

RADIO AGE

The Newsletter of the
Mid-Atlantic Antique Radio Club

Volume 32

December 2007

Number 12

Early Wireless and the Gilbert Girl

BY DANIEL SOHN

Images depicting idealized women changed dramatically over the years, from Botticelli's *The Birth of Venus* to the more modern *Rosie the Riveter*. The famous *Gibson Girl* was the idealized woman when wireless was just an experiment, and that honor would pass to her lesser known siblings as wireless technology improved. The sibling known as the *Gilbert Girl*, illustrated on this page, was not just another pretty face, for her image, and the women she represents, are a part of early wireless history.

The idealized woman circa 1900 was educated, well informed, and opinionated. No longer a docile homebody content to live in her husband's shadow, she routinely challenged "...the patriarchal tradition of separate spheres – public and professional for men, private and domestic for women."¹ For in-

(Continued on page 3)

American artist Charles Allen Gilbert created this dramatic illustration of a female wireless operator. ►
A postcard with this image bore the caption:

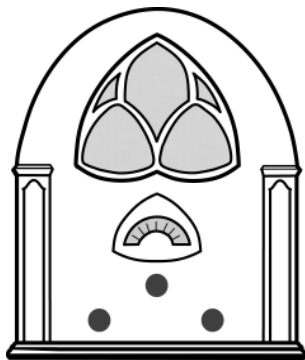
I HAVE A WIRELESS FOR YOU

C
come

Q
quick

D
danger





MID-ATLANTIC ANTIQUE RADIO CLUB

MAARC Board of Directors

Officers

President

Geoff Shearer
14408 Brookmere Drive
Centreville, VA 20120-4107
703-818-2686
gshearer@cox.net

Vice President

Willie Sessoms
2214 Lukewood Drive
Baltimore, MD 21207
410-298-8474

Treasurer

Rod Matzko
3 Coloma Court
Sterling, VA 20164-5507
703-406-2713
matzko@erols.com

Radio Age Co-Editors

Ed Lyon
11301 Woodland Way
Myersville, MD 21773-9133
301-293-1773
lyon@fred.net

Brian Belanger
5730 Avery Park Drive
Rockville, MD 20855-1738
301-258-0708
radiobelanger@comcast.net

Membership Chair

Paul R. Farmer
P.O. Box 352
Washington, VA 22747-0352
540-987-8759
oldradiotime@hotmail.com

Webmaster, www.maarc.org

Eric Stenberg
cx301a@aol.com
703-780-7391

Directors

William Goodwin
410-535-2952
oldradiohunter61@verizon.net

Steve Hansman
410-974-0561
shans01a@comcast.net

Chris Kocsis
703-913-9143
chrisk33@cox.net

Joe Koester
931-788-1360
jwkoest@charter.net

Steve McAllister
301-249-1496
mcallister@comcast.net

Domi Sanchez
301-681-3979
radiodome@verizon.net

Charles Scarborough
703-532-1757
cscarborough@nvcc.edu

Warren Sprague
717-762-7283
radioman@pa.net

Eric Stenberg
703-780-7391
cx301a@aol.com

Back issues of *Radio Age*
are \$2.50 per issue, postpaid.
Address orders to Member-
ship Chair Paul Farmer and
make checks payable to
MAARC. Two first-class
stamps per order help defray
MAARC mailing costs.

ABOUT MAARC and *RADIO AGE*. *Radio Age* became the monthly newsletter of the Mid-Atlantic Antique Radio Club in June 1994. Prior to that date, the *MAARC Newsletter* and *Radio Age* were separate publications.

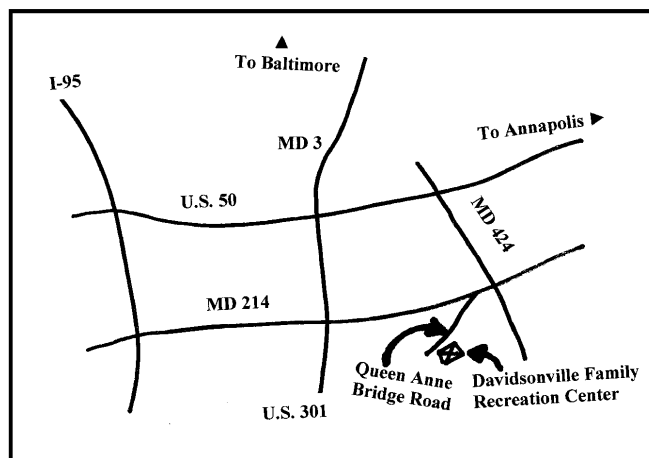
Subscription to *Radio Age* begins with the next available issue after the membership application and dues are received. Dues are \$20 per year in the US, \$30 in Canada, and \$45 elsewhere, all payable in US dollars. Two-year, three-year, and life memberships are available; contact the Membership Chair (see column at left). All checks are payable to MAARC and, for new members, must accompany the membership application, which is available from the Membership Chair or the MAARC website (www.maarc.org). If you change your mailing address, email, or phone number, please notify the Membership Chair immediately so corrections can be made to *Radio Age*'s mailing list. The Post Office will not forward your newsletters.

Back issues of the *MAARC Newsletter* from Vol. I, No. 1 (August 1984) and most issues of *Radio Age* from Vol. 1, No. 1 (October 1975) are available for \$2.50 each postpaid from the Membership Chair. Make checks payable to MAARC.

Submissions to *Radio Age* are welcomed. Typewritten copy is preferred to handwritten. Articles should be submitted in PC format, preferably via email or on a CD or flash drive, in MS Word, Word Perfect, Wordpad, or RTF format, without fancy formatting, because the editors will have to modify it anyway. Photographs, if hardcopy, should be high quality black and white or color. Softcopy graphics files should be in TIFF or JPEG formats; contact the editors for further guidance. Send your submission to either editor and include your name, address, phone, and email.

MAARC MONTHLY MEETINGS. Most months MAARC meetings are held at the Davidsonville Family Recreation Center, 3789 Queen Anne Bridge Rd., Davidsonville, MD (map below). From U.S. 50, take MD 424 south for 2.5 miles. Turn right on MD 214 for 0.6 miles, and angle left on Queen Anne Bridge Road for 1.1 miles. The entrance will be on your left. April and December meetings are usually held at the Sully Station Community Center in Northern Virginia. Check the calendar on p. 16 for details.

Map — Davidsonville Family Recreation Center (not to scale)



The entire contents of this publication are copyright ©2007 Mid-Atlantic Antique Radio Club, unless specifically marked otherwise on each article. Generally, all articles in *Radio Age* may be reprinted, provided specific permission is first obtained from a *Radio Age* editor (and the copyright holder, if not *Radio Age*) and full credit is given.

Editor this issue: Brian Belanger

Design and production: Brian Belanger. Proofing: Ted Hannah

(Continued from page 1)

stance, when the prim and proper Gibson Girl desired to go to sea, she aspired to be a member of the first-class passenger elite. When the newly liberated Gilbert Girl was ready for an ocean voyage, she would prefer, more likely than not, to go as a member of the crew.

In 1909 woman and wireless were uniquely combined in the intriguing Gilbert Girl illustration on page 1.² While the winsome miss in the middy blouse may be an idealized image, her use of a shipboard radio key to send a distress signal was, by no means, an idle fantasy. In light of the lifesaving role that the wireless played during the sinking of the *Republic*, in January of 1909, women developed a genuine interest in becoming shipboard radio operators, up till then a “men only” vocation.

Unfortunately, women were able to make few inroads in the field of early wireless. This sad state of affairs was partly due to the dearth of positive publicity. The constant stream of newspaper stories surrounding the sinking of the *Republic*³ and, later, the flight of the airship *America*,⁴ kept British Marconi operators Jack Binns and Jack Irwin in the public limelight, thereby giving male names and faces to this normally anonymous profession.

With the noble cause of women’s rights a hot button issue at the time, the United Wireless Telegraph Company tried hiring women as shore station operators. Although this action had generated some short-term newspaper coverage, it was nowhere near enough to eclipse the continuing Marconi saga.

Nevertheless, in the closing weeks of 1910 a much bigger story would break, with the female name and female face of a United Wireless operator, and her Horatio Alger success story,⁵ appearing in newspapers across the nation. Twenty-two year old Miss Graynella Packer of Jacksonville, Florida, had become “...the bona-fide and undisputed first sea-going woman radio operator of the Atlantic Coast, and probably of the world, for that matter.”⁶

Miss Packer served as wireless operator for the Clyde Steam Ship Company from November 1910 to April 1911.⁷ She was assigned to the liner S.S. *Mohawk* (call letters VM) sailing between New York City and Jacksonville. Although her pioneering position is duly noted in early wireless history, the details of her brief career have become blurred, if not forgotten. They need to be preserved as they illustrate the state of the wireless industry in a very dynamic era.

Miss Packer’s stint as a wireless operator began at noon on November 29th when the *Mohawk* sailed quietly from New York harbor on a routine voyage to Florida. The publicity blitz began the next morning with the headline: “Don’t Flirt With The Operator – Wireless Men Must Behave When Miss Packer’s at the Key.”⁸

*New York, Nov. 30th – The United Wireless has sent out a warning to all shore stations and ships inspired by the first trip of the first woman wireless operator employed on a liner, Miss Graynella Packer of Jacksonville, Florida. The agency was inspired to try a woman wireless operator because of complaints by skippers against some of the men, who did not seem to care whether or not they got messages for the line.*⁹

We are left to wonder what Miss Packer thought of this trivializing headline and the accompanying press release. Perhaps it was all done for effect, for whenever the *Mohawk* steamed into port it was met by newspaper reporters, and she got to tell her side of the story. Photographs such as the one on page 5, showing Miss Packer sitting at the wireless equipment or standing outside the radio room, accompanied many articles.¹⁰

Inevitably, comparisons between Miss Packer’s abilities and the heroic deeds of the *Republic*’s legendary wireless operator, Jack Binns, would come up in interviews, situations that she handled with considerable panache:

There is a strict code of honor among wireless operators – sort of a wireless code, you might say. It knows just one precept and that is ‘stick to your post.’ Operators on shipboard are trained to the same standards of fidelity to duty as are the captains themselves and we have yet to know of an

In This Issue

Early Wireless and the Gilbert Girl	
by Daniel Sohn.....	1
Fun with a Broken Radio by Bill Goodwin	8
Obscure Television Tubes by Brian Belanger.....	11
MAARC’s Fall Fest 2007	13
Tidbits	14
Classified Ads	15
MAARC Your Calendar!.....	16

*instance where the wireless operator was found lacking in a crisis. That's why I don't fear the responsibility. I know that my duty is to sit at this instrument and take and send messages, and I shall not let conditions influence my work in the least.*¹¹

Miss Packer's selection as shipboard operator seems to have gone through normal channels, "She applied for a position with the Clyde Steam Ship Company and was assigned to the *Mohawk*."¹² However, the statement issued to support her assignment contains some interesting language:

*The officials of both the Clyde line and the United Wireless Co. have considered for some time the advisability of employing a woman in this capacity and have only awaited the discovery of one who combined the necessary experience and skill with the other qualities that are required in this very important position.*¹³

Miss Packer's credentials for "necessary experience" easily fulfilled both company's requirements. Before joining United Wireless, she was a landline Morse telegrapher, rising quickly to the position of manager at the Sanford, Florida, office of the Postal Telegraph Company.¹⁴

*'I took up telegraphy as a joke,' she explained when asked how she came to adopt such a novel calling. 'At school I learned code to send messages to girl chums, and when I decided what work I wanted to do I chose telegraphy because my eyes were not strong and handling a key is no strain on the sight.'*¹⁵

For operators transitioning from landline Morse to the early wireless telegraph a certain "skill" was required, "...the ability to distinguish at once every little variation in tone is a distinct advantage. Some who go in for wireless have to acquire it, Miss Packer did not."¹⁶

*I was glad when they told me that a good ear for music would make wireless easier to learn," she said, "for at least I felt sure that I had that." I am not sure that a person who has no ear for music, as they say, could ever learn to become a first class operator.*¹⁷

The wireless receiver Miss Packer used onboard the S. S. *Mohawk* was the standard United Wireless Type D, with a Carborundum detector and two adjustable

tuning coils that were wound with phosphor bronze wire due to the constant need for retuning:¹⁸

*At sea, where there are all sorts of messages flashing through the air at once, it is important to be able to catch the faint difference in pitch between one message and another. That is the way we are able to 'cut out' one set of waves and hear another. It is simply a question of sliding the tuning instrument back and forth until it adjusts itself to the particular waves desired.*¹⁹

However, a passive receiver can only do so much when the airways are extremely crowded. The rest is up to the tonal acuity of the individual operators:

*Here is where the musical ear comes in. With the receiver strapped to your ear, you must not only notice the difference between loud ticks and soft, but between ticks pitched in a high key and those pitched in a low one. Once you get the hang of it, there really is a great difference between messages.*²⁰

The keen musical ear required of operators can be a lifesaving talent when the worse case scenario occurs: two transmitters of the same make and model, sending simultaneously on the same wavelength:

*Two sets of waves that may have the same pitch when heard over the receiver may be distinguished by the quality of their tone, just as the same note sounds differently on different musical instruments.*²¹

Although she was not the first woman operator hired by United Wireless, Miss Packer was the first to go to sea for she alone possessed "the other qualities that are required in this very important position."

*...while this is my first voyage as an operator, it is really my 17th trip on a Clyde line steamship between New York and Jacksonville. I know the boats and I know the officers on them and I cannot imagine a safer mode of travel or more pleasant and comfortable surroundings in which to work. It was while en route to New York on the Clyde steamship Comanche that I first became interested in wireless and much of my operating experience at sea has been gained on the various steamers of this line. So I'm very much at home here, you see.*²²

Having her foot already in the radio room door gave Miss Packer a decided advantage; as another female

landline telegrapher, trying to follow her footsteps, found out:

The result of all this was that I immediately decided I wanted to become another lady operator, and, if possible, a sea-going one. Accordingly, I visited the offices of the old United Wireless Telegraph Co. and asked as to the prospects. An anaemic young man, who boastfully remarked that he had traveled to all important ports of the world as a radio operator, informed me that altho I could probably pass a telegraph test I would have to qualify as a radio operator, which meant that I should have to learn all about motor-generators, transformers, helices, detectors, three-slide tuners, etc. I left the place rather discouraged.²³

While generations of women telegraphers had been working landline Morse, the technical complexity of wireless stations and the lack of training opportunities made it very difficult for them to enter the early wireless world. Their only recourse was to find male operators willing to be their mentors. Just as Miss Packer's success in this matter would pave the way for shipboard operators, Miss Anna Nevins, also twenty-two, paved the way for the later Miss Packer.

Miss Nevins herself made newspaper headlines in March of 1909 when she was put in charge of the United Wireless station atop the Waldorf-Astoria Hotel. "She holds the distinction of being the only woman wireless operator in the world and she is believed to be one of the most skillful in the service of the company by which she is employed."²⁴

Miss Nevins did not have a Gilbert Girl agenda when she became the first woman operator, for her key to entering the wireless world was her radio-operator



A female seagoing wireless operator was a sufficiently novel concept in 1910 that newspapers were quick to print photographs such as this one of operator Graynella Packer at the operating position aboard the Clyde steamship *Mohawk*.

boyfriend, and station BW atop the Waldorf-Astoria worked the ship where her beau was assigned:

She picked up the Oceana at 1,000 miles, the record for the Waldorf-Astoria sending station. She has several times flashed messages to her sweetheart at that distance and has carried on a lengthy aerial conversation with him at a distance

*of 800 miles. This is believed to be the record in long distance talks in which Cupid has had a hand.*²⁵

Miss Packer, of course, would have nothing to do with this radio romance rubbish. Instead, as a true-blue Gilbert Girl, she espoused independence and equality for women, "...women are assuming all sorts of responsibilities in the business world these days and I am only one of many girls who have taken up work that requires qualities which of old were attributed only to men."²⁶

In spite of the advances made by women in assuming these responsibilities, maritime traditions and old-fashioned morality, combined with conflicting Federal regulations, would close many radio room doors. Miss Packer's position as shipboard operator would be the exception and not the rule, for a major problem of shipboard work was the lack of accommodations.

The wireless operator on many ships was just a member of the crew, eating in the crew's mess and, except for those few ships with a wireless shack big enough to hold a cot, sleeping in the crew's quarters. Privacy, at best, was minimal as the traditional allotment for berthing space was just seventy-two cubic feet – "too large for a coffin, too small for a grave."²⁷ Even a bunk in the radio room was not a workable solution, as sharing "common" space with an all-male crew was a form of cohabitation, deemed one hundred years ago to be lewd and lascivious behavior.

For example, the White Star liner *Olympic* went into service on May 31, 1911, as the largest and most modern ship afloat. Even though the state-of-the-art three-room wireless suite, located forty feet aft of the bridge, had its own dedicated bunkroom, a female operator would still have to share toilet and washroom facilities with the officers of the ship.²⁸ On older and smaller ships, she would also have to share these facilities with much of the rest of the crew.

Several coastal steamship companies, by the nature of the service they provided, had long addressed the shipboard need for separate crew accommodations, making Miss Packer's assignment possible. Shuttling up and down the Atlantic coast like a fleet of seagoing streetcars, the ships catered heavily to the tourist trade. This meant mothers and children traveling together, enjoying an ocean adventure, while hubby stayed at home. Miss Packer's multiple trips on Clyde line vessels show the popularity of this service and, to better meet the passenger's needs, stewardesses were

part of the crew.²⁹

Although "Officers of the ship said she had fulfilled all the requirements of her new post,"³⁰ Miss Packer suddenly left Clyde line service in April of 1911, just five months after her assignment. Ironically, the hot button issue of women's rights that made her shipboard duty possible would also take it away. Miss Packer's position inadvertently ran afoul of the anti-prostitution frenzy that was then sweeping the nation.

Just as the Radio Ship Act of 1910, mandating wireless operators, was groundbreaking federal legislation, so was the White-Slave Traffic Act of 1910 (aka The Mann Act). The intent of this law was as follows, "...to prevent use of interstate commerce to facilitate prostitution or concubinage, or other forms of immorality."³¹

As the lewd and lascivious cohabitation [as it would have been seen at the time] required of most women shipboard operators fit the "other forms of immorality" portion of this broad description, the wireless division of the Commercial Telegraphers Union of America aggressively took up the issue. The Union's steadfast position was that all women operators should be barred from duty at sea.³²

It devolved upon the Radio Division of the Department of Commerce and Labor, created July 1, 1911, to devise a fair and equitable solution. Instead, its politically motivated and controversial policy would have far-reaching effects and there would not be another woman shipboard operator for the better part of a decade.³³

This policy was described by another follower of Miss Packer, whose application for shipboard duty was unexpectedly rejected by a steamship company superintendent:

*His answer was to the effect that a recent government decision had decreed that it was unlawful for a woman to perform the duties of a radio operator on board a vessel. I thought this a polite way of 'turning me down,' so I wrote to the Department of Commerce, which was then beginning to issue the so-called 'Certificate of Skill.' I finally secured the certificate, but not the job. At the same time I was informed, to my dismay, that my friend, the radio superintendent was quite right.*³⁴

Ever the Gilbert Girl, Graynella Packer put aside the wireless key and went on to bigger and better things. In

1922 she passed the bar exam and opened a law practice in Coral Gables, Florida. Between 1929 and 1931 Miss Packer and her mother, Mrs. O. K. Packer, enjoyed another ocean adventure, this time it was a two-year tour of the world.

Those pioneering days in the radio room of the Clyde line's S. S. *Mohawk*, as the world's first female shipboard wireless operator, were soon a part of the long distant past.

References

1. <http://www.loc.gov/rr/print/swann/beauties/beauties-overview.html>.
2. <http://www.kadiak.org/photos/cqdpostcard.jpg>. Charles Allen Gilbert (1873–1929) was an American artist and illustrator. His often quirky and sometimes groundbreaking work included camouflage patterns for warships during WWI as well as Liberty Bond posters. Perhaps his most enduring work is a haunting optical illusion entitled *All Is Vanity*, published in 1902.
3. <http://earlyradiohistory.us/1909rep.htm>.
4. *Radio Age*, Volume 32, Number 6, Mid-Atlantic Antique Radio Club, June 2007. p. 1.
5. A series of popular American stories where, through honesty, cheerful perseverance, and hard work, the poor but virtuous would have just reward – though the reward was almost always precipitated by a stroke of good luck.
6. <http://earlyradiohistory.us/1920auto.htm>.
7. Ibid.
8. [http://www.newspaperarchive.com: Middletown Daily Times \(New York\), Nov. 30, 1910](http://www.newspaperarchive.com: Middletown Daily Times (New York), Nov. 30, 1910). The Clyde line and United Wireless carefully choreographed this initial publicity, granting select reporters exclusive pre-sailing interviews with Miss Packer, provided they did not publish their stories until the next morning's edition. To say the least, it worked! The other newspapers, caught off guard with Miss Packer well out to sea, scrambled to catch up.
9. [http://www.newspaperarchive.com: Middletown Daily Times \(New York\), Nov. 30, 1910](http://www.newspaperarchive.com: Middletown Daily Times (New York), Nov. 30, 1910).
10. <http://earlyradiohistory.us/1920auto.htm>.
11. [http://www.newspaperarchive.com: Fitchburg Daily Sentinel \(Mass.\), Nov. 30, 1910](http://www.newspaperarchive.com: Fitchburg Daily Sentinel (Mass.), Nov. 30, 1910).
12. <http://www.newspaperarchive.com: Mansfield Ohio News, March 1, 1911>.
13. [http://www.newspaperarchive.com: Fitchburg Daily Sentinel \(Mass.\), Nov. 30, 1910](http://www.newspaperarchive.com: Fitchburg Daily Sentinel (Mass.), Nov. 30, 1910).
14. <http://earlyradiohistory.us/1916fem.htm>.
15. [http://www.newspaperarchive.com: Olean Evening Times \(New York\) Dec. 15, 1910](http://www.newspaperarchive.com: Olean Evening Times (New York) Dec. 15, 1910).
16. <http://www.newspaperarchive.com: Washington Post, Dec. 11, 1910>.
17. Ibid. The *Sheboygan Daily Press* (Jan 26, 1911) reported: "Miss Packer, who is twenty-two years old and very pretty, intends to use the money she earns to study music, as she is especially interested in voice culture and wishes to become a grand opera singer."
18. Thorn Mayes, *Wireless Communications in the United States*, The New England Wireless and Stream Museum, Inc., 1989, p. 62. The coils on many early receivers were wound with copper wire, which quickly wore out in service.
19. <http://www.newspaperarchive.com: Washington Post, Dec. 11, 1910>.
20. Ibid.
21. Ibid. For example, all seven Clyde line ships used the same wireless equipment. To cut down on interference, each ship was assigned one of three different wavelengths, but it was still quite possible to have two ships on the same wavelength at the same time.
22. [http://www.newspaperarchive.com: Fitchburg Daily Sentinel \(Mass.\), Nov. 30, 1910](http://www.newspaperarchive.com: Fitchburg Daily Sentinel (Mass.), Nov. 30, 1910). The other steamships were: *Algonquin* (VG), *Apache* (VA), *Arapahoe* (VB), *Comanche* (VC), *Huron* (VH), and *Iroquois* (VF). All were equipped with standard United Wireless 1-kW shipboard installations.
23. <http://earlyradiohistory.us/1920auto.htm>.
24. <http://www.newspaperarchive.com: Washington Post, Mar. 6, 1909>.
25. Ibid.
26. [http://www.newspaperarchive.com: Fitchburg Daily Sentinel \(Mass.\), Nov. 30, 1910](http://www.newspaperarchive.com: Fitchburg Daily Sentinel (Mass.), Nov. 30, 1910).
27. <http://www.seafarers.org/about/history.xml>.
28. <http://www.reelentertainmentco.com/titanic/pg3/index.htm>.
29. Stewardesses and coastal steamships have a long history; much of it is undocumented. The Web site http://www.garemaritime.com/features/morro-castle/mohawk_1925.php relates the heroic actions of the Clyde line's stewardesses aboard the S. S. *Mohawk* when it caught fire on January 2, 1925, off the New Jersey coast. The Old Dominion Steamship Company's publication *The Pilot*, Vol. XIX, No. 9, July 1910, details some of the duties of the stewardesses on that company's passenger ships.
30. <http://www.newspaperarchive.com: Washington Post, Dec. 11, 1910>.
31. <http://www.fau.edu/~tunick/courses/conlaw/mann.html>.
32. <http://earlyradiohistory.us/1913rush.htm>. The coastal steamship stewardesses, limited to assignments on suitably equipped passenger liners (and represented by a different union), were not affected by The Mann Act.
33. The next seagoing woman wireless operator was in 1918. She was Elizabeth Duval of Baltimore.
34. <http://earlyradiohistory.us/1920auto.htm>. ■

Surprising Fun with a Broken Radio: Repairing Cabinets and Reproducing Labels

BY BILL GOODWIN

[Bill's article is an inspiration to all of us to tackle those basket case radios that others might have junked. The extra care he took to restore even the label is commendable! - Editor]

For the last few months I've enjoyed working on radios with broken plastic cabinets. I had worked on a few such radios over the years, but was encouraged to be more daring through the restoration hints offered in the DVDs from Bret Menassa. Thanks to MAARC's monthly auctions, I was able to buy a few box lots of radios in very sad shape at low cost.

I had some problems, but also some good fortune in using Menassa's plastic repair techniques and Bondo, a surface refinishing product most often used in auto body repair. The first radio I tried was a Mantola R-413. The before and after photos are shown in Figs 1 through 4. The final paint was Mohawk Antique Ivory M104-0416. As you can see from the photos, the

restored radio looked remarkably good considering the "basket-case" I started with.

The next radio that caught my eye as a suitable candidate for restoration was a popular Crosley Model 58TW, an ivory radio with a slide rule dial and a Lucite handle (Fig. 5). The schematic for this model can be found in Sams 38-2. Crosley made a number of similar models with the same handle, including the 56TU. It came at the right price too—one of three radios in a box for less than \$10. I like all of my radios working, and I usually make repairs to the circuits before attempting cabinet repairs. When I checked the

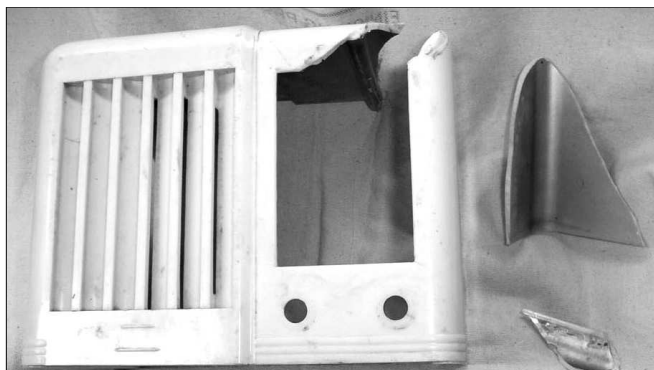


Figure 1. The broken cabinet of the Mantola R-413. Fortunately, all of the pieces had been saved.

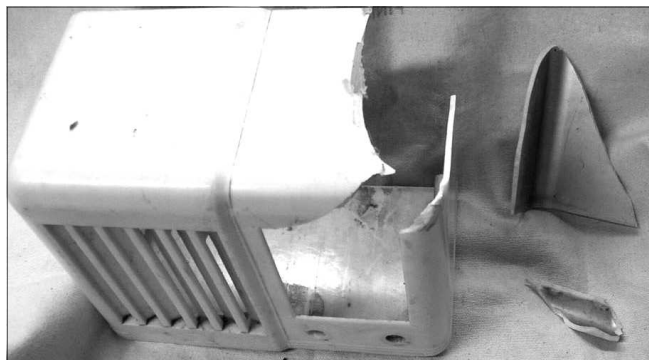


Figure 2. Top view of the Mantola, showing the serious damage to the top of the cabinet.



Figure 3. Front view of the repaired Mantola after repainting.



Figure 4. Rear view of the repaired Mantola.

Crosley, I heard the normal hum of bad electrolytics. I obtained the Sams Photofact for it based on the model number, and was surprised because the tube lineup did not match what I found. The schematic shows a standard All-American-Five lineup with Loctal tubes



Figure 5. The Crosley 58TW. Note the dings and the missing piece in the upper rear corner.

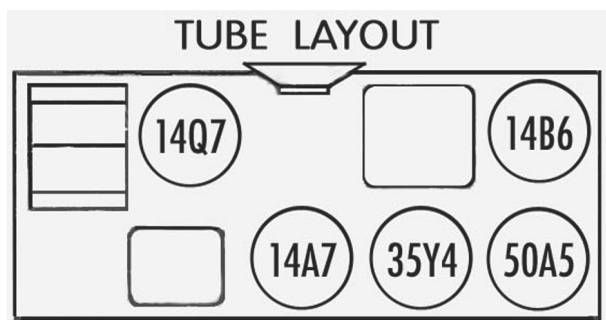


Figure 6. The tube layout for the Crosley 58TW, with its All American Five design and standard loctal tubes.

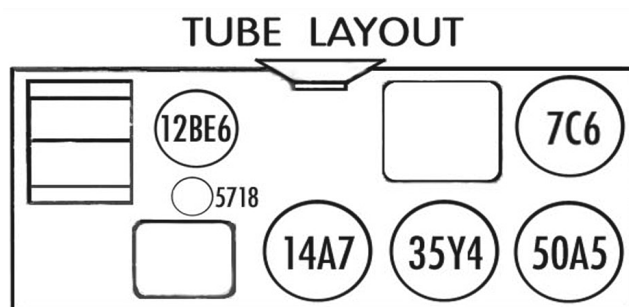


Figure 7. The tube layout for the modified Crosley in which the 14Q7 mixer had been replaced by a miniature 12BE6 and an RF amplifier section employing a 5718 tube had been added.

(Fig. 6). But in my radio, I found four Loctals, one miniature, and one sub-miniature tube.

Initially I thought that this might be a manufacturer's run variation, but the type 5718 sub miniature tube really threw me off. Sylvania lists it as a high gm, medium-mu triode used as a UHF oscillator or low-frequency oscillator and amplifier, and aimed primarily at military applications. The specification sheet for the 5718 was dated 1957, as contrasted with the radio manufacturing date of 1948. When I looked at the wiring I saw that the filament circuit was rewired.

The modifications were obviously made by someone quite knowledgeable about circuit design. The 14B6 had been replaced by a 7C6 (Det.-AVC-AF), thus freeing up 6 volts for the 5718's filament. The 5718 appears to have been used as an RF amplifier, with a 12BE6 serving as the mixer—replacing the original 14Q7 pentagrid converter. Fig. 7 shows the modified tube layout. After I replaced the electrolytics, the radio played perfectly with great sensitivity.

I looked among the other Crosleys with the help of *The Locator* by G. Larsen and found a six-tube model that may have served as guide for the modifications made to my radio. It is the 9-103, 9-104W made in 1949. Its schematic can be found in Sams 60-10. This six-tube radio with an RF stage might have been the inspiration for the previous owner to add the RF stage. But, I'm not sure why that person chose the sub-miniature 5718 over the 6BJ6 shown in the six-tube schematic. Space limitations may have been the reason, because there does not appear to be room for



Figure 8. The Crosley 58TW, with the broken piece repaired and the cabinet repainted.

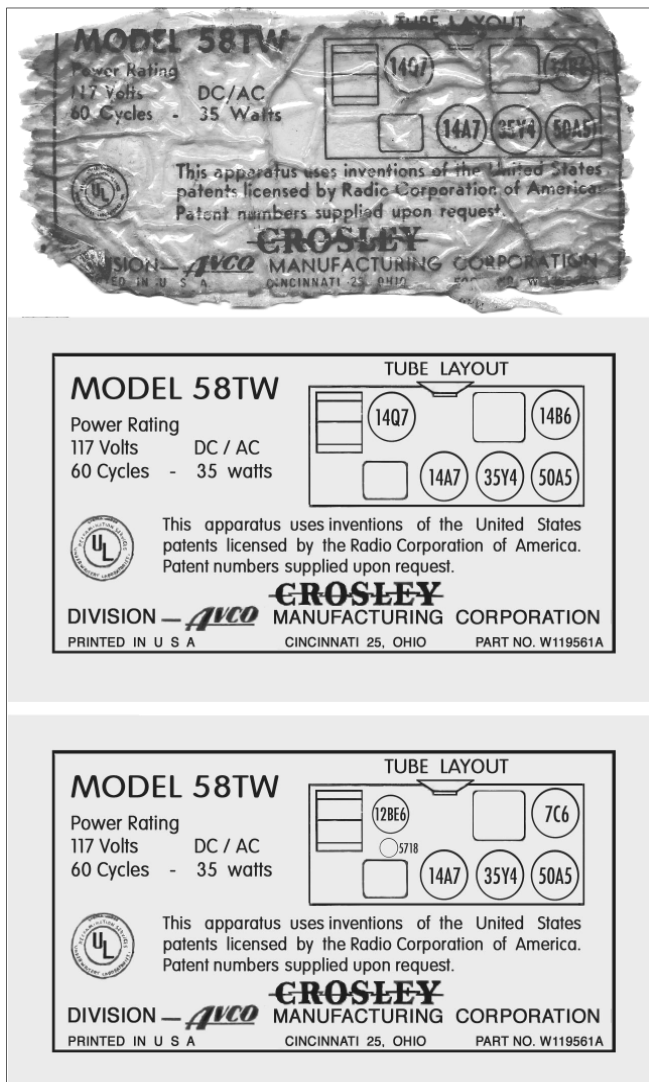


Figure 9. The original damaged label is at the top. In the middle is a replacement label showing the original tube lineup. The bottom label shows the modifications. Thanks to computer graphics, it is possible to reproduce labels like these if you are willing to spend the time.

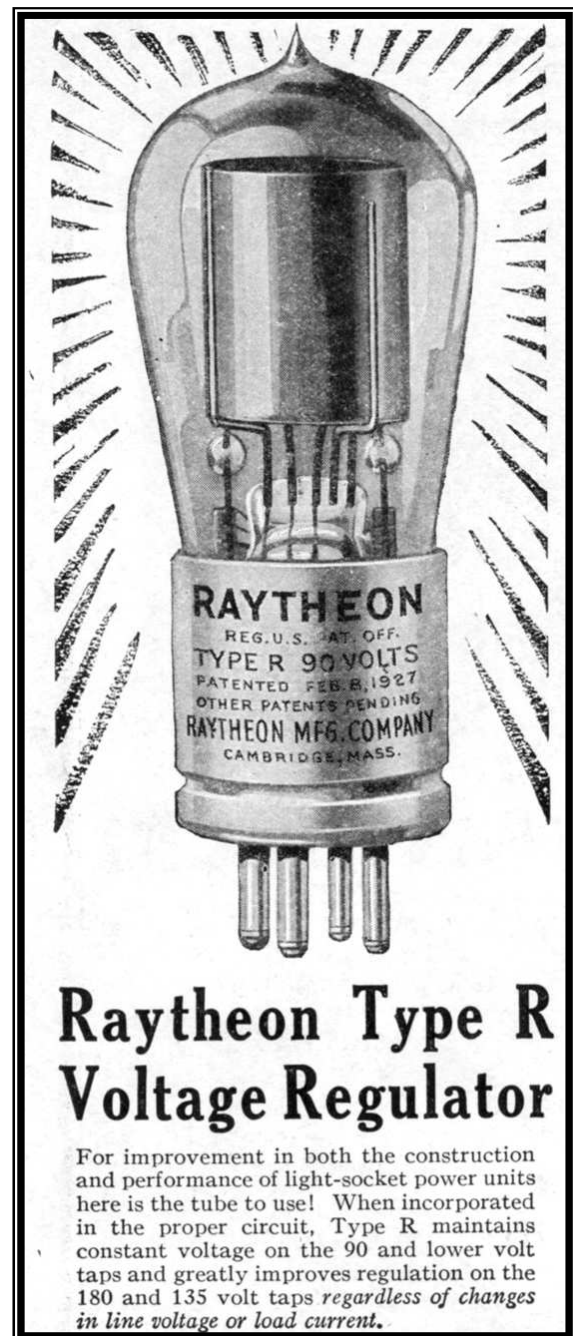
two miniature sockets. Or perhaps, that person just happened to have some spare 5718s in the junkbox.

The cabinet repair on the Crosley was straightforward. It had some large cracks and a broken piece near the back. Its “after” photo is shown in Fig. 8.

The last restoration challenge was the damaged paper label from the bottom. The radio had been repainted at some point in its life, and the label was badly crinkled from some sort of chemical reaction. I scanned it into my Macintosh computer and scanned in another label from a Crosley of similar vintage. With electronic cutting and pasting and retouching, I was able to create

a replacement label for the radio that looked like new. It took as long to reproduce the label as most all of the other work. The results are shown in Fig. 9.

I like the idea of valuing the skills of the home-brew radio makers, and the even fewer examples of expertly modified radios. Together with its cabinet repaired similarly to the Mantola, this Crosley is a featured item in my collection, and honors the expert who modified it. It is also a fine example of the unexpected and pleasant surprises of the radio collecting hobby. ■



Obscure Television Tubes from 1938: The Monotron and the Phasmajector

BY BRIAN BELANGER

If you have never heard of a Monotron or a Phasmajector, don't be embarrassed. Unless you are quite knowledgeable about early electronic television, it is unlikely that you would have come across either of these two devices. Had I not stumbled onto a couple of obscure articles in *Communications* magazines in the Radio & Television Museum library, I would not have known what they were.

In 1938 companies such as DuMont and RCA were just beginning to gear up for the commercialization of electronic television. A small number of prototype TV sets had been placed in homes, and a few people had built sets of their own, but functioning TV sets were rare, and experimental broadcasts could be viewed only in a few large cities such as New York and Los Angeles.

Nevertheless, newspapers and radio magazines were running "television is finally here" stories regularly. Radio makers were gearing up to figure out how to produce television sets that could be sold at a profit. Since a typical television set used many more tubes than a typical radio set, tube makers were salivating

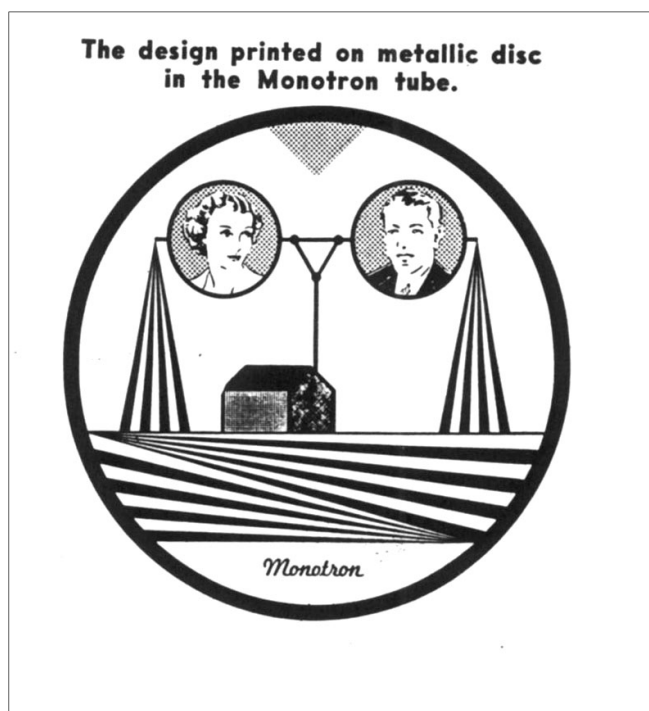
about the potential for increased sales, and were seeking to identify new tube TV types likely to be popular. Radio service dealers in large cities such as New York City, slated to have regular television soon, realized that they would need to learn how to repair TV sets. There was also a demand for equipment that could be used to demonstrate television.

Early in 1938 National Union announced a device called a Monotron (also called a Monoscope) designed to generate a television image for those doing television receiver research, or those who wanted to learn how to service television sets, or those who needed to tweak up focus and linearity adjustments on a set. "Why," might you ask, "didn't people just use a test pattern broadcast by a television station?" There was very little TV broadcasting taking place at the time, and even if a station had a test pattern, it might not be on the air at the time you wanted to check out a set.

National Union's Monotron resembled a 3-inch CRT of the era, and used the same electron gun as National Union's 3-inch CRT type 2003. *Communications* for April 1938 (p. 26) stated that "In the Monotron, a metallic signal plate takes the place of the usual fluorescent screen. Upon this metal plate and facing the beam of electrons within the tube is printed a test pattern. This test pattern is fixed, and may not be varied in so far as any one tube is concerned. The test pattern, however, may be different for each tube."

As the electron beam scanned the image, the secondary electrons were collected by a suitable electrode. The secondary electron stream intensity varied depending on whether the beam impinged on the metal plate or the special ink. The resulting image signal could serve as a test pattern.

DuMont made a similar device called the Phasmajector for use in demonstrating television sets, testing CRTs, or evaluating receiver performance. The tube was said to produce a signal of 0.2 volts across a 10,000-ohm load. DuMont suggested using its oscilloscopes for television demonstrations: "For a simple television demonstration, two standard oscil-



losopes such as are used by radio servicemen, can be used. For example, two DuMont Type 164 (3-inch tube) oscillographs, one equipped with a Phasmajector tube in place of the usual cathode-ray tube and the other with its usual tube, can be employed. Certain slight modifications are required, but the oscillographs can still be used for their normal purposes when desired. With such a simple, inexpensive arrangement all the principles of a complete television system can be readily demonstrated."

I am sure that today these tubes are quite rare. Should you ever find one priced reasonably at a hamfest or elsewhere, it would be a fine addition to a tube collection. The Early Television Museum in Ohio has a complete Monoscope system on display, and one can find additional information about these tubes on the Internet. Check the following Web sites to learn more and see examples.

Early Television Museum Web pages:

<http://www.earlytelevision.org/ari Rack.html>
<http://www.earlytelevision.org/camera Tubes.html>

For pictures of the type 1698 and 1699 Monoscopes, see the following Web sites:

<http://www.aade.com/tubepedia/1collection/tubepedia.htm>
http://uv201.com/Tube_Pages/monoscope.htm

Thanks to Steve McVoy of the Early Television Museum for calling my attention to these Web sites. ■



another DuMONT ACHIEVEMENT

The Phasmajector

**Providing a Standard Video Signal Source to
Promote Television Developments**

The DuMont Phasmajector Type #1 eliminates the dependence of the television experimenter on erratic and variable signals from the scattered television transmitters. This tube generates a video test signal with an output of 0.2 volt across a 10,000 ohm load. The signal is produced by varying secondary emission resulting from the scanning of a picture on a metal plate by the electron beam. In the Phasmajector Type #1 a line cut of Abraham Lincoln is used. The results obtained on a

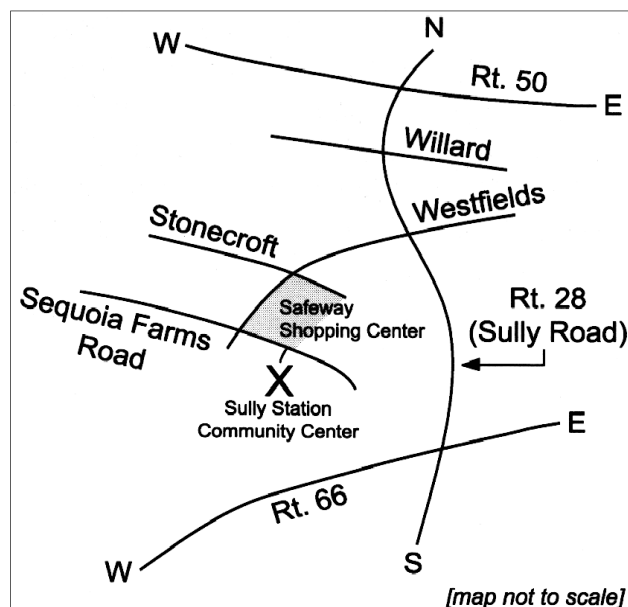
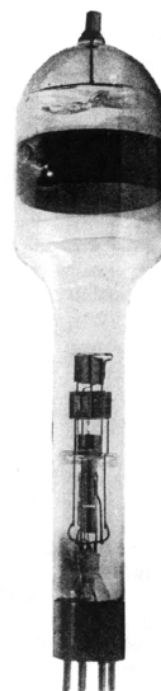


type 34-XH three inch cathode ray tube may be seen in the illustration below.

The Phasmajector Type #1 may be used with two DuMont types 164 or 168 oscillographs with minor circuit changes for a demonstration of the principles of television.

Price \$40

ALLEN B. DU MONT LABORATORIES, INC.
UPPER MONTCLAIR Cable Address: WESPEXLIN, NEW YORK **NEW JERSEY**



Don't forget — the December 2007 and April 2008 MAARC meetings will be at the Sully Station Community Center in Centreville, Virginia. Whenever we meet in Centreville, we are pleased to welcome some of our members from Southwest Virginia and West Virginia who don't often attend monthly meetings.

MAARC's Fall Fest 2007

MAARC's Fall Fest 2007 on October 21 was a *huge* success. The weather was perfect, and attendees came from as far away as upstate New York and Florida. The flea market was busy from the time the gates opened until the auction began, with a remarkable variety of items for sale. The auction was one of the largest ever held by MAARC, with standing room only in the meeting room. We'll plan to do it again next year!

Thanks to John Dilks and Domi Sanchez for taking the photos. ■



One reason the October Fall Fest auction was so large was that MAARC member Duane Kaeding auctioned his extensive radio collection. Here is the hard working crew that moved it (left to right): Darrell Kaeding (Duane's son), Bill Goodwin, Domi Sanchez, Steve Hansman, Steve McAllister, and Duane Kaeding.



Domi Sanchez (right) admires a repro Sparton Bluebird for sale by Gerry Schneider.



Some of the items auction items shown here included vintage Heathkit gear (including an unbuilt Heathkit DX-60B transmitter), a National NC-300, a Tektronix oscilloscope, and a couple of early television sets.



Hundreds of radios were auctioned. The room was jammed. There were consoles, cathedrals, hi-fi gear, television sets, Catalins, ham equipment, tubes, parts, and more – something for everyone.

(Continued on Page 14)



Tidbits

Email Newsletter Available

Bret Menassa, the producer of the popular series of DVDs on antique radio restoration, publishes a helpful email newsletter about antique radio restoration. In addition to Bret's own tips, other subscribers write in with helpful hints they have discovered. If you do antique radio restoration, you should be a subscriber. There is no cost to subscribe. Just send an email to Bret:

bretsoldradios@att.net

and ask Bret to add your name to the email distribution list.

Tube-type Radios are Coming Back!

In the 1920s, a Crosley Pup represented the ultimate in tiny radios. In the 1950s, the transistor made self-contained shirt-pocket radios possible. Nowadays, a single semiconductor chip can perform most of the functions needed for a radio. Why stop there? Physicists at the University of California, Berkeley, have made a radio out of a carbon nanotube 10,000 times thinner than a human hair. According to news reports, the nanotube serves as an antenna, tuner, amplifier, and demodulator. (However, the nanotube does not act as a speaker, so one must use headphones, just as in the early 1920s radios.) But, can't you just imagine the owner of such a radio saying, "Now, where did I put my radio?" Most of us would rather have a radio that you can see with the naked eye. On the other hand, a collection of nanotube radios would not take up much space to display. [Thanks to Ken Mellgren for calling this to our attention.]

Radio & Television Museum to Feature Vintage Christmas Television Shows

During the month of December, the Radio & Television Museum will be featuring vintage Christmas shows shown on restored early television sets. Stop in and watch for a while. Check www.radiohistory.org for hours and directions. By the way, the museum could use a couple more weekend volunteers to guide visitors through. It's fun and rewarding. If you are interested, contact Brian Belanger at (301) 258-0708. ■

Fall Fest Photos Continued



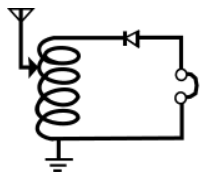
With perfect fall weather and a flea market filled with sellers, attendees had a wonderful day for browsing.



Here is the crowd at the Fall Fest auction. The room was filled with enthusiastic bidders. There were some remarkable bargains to be had, though.

Fall Fest 2007 Statistics

- 396 lots consigned, plus a number of items donated to the club (total items > 400)
- More than \$10,000 in gross receipts
- More than 100 cars in the flea market area
- Most expensive item sold:
Dynakit hi-fi amplifiers: \$1000



Classified Ads



Ads are free of charge to club members. Please, one ad per member per month, limited to 100 words. All ads are subject to editing. Ads will not be repeated unless resubmitted. Send ads to editors, whose addresses are on page 2. The usual deadline for **receipt** of ads is the 1st of the month **preceding** publication. No phone-in ads, please, but email is welcomed.

For Sale: Original deForest Audion RJ4 set. \$5,850. Mike Freedman, (703) 838-0013, or mfr@gwu.edu.

Services: Professional restorations for all TUBE TYPE antique table radios, floor model consoles, cathedrals, tombstones, battery sets, communication receivers, and music amplifiers. Complete overhauls to factory specifications. Lacquer-sprayed, hand-rubbed cabinet refinishing. Reasonable rates. Free estimates. UPS/USPS/FEDEX/TRUCK shipments accepted. 4-year warranty on new parts. Bob Eslinger/KR1U, ANTIQUE RADIO RESTORATION & REPAIR, 20 Gary School Road, Pomfret Center, CT 06259. Hours: 9 a.m. – 5 p.m. Eastern, Tuesday thru Saturday. Telephone/fax: 860-928-2628. Email: bob@oldradiodoc.com. Please come visit us on the web at <http://www.oldradiodoc.com> or stop by when in the New England area.

For Sale: New books discounted: *Radiola Golden Age*, \$58 (hardback); *Crosley Brothers*, \$24 (hardback); *Slusser Collector's Guide 7th Ed.*, \$22; *Atwater Kent*, \$23; *E.H. Scott Dean of DX*, \$26; \$1 shipping/book (minimum \$3). SASE for full book list. **Wanted:** Near-mint Sony TR-55, \$8,000. Near-mint pearlescent Regency TR-1s: meridian blue, \$1,500; pearl white, \$2,000; pink \$2,400; lavender, lime, \$3,000. All pearlescent TR-1s wanted, any condition. Will beat any offer for clear-case, clear-back, chrome, or Mike Todd Regency TR-1. Best prices for your exceptional quality, early transistor radios and colorful Plaskon sets of the '30s and '40s. Time Out of Mind Radio Books. Paul Farmer, PO Box 352, Washington, VA 22747-

0352; (540) 987-8759; oldradiotime@hotmail.com.

For Sale/Trade: Guild New Englander, \$225/BO. Trade for Atwater Kent Kiel table radio, working or not. **Wanted:** For General Radio type 384 oscillator: information, parts (meters, potentiometer), literature for a General Radio Type 384 oscillator made in the early 1920s. Any information greatly appreciated! This unit had plug-in coils similar to the type 584, which was made in 1929 or so, and the coils were stored on top of the oscillator. Michael Crain, N3VWN, 3 Hillside Ave., Harveys Lake, PA 18618 (570) 639-2794.

For Sale or Trade: Simplex 35 movie house projector, full size from a York, PA, movie house. Seems to be all there but have not tested it. Includes WE motor #38753, Spencer Lens Co. Delineascope VA, RCA sound attachment PS-22, heavy-duty stand. \$200, pick up only. Also Philco 87 chassis minus the 45 tubes and an RCA 29K chassis with all tubes, \$50 each - prefer pick up but will ship. Brian Kurrle, 2222 Nodleigh Terrace, Jarrettsville, MD 21084, (410) 692-0450, email: briansoldradios@aol.com.

For Sale - Book: Dr Mahlon Loomis experimented with and demonstrated wireless in 1864 in northern Virginia by sending radio signals 18 miles using 400-foot vertical wire antennas, and keying the antenna to ground using the natural electric field of the earth. The book, *Mahlon Loomis, Inventor of Radio*, by Thomas Appleby (copyright 1967, 188 pages) describes his work and the file at the Library of Congress. Available for \$25 plus \$5 S&H in the U.S. or \$10 S&H foreign. Svanholm

Research Laboratories (Loomis Scientific Research Foundation), P.O. Box 81, Washington, DC 20044. Read <http://n3rf.home.netcom.com>. Contact me at N3RF@earthlink.net or call 202-352-5252.

For Sale: 1941 and 1942 Philco escutcheons, knobs, and pushbutton reproductions now available. Other various knobs and pushbuttons also available. Contact us for specific model numbers on escutcheons. Old Time Replications, 5744 Tobias Avenue, Van Nuys, CA 91411, (818) 786-2500, <http://www.antiqueradioknobs.com>, email: oldtimerep@aol.com.

For Sale: Eddystone receivers (both cover up to 30 MHz), Model 640, \$75. Model 740, \$70. SCR-131, \$75. Phil McCoy, Kensington, Maryland, (301) 942-4212.

Wanted: For restoration of a Philco 118. Need shadow meter, front dial mechanism, escutcheon, and knobs. Will consider junker chassis to obtain these parts, and will pick up within a reasonable distance of Somerdale. (The dial mechanism includes a tuning shaft connected to a U-shaped bracket attached to the main tuning capacitor and possibly a drive wheel. Since most of my unit is gone, I can't tell which dial drive parts are missing.) Robert Haworth, 112 Tilford Road, Somerdale, NJ 08083, (856) 783-4175.

Wanted: Stromberg-Carlson Model 674 or similar chassis and speaker. Crank-type phonographs and parts. Severin R. Dvorsky, 380 Morrison Drive, Pittsburgh, PA 15216 (412) 344-6633, email: stdvorsky@gmail.com. ■

MAARC Your Calendar!

- Sun., Dec 16 MAARC meeting at the Sully Station Community Center, Centreville, VA. (See map on page 12.) Tailgating at 11:30, meeting at 1:30.
- Sun., Jan. 20 MAARC meeting at the Davidsonville Family Recreation Center. See p. 2 for map and directions. Tailgating at 11:30, meeting at 1:30.
- Sat., Feb. 2 Frostfest 2008, Richmond Raceway Complex, Richmond, VA, www.frostfest.com
- Sun., Feb. 17 MAARC meeting at the Davidsonville Family Recreation Center. See p. 2 for map and directions. Tailgating at 11:30, meeting at 1:30.
- Sun., Feb. 24 Vienna Winterfest, No. Va. Community College, Annandale, VA, www.viennawireless.org.
- Sun., March 16 MAARC meeting at the Davidsonville Family Recreation Center. See p. 2 for map and directions. Tailgating at 11:30, meeting at 1:30.
- March 29-30 Greater Baltimore Hamboree and Computerfest, Timonium Fairgrounds, www.gbhc.org

(To check on upcoming hamfests, go to www.arrl.org and click on hamfests.)

Mid-Atlantic Antique Radio Club

c/o Paul R. Farmer
P.O. Box 352
Washington, VA 22747-0352

Presort Standard
US Postage Paid
Permit 1502
Merrifield, VA

