROMETRIC ADJUSTMENT

This WANDERFUL LITTLE DETECTOR is the height of Mechanic, and Electrical achievement, and will amaze everyone by its performance.

IT WILL NOT BURN OUT OR GO DEAD and will last indefinitely. All elements are sealed in the little cylinder which is revolved to secure finest adjustment. The "Crystal" is positively the most sensitive and thoroughly practical detector ever designed. It is not a make-shift. It is a precision instrument, in every sense of the word and is beautifully finished.

Price $3.50, including postage

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2585 Third Ave.,
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BOYS We WILL Save You Money BOYS

Set up that wireless set or get those electric novelties you have been waiting FOR NOW.

Material savings on Wireless and Electric Goods of all kinds.

Send stamp for catalogue and samples of Burning Wax.

TOMLIN BROS.,
Evansville, Wis.

INSULATION
Bakelite-Diecto Vulcanized Fibre

For Wireless and other Special Purposes

THE CONTINENTAL FIBRE COMPANY
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McCormick Bldg.
NEWARK, DEL.
NEW YORK
Woolworth Bldg.

Halcun Wireless Apparatus

INCLUDES
Rotating Gaps
Sending Condensers
Leakage Transformers
Oscillation Transformers
Aerial Switches—Wavemeters

COMPLETE SENDING and RECEIVING SETS

Made Well
Priced Right
Shipped Promptly

SEND STAMP FOR DESCRIPTIVE CATALOGUE

HALLER-CUNNINGHAM ELECTRIC CO.,
San Francisco, Cal.
RADIO RECEIVER, IP-500

The IP-500 Receiver is one of the most efficient receivers manufactured. The circuits are designed to give the highest possible efficiency.

Normal wavelength range: 300 to 6,800 meters. This receiver is equipped with six binding posts, normally short-circuited for 300 to 6,800 meters to which loading coils may be attached for the reception of wavelengths up to 23,000 meters. The proper loading coils are: Primary, 50; Secondary, 50; Tickler, 30 millihenries. This receiver possesses a high degree of selectivity, but it is also provided with an untuned or "standby" circuit. It is especially adapted for use in laboratories, and by advanced radio clubs, where a receiver is desired which is the last word in perfection of design and finish.

A switching mechanism permits the use of either of two tuned circuits on an untuned or tuned secondary.

The coils used in the receiver are bank-wound inductances of high-frequency cable, wound on threaded bakelite tubes. The assembled coils are impregnated in vacuum and baked. The individual sections are automatically connected, entirely disconnected and opened, or entirely disconnected and individually short-circuited, by a mechanism operated by the inductance switch. By this means every coil in the receiver has a natural period when connected with its leads and switch points which is less than the shortest wavelength in the range of the receiver. This eliminates the reception of parasitic signals, reduces the absorption of the desired signal by the coils, forces the energy into the detector, and minimizes interference on all wavelengths.

The condensers are of the self-balanced plate type. Insulating bushings are entirely absent in their construction. Their calibration is constant and their losses extremely low.

The receiver is mounted under a ½-inch Bakelite-dilcto panel. The containing box is of ½-inch oak. A switch is provided for vacuum-tube reception, and also to protect the detector during transmission.

RECEIVER, IP-500, INCLUDING HIGH GRADE CRYSTAL DETECTOR $595.00

Overall dimensions: 23 in. x 11 in. x 14½ in.

Shipping weight: 87 lb.

RADIO RECEIVER, IP-501

The IP-501 Receiver shown in the accompanying illustration is a compact unit containing the radio frequency and detecting circuits in a single case.

Normal wavelength range: 300 to 7,500 meters. This receiver is equipped with six binding posts (normally short-circuited for 300 to 7,500 meter reception) to which loading coils may be attached for the reception of wavelengths up to 21,000 meters. The proper loading coils are: Primary, 50; Secondary, 100; Tickler, 30 millihenries.

The receiver is similar in mechanical design to the IP-500, with the untuned circuit omitted. The capacity coupling between primary and secondary circuits is eliminated in this type by heavy sheet copper boxes separately enclosing the two circuits.

The panel is of Bakelite-dilcto. The coils are bank-wound inductances, of high frequency cable wound on threaded Bakelite-dilcto tubes, impregnated and baked.

RECEIVER, IP-501, INCLUDING HIGH GRADE CRYSTAL DETECTOR $550.00

Overall dimensions: 28 in. x 11 in. x 9 in.

Shipping weight: 55 lb.

GOOD TIP

Ted Duvall (ex-3DW) has been restoring and donating equipment to the U.S. Naval Museum, Washington, D.C. This is a good cause -- which we might add is tax deductible. The Museum is particularly interested in gear used by the Navy before WWII.

GEAR TO NAVY MUSEUM

Ted Duvall (ex-3DW) has been restoring and donating equipment to the U.S. Naval Museum, Washington, D.C. This is a good cause -- which we might add is tax deductible. The Museum is particularly interested in gear used by the Navy before WWII.

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