

THE A.W.A. GATEWAY

Volume 2, Number 2, June 2012



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Grid Leak and Regenerative Detectors
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Signal Tracing a Battery Set
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Your Entry to the Fascinating World of Vintage Communications



The AWA Gateway is an electronic publication of The Antique Wireless Association, downloadable without charge from the AWA website www.antiquewireless.org, to stimulate interest in vintage communications history, equipment restoration and collecting.

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ABOUT OUR COVER

The scene that is partially revealed behind the gateway is the Marconi transmitter complex at Poldhu, southwest Cornwall, England, that sent the first transatlantic radio signal. The three dots, representing the Morse letter "s," were received by Marconi at St. John's, Newfoundland on December 12, 1901. Shown are two of the four sturdy towers that replaced the two antenna masts used in the original test.

The AWA Gateway cover was created by Will Thomson of Armadillo Arts, Iowa City, Iowa.

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Marconi at his St. Johns receiving station. Courtesy David Read.

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From The Editor

ANOTHER NEW COLUMNIST!

Ever since we began circulating *The AWA Gateway* about a year ago, I've been pleased to supply articles and columns from a periodical I published for a few years back in the 1990s. The mission for that publication was the same as *Gateway's*: to introduce the antique radio hobby to newcomers and stimulate them to become actively involved. Since the circulation then was limited, re-publishing in *Gateway* makes the material available to a whole new audience.

The strategy has been to get *Gateway* up and running with the older material and gradually substitute new material submitted by our readers. Then, like *The AWA Journal*, the publication would become essentially a venue for members to publish articles about subjects that interest them. The difference being that *Gateway* would concentrate on more basic, lighter, material.

In the previous issue, I was happy to introduce our first new author, Andy Ooms. Andy's second "Enjoying Antique Radio" column appears in this issue. And now I'm excited to announce that another new column debuts on these pages. Harold Cheetham is introducing "Old Time Radio Programs."

Starting with the dawn of radio broadcasting in the 1920s, Harold will be discussing the history, background, and plots of specific radio programs and series. There'll be suggestions of sources for acquiring programs and building collections and, where possible, links to sites where the programs can be heard.

Harold is the curator of the Sunshine Radio Museum (sunshineradiomuseum.org) in Sodus, NY. He has also been employed for the past 12 years at Sunrad, a former Radio Shack. A technician class ham (W2HJC), he hopes to get his General soon. He operates mostly two meters on local repeaters.

He is a member of AWA, ARRL, Army Mars, and many local and national ham organizations, including the Drumlins Amateur Radio Club, where he is a past Vice President. His collecting interests include antique radios, transistor radios and vintage ham equipment.

THE AWA WORLD CONVENTION

A very important happening that will take place before the next *Gateway* is out in September is the 51st AWA World Convention. To be held in Rochester New York on August 21-25, it offers opportunities for fellowship with fellow collectors, buying and selling radios and equipment, and attending stimulating presentations. Collins collectors will be pleased to know that Collins Radio is one of the main convention themes (the other being the 100th anniversary of the Titanic disaster). To further whet your appetite, take a look at the ad on the last page of this publication. There's further information at the convention web site: www.awaconference.com.

From The Deputy Director

ON ACQUIRING A NEW RADIO

Hi everyone. As I write this column we have just opened the Antique Wireless Association Museum at the Academy Building in Bloomfield, NY for the last season. The third generation AWA Museum has been at this location for 38 years. Next year at this time, we will have opened the new, fourth generation museum at the AWA Museum and Research Campus in Bloomfield. The official grand opening will be held in association with the AWA Convention in August 2013.

DOCUMENTING YOUR COLLECTION

Whether you have been collecting for many years or are just getting started, one of the most overlooked aspects of the hobby is documentation. I must admit that this is something I overlooked when I got started. I always assumed that I could remember when and where I bought an item, what the history/story or (fancy name) provenance was, and how much I paid. As I get older, however, remembering those all important details has become

much more difficult if not impossible.

The lesson I am learning now, and that I want to pass on to you, is to document your collection as you buy it. If you haven't been doing that, the second best option is to document it today. Do it now while you still may be able to do it accurately or at all. Also, please remember whoever inherits your prize collection will treasure that collection even more if it is well documented.

Does the documentation have to be done with an expensive computer data base? Not really. A simple card file system will work just fine. The AWA uses a combination of a simple Excel spreadsheet and a computer system called "PastPerfect" which is used by a majority of museums. My recommendation would be to create an Excel worksheet. That way you can use the power of the "find" function in Excel to search readily for a particular artifact or vendor or whatever.

For my own collection (or as my wife calls it, my accumulation), I use an Excel spreadsheet that has columns to document the item number (randomly assigned), item description, manufacturer, model, serial number, estimated year manufactured, condition, damage/parts missing, cost, date purchased, purchased from, purchased where, provenance if known, and notes if any. At this point of collecting over many years, do I remember all the information? Not quite, but I have tried to capture as much as I can while I can. I am also trying to avoid guesses and revisionist history. If you do the documentation as you begin your collecting, it is going to be much easier and far more accurate and complete.

Once you have spent some serious time documenting your collection, make sure you make provisions for backup and preservation of the data. How many times do you hear that someone's PC or laptop has failed and they have lost everything! One other important point: keep the backup in another location from the PC and the collection. You do not want to lose the PC, your collection, and your documentation all to the same disaster.

Your documentation will not only serve to preserve that all-important story attached to your precious artifact, but it also will serve you well dealing with your insurance company if the collection is lost to fire or other disaster. Keep your documentation simple and easy to use. Let me repeat this advice—do it now!

I hope you all can make it to the 2012 AWA Convention to be held August 21-25 in Rochester, New York. It will be a jam-packed four-and-a-half days. Please look me up if you attend.

Bob Hobday, N2EVG, Deputy Director
Antique Wireless Association

Classical Receiver Circuits

Part 2: Grid Leak and Regenerative Detectors

During most of the 1920s, the radio most likely to be found in the family living room was a battery-powered vacuum tube set. And virtually every one of these radios used a grid-leak detector. Regenerative detectors, to be considered separately later on in this article, also work on the grid-leak principle. To many hobbyists, the working of this widely-used circuit and the meaning of its colorful name remains a mystery. We'll try to throw some light on it here.

For a review of what a detector must accomplish in a radio receiver, review the discussion of the detection process in "Crystal Detectors" (Part 1 of this series, in the previous issue). Now we'll take a look at how the grid-leak detector does this job. Refer to the vintage receiver circuit of Figure 1. When no signal is present on the grid of the tube, a steady stream of electrons (which are negatively-charged particles) is emitted by the filament. That electron stream flows, unimpeded, past the grid and is attracted to the positively charged plate (it is a basic law of physics that there is an attraction between oppositely-charged bodies and a repulsion between bodies of the same charge).

Now let's see what happens when a modulated radio signal (see Figure 1a of Part 1, which is repeated in this article) is picked up by the receiver. The signal appears across the tuning capacitor (labeled "Secondary Condenser" on the schematic). Note that the upper end of the capacitor is connected to the grid of the tube via the paralleled grid leak resistor and capacitor (labeled "grid leak & condenser").

TRAPPING THE ELECTRONS

As you know from Part 1, the radio signal becomes alternately positive and negative over time. When the upper end of the tuning capacitor is positive, the electrons emitted by the filament are attracted to it and flow towards it. Of course they are prevented from reaching that point of the circuit by the insulating material between the plates of the grid capacitor. (The grid leak resistor has a very high value—on the order of a few million ohms, so the electrons cannot readily flow through it.)

When the upper end of the tuning capacitor becomes negative, the electrons that had previous been attracted toward it are now repulsed. But they can't re-enter the electron stream flowing in the tube because that has a negative charge and also repulses them. Hence they are trapped on the right plate of the grid leak capacitor.

When the signal becomes positive again, more electrons pile up—and are trapped on—the right plate of the grid-leak capacitor.

RECTIFICATION AND FILTERING

If the grid-leak resistor were not present, the number of

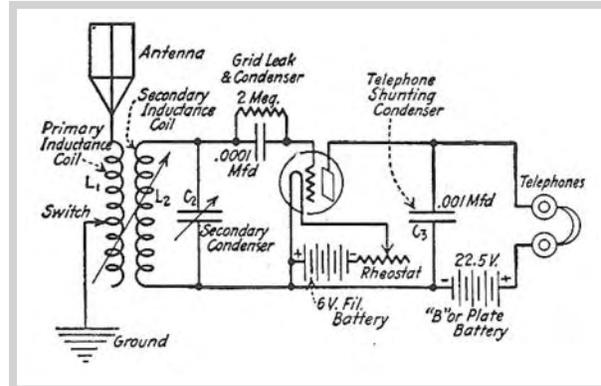
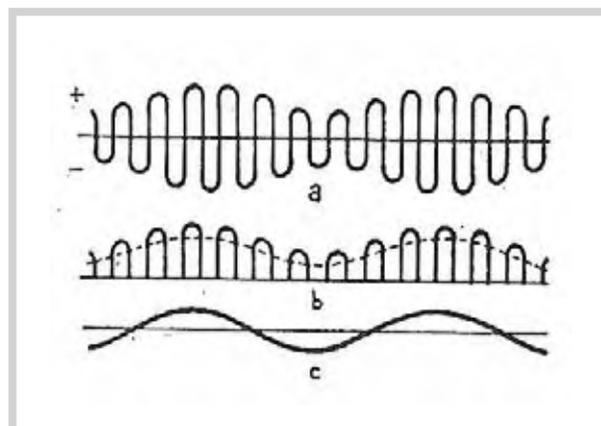


Fig. 1. Vintage schematic diagram of a simple grid-leak detector circuit.

"trapped" electrons would continue to build up, giving the grid a strong enough negative charge to repel all of the electrons being emitted by the filament. With no electrons reaching the plate, the tube would stop functioning. However, the excess electrons slowly "leak" through the grid leak resistor and, passing through the "Secondary Inductance Coil," return to the positive side of the filament circuit.

The current passing through the grid resistor moves in one direction only: from grid to filament. It is direct current, and constitutes the "rectified" or "detected" radio signal. The strength of this current at any given time represents the strength of the original radio wave as modulated by the audio signal being carried. If it were not for the grid capacitor and "Telephone Shunting Condenser," the current would still have the high frequency oscillations of the radio carrier superimposed on it as in Part 1, Figure 1 b. However, these capacitors tend to filter out the oscillations (see explanation in Part 1), so the signal looks like Part 1, Figure 1c and is a reproduction of the original audio



From Part 1: Figures 1a, 1b and 1c.

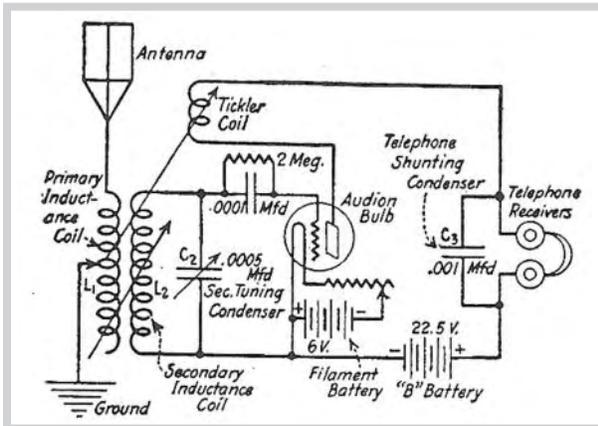


Fig. 2. Tickler coil initiates regeneration by feeding part of the signal at the plate of the tube back into the grid.

signal used to modulate the carrier.

Besides separating the audio signal from the radio frequency carrier, the tube also functions as an audio amplifier. The small current variations in the grid circuit control the much larger current flowing through the earphones in the plate circuit, causing that current to vary in a matching pattern. The result is a much stronger audio signal, giving comfortable headphone volume.

REGENERATION

Many sets of the 1920s were *regenerative*. The regenerative design, invented by the legendary radio genius Edwin Armstrong, squeezed an amazing amount of performance out of a single tube. The secret lay in the fact that some of the signal coming out of the detector tube was fed back into it. This feedback arrangement meant that the radio signal was amplified over and over again, resulting in tremendous gain.

The schematic diagram of a simple regenerative receiver is shown as Figure 2. An arrow joining a set of coils means that the coils can be adjusted so that they are closer together or farther apart. The circuit looks very similar to that of Figure 1 except for an additional coil: the *Tickler Coil*. Energy from the output (plate circuit) of the tube flows

through it and, when this coil is close to the *Secondary Inductance Coil*, the energy is fed back to the tube's input (grid circuit). The closer the coils, the greater the feedback.

To obtain maximum efficiency, the amount of feedback had to be carefully regulated. In the design shown here, this was accomplished by adjusting the relative position of the "Tickler" and "Secondary Inductance" coils. With the coils too close together, there would be too much feedback. The tube would then go into oscillation, emitting a radio signal that would interfere with reception throughout the neighborhood. But with feedback set just short of this point, the radio would deliver its maximum sensitivity.

Figure 3 is a pictorial drawing of the circuitry of a Crosley one-tube regenerative set (the Type V, later marketed—substantially unchanged—as the Model 50). Notice the pair of basketweave coils just to the right of the "multistat" (filament control rheostat). The right-hand coil, with all the taps, is the tuning coil. The smaller coil at left is the "tickler." Moving the control knob in or out changes the position of the coils with respect to each other. The tuning capacitor (extreme right) is known as a "book" type; its capacitance is changed by moving the "leaves" (which are hinged at one end) closer together or farther apart.

With regeneration properly adjusted, the feedback loop results in a several thousandfold amplification of the radio frequency signal prior to detection by the grid leak circuit. So now our single tube is performing three functions: detector, AF amplifier and RF amplifier.

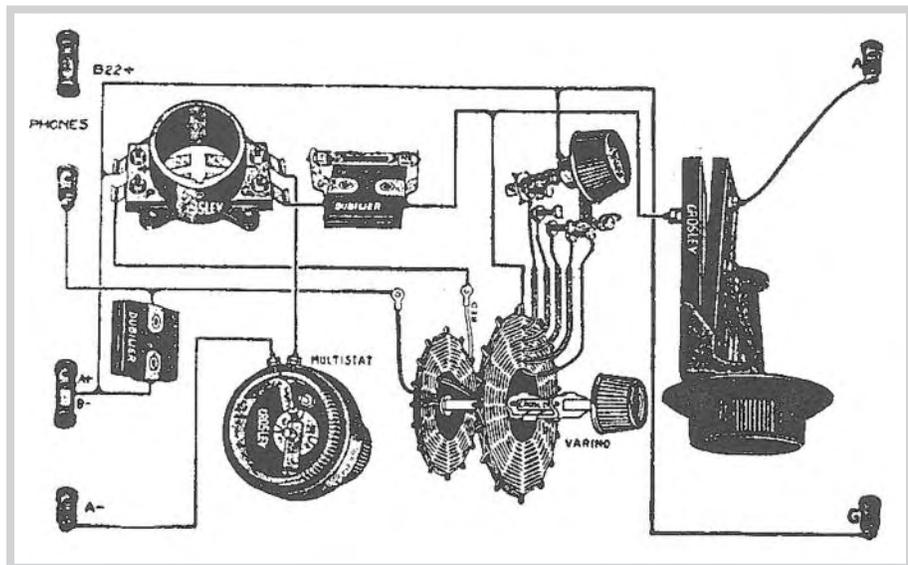


Fig. 3. Pictorial diagram of a Crosley 50 grid leak/regen set shows mechanical and electrical construction.

Company Chronicles

See copyright statement at end of article.

The logo for Majestic Electric Radio features the word "Majestic" in a large, elegant, cursive script. Below it, the words "ELECTRIC RADIO" are written in a smaller, bold, sans-serif font, with horizontal lines separating "ELECTRIC" and "RADIO".

The Majestic radio brand was originated by the Grigsby-Gruno-Hinds Company, which was incorporated near the end of 1921 and originally made automobile sun visors. In October, 1924, the company began to advertise speaker horns with bells made of Pyralin (celluloid), a material that had been used in the earlier sun visor product. Other speaker models were added in the following year, and in September, 1925 the company introduced its first Majestic product, an "A" and "B" battery eliminator. In March, 1926, the very popular Super-B Model eliminator was released.

CGH's gross eliminator sales in 1927 were almost \$5 million; this was more than most manufacturers of radio receivers made in that year.

But AC-operated radios were already on the radio manufacturer's drawing boards and, when released, would obviously ruin the battery eliminator business. Accordingly, the firm decided to enter the radio manufacturing business, reorganizing under the name of Grigsby-Grunow (partner Hinds having sold out) in March, 1928.

Grigsby-Grunow purchased Pfansteil Radio's RCA license, expanded its plant facilities, and began production of Majestic radios in mid-May — soon reaching 1500 sets per day in what was normally the slack season. The reason: Majestic sets were equipped with powerful dynamic speakers, but sold at prices similar to those of competitive sets equipped with much weaker magnetic speakers.

In 1929, the company went into tube production—and was manufacturing 30,000 per day by August of that year. Sales for June, 1928 through May, 1929 were \$49 million, reaching \$61 million in the following year.

But Majestic's business, based on expensive console sets, slumped during the Depression. "Relieved of the presidency" in 1931, partner Grunow started his own company, later (1933) merging it with the U.S. Radio and Television Corporation in Marion, Indiana. The firm name was then changed to General Household Utilities Company. It ceased manufacturing in 1937.

The Majestic firm diversified, adding refrigeration to its line and, in 1932, purchasing the Columbia phonograph company. But an inexorable slide into bankruptcy had begun. Grigsby-Grunow went into receivership in November, 1933 and all assets were advertised for sale in December, 1934. The Majestic name was revived in 1937, but the new company had no connection with the original one. Wilcox-Gay purchased the second Majestic company

in 1950, discontinuing Majestic production in 1955 — when it switched to marketing Grundig products under

The AMRAD logo consists of the word "AMRAD" in a large, bold, serif font. The letters are closely spaced and have a slightly weathered or distressed appearance.

the name Grundig-Majestic.

Amrad's roots go back to before World War I, when the American Radio and Research Corporation was put together by the banking house of J.P. Morgan. The farsighted Morgan, creator of U.S. Steel and General Electric, had obviously divined the moneymaking possibilities in the fledgling radio industry. However, "J.P." died in 1913, leaving the direction of the empire to his son and namesake "Jack."

Jack, who lacked his father's drive and business acumen, entrusted the direction of Amrad to Harold J. Power, a wireless operator on the Morgan yacht and recent graduate of Tufts College (Medford, MA). Powers' business experience was nil, but he had been a wireless operator and radio amateur for several years.

Not surprisingly, Amrad became primarily a research company—conducting experiments in areas such as radio broadcasting.

However, the arrival of World War I galvanized the firm into action, and it expanded to produce field radios for the Army Signal corps and marine sets for the Navy.

At war's end, the military contracts dried up, but the company kept going making non-radio items and was eventually able to obtain some lucrative peacetime business from the armed services. Amrad management had little interest in private-sector marketing, turning down — in 1920—an opportunity to purchase a half-interest in Armstrong's regenerative patent for \$500.00!

But that same year, as the public's obsession with radio broadcasting became obvious, Amrad entered the arena. Its first offering to the listening public, a modular radio receiving system originally designed for radio amateur work and requiring the interconnection of six or more units, met with a luke-warm reception. By fall of 1921, Amrad had designed a more user-friendly two-unit (tuner plus detector-amplifier) receiver, but the management-topheavy firm was slow to get the new set into full production and missed the lucrative Christmas radio marketing opportunities of that year. By 1922, Amrad was in the hole, and executive dismissals began early in the following year.

The firm's continuing marketing attempts followed the previously-established pattern. Its modular set designs did not win radio listeners' hearts and, in any case, always

These company biographies, used with permission, were abridged from Alan Douglas's three-volume encyclopedia Radio Manufacturers of the 1920s, published by Sonoran Publishing, 6505 West Frye Rd., Suite 15, Chandler, Arizona 85226, sonoranpublishing.com, and copyrighted 1988, 1989 and 1991 by Alan Douglas.

seemed to hit the market a little too late to capitalize on key seasonal selling opportunities.

When Amrad went into receivership in 1925, its assets were purchased by Powel Crosley—who was primarily interested in obtaining the troubled firm's Neutrodyne li-

cense. A line of Crosley-produced Amrad Neutrodynes was soon on the market, and the firm probably would have survived had it not been for the stock market crash and Great Depression. As it was, Crosley closed down the Amrad operation in 1930.

ABOUT THE ANTIQUE WIRELESS ASSOCIATION

The Antique Wireless Association is an organization of about 2000 international members linked by a common interest in the history of electrical and electronic communications. AWA members come from all walks of life and our ranks include teenagers, octogenarians, and beyond in both directions. At one of our meets, you might find yourself shaking hands with a retired broadcast executive or military electronics specialist, an engineer in a high-tech electronics firm, or an eager young person looking for advice on restoring his or her first radio.

The organization was started in 1952 by Bruce Kelley, George Batterson, and Linc Cundall—amateur radio operators and radio collectors from upstate New York. Their initial goal was to establish a museum where they could collect and preserve early wireless and radio equipment and historical information before it was lost to future generations. Decades later, their legacy continues to motivate our members.

Some of us are most interested in the technical background behind the epoch-making discoveries that now make it as easy to communicate across the globe as around the corner. Others enjoy the romance surrounding the men and institutions that put these discoveries to work: the maritime radio operators who averted disasters with their alert ears and quick thinking; the short-wave stations that radiated glimpses of exotic cultures and mindsets; the giant radio networks that delivered unparalleled entertainment and timely news to our homes while hawking toothpaste, cigarettes and soap flakes.

Though AWA members share this common interest, which many can trace back to early childhood, they express it in different ways. Some of us collect radio-related literature and manuals. Others collect and restore hardware: Morse keys and sounders, battery radios of the 1920s, telephones, advertising signs, cathedral and console radios—you name it! Collections can become very specialized, restricted to such things as radio components crafted of shiny Bakelite and gleaming brass or perhaps the fragile and intricate vacuum tubes that made the communications miracles possible.

Among our members are meticulous craftsmen who enjoy replicating vintage receivers and/or transmitters.

Those who are licensed amateurs frequently operate such equipment in special communications events sponsored by the AWA.

In addition to the commitment to the preservation of historical artifacts and background materials at the Museum, AWA also publishes *The AWA Journal* and *The AWA Review*. The *Journal* is a quarterly publication that gives our multi-talented members an outlet to share their historical research, equipment restorations, troubleshooting and servicing tips and other information of common interest. *The AWA Review*, which also publishes member contributions, contains more extensive and scholarly papers. It is published once a year.

The AWA Gateway is the latest addition to the AWA family of publications. It's delivered electronically and free of charge—downloadable from our web site www.antiquewireless.org.

Our content is targeted at those who may not be familiar with the AWA and who perhaps are just becoming interested in the history, collecting or restoration of vintage communications gear. For that reason, our technical articles are more basic than those in our other publications and our articles about AWA generally do not assume knowledge that that only those familiar with our organization might have.

The AWA also sponsors a four day annual convention in August featuring technical presentations and forums, a large auction, an awards banquet, an equipment and artifact competition, a book sale, and an active flea market. The convention affords attendees plenty of time to renew and make friendships, time to engage in long conversations on collection, preservation and all other aspects of the hobby.

The AWA is chartered as a non-profit organization in New York State, an IRS 501(c)(3) tax-exempt corporation, and is a member of the American Association of Museums. To learn more about AWA or to join our organization, visit the AWA website at www.antiquewireless.org.

DONATING ARTIFACTS TO THE AWA

You may have artifacts that you are interested in donating to the AWA. We would be pleased to discuss any possible donation. Please call us at (585) 257-5119.

Play It Again

A No-Nonsense Guide to Vintage Radio Restoration

By Ken Owens
1932-2009
© 1995
The Radio Collector

PART 6—SIGNAL TRACING A BATTERY SET

In the last two issues of this column, we took you through a methodical protocol for checking over a simple battery set (in our case, an Atwater Kent Model 20C) prior to first applying power. We concluded by suggesting procedures for safely connecting the set to a power source, turning it on and tuning in a station.

If you carefully followed the suggested procedures, there's a good chance that you now have a working radio. But there's also a chance that the set will be dead. This month, we'll talk about how to bring such a radio back to life.

There are three main reasons for a dead radio: bad tubes, missing or incorrect voltages and interruptions in the signal path. The first two are easily detected, but signal interruptions are more difficult to find. A lot of things (such as open secondaries in the RF coils or AF transformers) can cause a dead set without upsetting voltages.

BUILDING AN AUDIO SOURCE

You need a source of RF and AF signals to troubleshoot a dead set. Commercial signal generators and tracers are nice, but you can repair sets without them. RF signals are all around us—all you need is an antenna to get them. A simple source of audio signals can be built for a few dollars with parts from Radio Shack.

It is essentially a small DC power supply with a full-wave rectifier, a current limiting resistor and a capacitor to block the DC output. The reason for the blocking capacitor is that we're not interested in DC output but in the distinctive 120 Hz AC signal generated by the full-wave rectifier.

You'll need just a few inexpensive parts: the main components are a small 12-volt transformer (Radio Shack 273-1385 or equivalent), a full-wave rectifier (Radio Shack 55051174 or equivalent) and a 100k linear taper potentiometer (Radio Shack 271-092 or equivalent). You'll also need a 470-ohm, half-watt resistor, a .01uF ceramic capacitor (rated at at least 500 volts to handle voltages that might be encountered during set testing), a couple of binding posts (one black, one red), a minibox in which to build the circuit, a line cord and appropriate small hardware.

Connect the line cord to the transformer primary and connect the transformer secondary to the bridge rectifier terminals marked "AC," wiring the resistor in series with one of the leads. Connect the outer terminals of the potentiometer across the rectifier terminals marked "+" and "-." Connect the black binding posts to one of the outer potentiometer terminals and the red one to the center potentiometer terminal through the .01 uF capacitor.

CHECKING THE AUDIO SECTION

Getting back to our dead AK 20C, we will now use our AF source to test the audio section. You should already have checked the tubes and measured the tube voltages to assure that they are present and correct. Connect the black binding post to B- and insert a test lead in the red binding post. Using the potentiometer, set the output of the audio source near to maximum and touch the test prod to the the grid of the second AF tube (V5 in the diagram shown in the December, 1995 issue). If you hear a loud, raw hum, the tube and speaker are OK. If you hear no sound, there is a fault in this stage. Measure the voltages again and recheck the tube and each component in the stage to locate the fault. Don't forget to remove the power when making resistance checks with your ohmmeter!

After repairing the fault, repeat the test to make sure there is sound. Next, reduce the output of the source and touch the prod to the grid of the first AF tube (V 4). The indications and procedure are the same as before. Locate and repair any faults, then check for sound with your AF source.

Often there are multiple faults in an old radio. This procedure locates and repairs them one at a time. Complete the testing of the audio section by reducing the source output nearly to minimum and touching the prod to the grid of the detector tube (V3). If there is no sound, repeat the troubleshooting and repair routine. The grid leak and capacitor (R3, C2) are not included in this test. We are testing V3 as an amplifier—not a detector.

You could have tested the entire detector-audio section at once by applying signal to the grid of the detector tube at the start of your test session. If you had heard sound, fine. But if not, how would you know where the fault lay? By working backwards, we locate and fix the faults one at a time in a logical sequence.

CHECKING THE DETECTOR

Now that the audio section is working, we can connect an antenna and see if the set plays. If not, we will have to continue stage testing into the detector and RF amplifiers using an antenna as a source of RF signals. Connect a 250pF/500V capacitor to your antenna or to a long piece of wire strung around the room. Connect the other end of the capacitor to the stator (fixed section) of the detector variable capacitor (right-hand dial). Tune the capacitor and you should hear some stations if the detector is working. The sound will be weak and the tuning broad. Absence of sound indicates a fault in the coil, grid leak or capacitors.

CHECKING THE RF AMPLIFIERS

If all is well, connect the 500pF capacitor to the stator of the center capacitor (which feeds V2). Tune this capacitor and the right hand capacitor for maximum volume and leave the right hand capacitor alone from now on. The volume should be louder than before because there is a stage of RF amplification in the circuit. No sound indi-

cates a fault in V2 or its associated parts.

The last step is to connect the antenna to the antenna terminal of the set and tune the left and center capacitors to the same settings as the right hand capacitor. If V1 and its components are good, you will hear the set performing as it should, though you may have to “tweak” the adjustment of all three capacitors for maximum volume.

READER INTERNET SITES

In the April issue of *The AWA Journal*, we mentioned an idea proposed by reader Steven Johannessen. He felt that *Gateway* readers might find it interesting and stimulating to look at collections our readers might have posted on line. We agreed and solicited URLs. We received and included three of them last time. Here they are again along with some additions received since then. Four readers have responded so far. Additions to the list are always welcome!

Allie Lingo (radiodoc@windstream.net) sent two:
Radios: <http://www.radioatticarchives.com/contributor.htm?code=499>
Test Equipment: <http://www.oldtestequipmentarchives.com/contributor.htm?code=26>

Mike Adams (mike.adams@sjsu.edu) has recently redesigned his Lee de Forest website. Look it over at www.leedeforest.org.

Ron Lawrence sent several URLs featuring his collections and interests:
Radio Heaven Page
<http://radioheaven.homestead.com/menu.htm>

Clough-Brengle test equipment page
<http://cloughbrengle.homestead.com/>
Civilian Conservation Corp. page
<http://radioheaven.homestead.com/CCCradio.html>
Ron's YouTube channel—with video tours of his collections
<http://www.youtube.com/user/w4ron>

The Tube Collector's Association Tube Photo Gallery
<http://radioheaven.homestead.com/TCA.html>

Don Ignatius Collection
www.radionutzantiqueradios.com

Enjoying Antique Radio

Long Wave Radio

By Andy Ooms
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Common electronic delivery modes of entertainment and information in 2012 include AM and FM broadcasting, cable, the Internet, cell phones, iPods, and satellite radio. One of the much less common communications modes is long wave. We are discussing it here, not because it is highly utilized currently, but because we plan to cover all modes utilizing the radio spectrum starting near the lowest frequency and moving past short wave territory.

Although broadcast receivers covering long wave are rare, it is less surprising to find long wave coverage on a vintage set than on a modern radio. Current consumer radios will have AM and FM bands, and may include satellite and Internet station capability as well. Weather channels are also readily available now. New sets with long wave reception capability available in North America will be short wave and communications receivers, typically covering 100 kilohertz through 30 or more megahertz. These items are produced for hobbyist markets, not so much for the general consumer public.

WHICH VINTAGE RADIOS HAD LONG WAVE BANDS?

Almost all radio manufacturers from 1930 to 1960 produced multi-band radios. Such radios included AM and one or more short wave bands. The short wave bands were at frequencies above the AM band. Toward the end of this period FM bands became more common. Long wave bands were never mainstream in North America, and it is unlikely that such bands were much used in sets that had them. Such sets were generally those with several shortwave bands whose manufacturers wished to further expand the band count

Looking randomly through the *Collector's Guide to Antique Radios*, Sixth Edition, by John Slusser and the staff of Radio Daze, it seems that the most console and table model radios with long wave bands were produced in the years immediately preceding World War II (approximately 1935 to 1939). Not every major manufacturer produced them, but Philco, RCA, and General Electric models are listed. Lafayette and Andrea also sold long wave sets. In the 1950s, a few manufacturers, including Hallicrafters and Stromberg Carlson, sold multi-band portables which included long wave bands. Long wave capability basically disappeared from the general US and Canadian radio market during the 1960s.

The situation is different for Europe and other areas where long wave is used for commercial and public broadcasting. Some beautiful vintage wood and plastic European sets with long wave bands (Grundigs, Norde-mendes, and Telefunken, for example) are available in North America as a consequence, in part, of military personnel having bought them in PXs during the post World War II years. Until last year, I was the proud owner of a

high end German console, a 1958 Saba. It had long wave, several other bands, and an amazing tube count of twenty two. Living in rural Arizona surrounded by mountain ranges and without a proper antenna, I did not try its long wave capability.

WHAT CAN BE HEARD ON LONG WAVE RECEIVERS TODAY?

Much of what I know about long wave signals I have learned over the years from reading a *Monitoring Times Magazine* column: "Below 500 kHz." The column is written by Kevin Carey, one of the most knowledgeable long wavers around. He is reachable at kevincarey@monitoringtimes.com. In addition to his column, he is active in a long wave club, has produced a booklet about long wave, and has recorded a CD of sounds heard on that band. So I will proceed, giving Kevin the credit where it is due.

At the extreme low end of the band, under 100 kilohertz, a variety of natural sounds, produced by the earth or the atmosphere, can be heard. These signals are identified as sferics, tweeks, whistlers, and the dawn chorus. Several governments broadcast time or military signals under 100 kilohertz. Some years ago, the U.S. Navy laid some very long under-water antennas in Lake Michigan for long wave signal transmissions over great distances in the Extreme Low Frequency (ELF) range below 100 kilohertz. Most sets with long-wave capability available start at 100 or 150 kilohertz. Below 100 is territory for specialists and the sets capable of receiving there are few and can be expensive.

Throughout the long-wave band, various non-voice signals can be heard including Navtex (navigational telex) and MCW (modulated continuous wave) signals. These can be for various military, utility, or commercial uses, and require specialized equipment to utilize them. A portion of the spectrum has been allocated by the FCC for experimental use of low power equipment.

While working in Alaska in the 1990s, I found aviation information in a normal voice mode at several long wave frequencies. I heard them from stations in Anchorage, Homer, and Kodiak. Temperature, wind speeds, precipitation, visibility distances, and forecasts were repeated constantly; the messages were updated frequently, possibly hourly. I doubt that such transmissions exist in other states; Alaskan aviation has many unique issues and challenges.

The long wave band is the home of hundreds of NDBs (non-directional beacons). They repetitively broadcast their call letters in Morse code (two or three letters of the alphabet), often using tone-modulated Morse CW (continuous wave). Non-directional actually means that the signal is sent in all directions simultaneously, and not aimed in any specific direction as are those of many broadcast stations. *For more information about types of NDB sig-*

NDB (Non Directional Aircraft Beacon) Signals

There are a handful of true CW (classified as A1 emission) beacons that simply use a keyed carrier that requires having your receiver's BFO (beat frequency oscillator) turned on in order to be intelligible. Most of these are found outside North America, and for some reason a fair number are located in Greenland and Iceland. They typically have long ranges due to the method of detection, but also require more careful tuning. Without your BFO on, you'll hear nothing but thuds and clicks, just as if you tried to listen to a CW ham signal with an AM receiver.

Quite a few beacons use MCW (essentially A2) emission. This is CW modulated with a tone which of course can be heard with a conventional AM receiver. This mode is really no different than holding a code practice oscillator up to the microphone of your AM transmitter and keying away.

Now, having stated the above, here's where things can get very interesting. Many, if not most, of the beacons in North America and other parts of the world today use a scheme whereby there is a constant carrier on the assigned beacon frequency. Then a second carrier oscillator is keyed inside the transmitter, which mixes with the constant carrier, producing a modulating tone that is equal to the sum and difference of the two frequencies.

One of these sidebands is typically filtered out, although some beacons do transmit both. The resulting tone is typically set to 400 Hz for Canadian beacons, or 1020 Hz for US beacons, although there are exceptions where just the opposite is true. (A better way to distinguish between US and Canadian beacons is that Canadians virtually always transmit a dash after their ID, while US beacons do not, although the tone is still a good indication.)

You might ask why the signals are generated in this way, and my belief is that it allows for more efficient transmission without the need for the modulation transformer and associated circuitry involved with a traditional AM transmitter. Also, I think it gives a more precise way to generate and maintain a stable modulating tone.

In summary, while beacons are transmitting in Morse Code (loosely termed CW among hobbyists) the actual mode of transmission in many cases involves two carriers working together to arrive at the final signal. As a result. The bottom line is that for most casual listeners to long wave, an AM receiver will suit them just fine. Using a receiver with a BFO can bring added DXing benefits, but is not strictly required.

Kevin Carey
"Below 500 kHz" Columnist
Monitoring Times Magazine

nals, see the sidebar that Kevin has provided for this column. —Ed.

NDBs are located at airports of various sizes, and the continuous broadcast of their call letters allows general aviation pilots to know where they are, and to home in the runways. The signals are usually not very powerful as they are only needed near a specific airport. However, long wave DXers (DX is radio short-hand for distance) using good receivers and antennas can catch quite a few over large distances. A recent set of loggings sent to Kevin's column from Mario Filippi in New Jersey reports NDBs heard from Newfoundland Labrador (two former territories combined into one province) to Georgia and from Bahamas to Kentucky.

Quite a few countries allow commercial broadcasters to use the long wave band. DXers sending logs to the DX club publications, *DX News* and *DX Monitor*, report frequent reception of European and North African broadcasts in the 153 to 252 kilohertz range. These stations are often captured at locations on our Pacific or Atlantic coasts, using long directional wire antennas. Recent trans-ocean loggings reported in *DX News* and *DX Monitor* include stations in Russia, Ireland, France, Morocco, and Germany. The reports came from Maine, Michigan, and Washington. Programming on these stations is very much like any programming on the AM band.

I have personally listened to long wave commercial broadcasts of music and interviews and advertising while visiting Australia, New Zealand, and the Philippines. The Philippine situation intrigued me in that there were several long wave stations, but I never was able to find radios capable of receiving long wave for sale in the shopping malls and stores where radios were sold, so I don't know who listened to the stations beside me.

WHAT NEXT?

In our next article, we will probably start on some AM topics. And speaking of AM topics, in the last issue I recommended getting an antique radio, getting it working safely, and then seeing what you can catch with it. Shortly after I wrote that, I saw a logging report Forest Osborn of Hooker, Oklahoma had published in *DX News*. With a 1956-1958 era Hammarlund HQ-150 tube radio and listening in Oklahoma, Forest logged AM stations in Missouri, Illinois, Kansas, Florida, Texas, New Mexico, North Dakota, Nebraska, Saskatchewan, and Manitoba earlier this year.

In our last column I also stated that although Internet, satellite, and other sound delivery systems are dominant, the older technology of over-the-air AM and FM is still with us. The FCC reports that at the end of 2011 there were 4766 AM stations, 6542 FM commercial stations, 3644 FM educational stations, 6099 FM repeaters and boosters, and 838 low power FM stations licensed in the US. So there are still some sounds out there to be caught and enjoyed.

Let us know if you have questions or comments or want to request that we cover a particular topic in the column.

Old Time Radio Programs

Introduction

What we know today as radio broadcasting began on August 31, 1920 with coverage of local election results in Detroit Michigan. They were transmitted on station 8MK, which was owned by *The Detroit News*. Following this was the startup of KDKA, the first commercial radio station in the United States. KDKA was established in Pittsburgh, Pennsylvania by the Westinghouse Electric Corporation on November 2, 1920. The station (1020 kHz AM) is currently owned and operated by CBS Radio. Its studios are located at the combined CBS Radio Pittsburgh facility on Foster Drive in Pittsburgh; its transmitter is in Allison Park.

The first regular entertainment programs were broadcast in 1922. The first Rose Bowl was broadcast on January 1, 1923 from the Los Angeles station KHJ. As the medium of radio broadcasting matured during the 1920s and 1930s, we entered what is called "the golden age of radio." A wide variety of program types and styles developed, including adventure, comedy, drama, horror, mystery, musical variety and romance, as well as classical music concerts, big band remotes, farm reports, news and commentary, panel discussions, quiz shows, sidewalk interviews, talent shows and weather forecasts.

Many radio shows originated from stage productions and others from comic strips of the day. One stage production that gave rise to a radio series was Clifford Goldsmith's play *What a Life*. It was reworked into NBC's popular, long-running, *The Aldrich Family* (1939–1953) with the familiar catchphrases "Henry! Henry Aldrich!" followed by Henry's answer, "Coming, Mother!" Another example is Moss Hart and George S. Kaufman's Pulitzer Prize-winning Broadway hit, *You Can't Take It with You* (1936), which became a weekly situation comedy heard on Mutual (1944) with Everett Sloane and later on NBC (1951) with Walter Brennan.

Programs adapted from the comic strips, were shows such as *Blondie*, *Dick Tracy*, *Gasoline Alley*, *The Gumps*, *Li'l Abner*, *Little Orphan Annie*, *Popeye the Sailor*, *Red Ryder*, *Reg'lar Fellers*, *Terry and the Pirates* and *Tillie the Toiler*. The first daytime serial, *Clara, Lu, and Em* was introduced in 1930 on Chicago radio station WGN. Such programs became known as soap operas because many were sponsored by companies which sold soap products and detergents.

The late afternoon adventure serials were aimed at juvenile listeners. They included *Bobby Benson* and *the B-Bar-B Riders*, *The Cisco Kid*, *Jack Armstrong*, *the All-American Boy*, *Captain Midnight*, and *The Tom Mix Ralston Straight Shooters*. Often offered on these shows were premiums such as badges, rings, and decoding devices connected with the story line or the sponsor's product. To earn one, the young listener was typically required to mail in a box top from a breakfast cereal or other proof of purchase.

Other popular programs from the era were *Mercury*

Theatre on the Air, *Theatre Guild on the Air*, *The New Adventures of Sherlock Holmes*, *Lux Radio Theater*, *Abbott and Costello*, *The Shadow*, *Fibber McGee and Molly*, and *The Lone Ranger*, just to mention a few.

Of course we can't forget perhaps the most memorable show of all, which was done one Halloween by Orson Welles. Based on H. G. Wells's *The War of the Worlds*, it was formatted to sound like a breaking news program. The program created quite a panic throughout the United States, since not all people caught the beginning of the broadcast, where the premise of the show was explained. Many thought we were actually being invaded by Martians.

Most shows included some form of advertising, selling such products as coal, cigarettes, soap products, toothpaste, cereal and many other popular products of the era.

There were many other genres of programming worthy of special mention. Among those were the big band shows featuring artists such as Tom Dorsey and his orchestra, George Olsen, Rudy Vallee, Nat Skilkret and many others.

Some old-time radio shows continued on the air, although in ever-dwindling numbers, throughout the 1950s even after their television equivalents had captured the attention of the general public.

One unusually long-lived show is the Grand Ole Opry (1925), which was, and still is, broadcast on Tennessee station WSM.

Today, radio performers of the past may appear at conventions which feature re-creations of classic shows, as well as music, memorabilia and historical panels. The largest of these events was the *Friends of Old Time Radio* Convention, held in Newark, New Jersey, which held its final event in October 2011 after 36 years. Others include the Cincinnati OTR & Nostalgia Convention (April), REPS (Radio Enthusiasts of Puget Sound in Seattle (June), the Mid-Atlantic Nostalgia Convention (September) and SPERDVAC (The Society to Preserve and Encourage Radio Drama, Variety and Comedy in California (November).

Veterans of the Friends of Old Time Radio Convention, including Chairperson Steven M. Lewis of The Gotham Radio Players, Maggie Thompson, publisher of *The Comic Book Buyer's Guide*, Craig Wichman of audio drama troupe Quicksilver Audio Theater and long-time FOTR Publicist Sean Dougherty have launched a successor event, Celebrating Audio Theater – Old & New, scheduled for October 12-13, 2012.

Old Time Radio (OTR) is now a hobby pursued by many people, young and old, who have an interest in listening to, and collecting, old time radio programming. Vintage programming is still available in the form of MP3s and can be listened to, or downloaded from, the internet. Most of these shows are now public domain and can be legally recorded and listened to.

There are well over 10,000 programs available to the

collector and you can have a collection of whatever size you like. Some people collect all the OTR programs they can find while others collect only certain shows of the time. Whatever your preference it is a interesting and enjoyable hobby whether you are young or old.

To help preserve the recording of this bygone era, a group called The Old Time Radio Researchers (OTRR) was formed. It is a community of enthusiastic fans, avid listeners, and strong supporters of "Old Time Radio." The group's goals include restoring, preserving and sharing the classic radio shows from 1930-1962. The OTRR, comprised of a diverse world wide group of volunteers, has undertaken many ongoing projects and continues to work hard to preserve our wonderful radio heritage.

The Group has undertaken the mammoth task of trying to accurately catalog ALL OTR episodes. Furthermore, they have made their database public and interactive through a program called OTTER. Currently the db contains over 1,880 series listing over 173,000 episodes. You can visit their website at <http://otrr.org>.

OTTER, a significant tool for the OTR hobbyist, is a free

downloadable interactive software program (PC only) designed to compare a user's MP3 OTR file titles against a known and corrected database. This program can compare thousands of titles against this database. It will display missing episodes, incorrect dates, and incorrect titles. The database, containing over 190,000 listings, has been developed, researched and is maintained by the OTRR Group. The FREE software can be downloaded at http://otrr.org/pg02b_otter.htm.

Viewed by many as one of the most complete in the OTR community, it differs from some of the other accepted databases in broadcast dates, episode titles, etc. OTRR researchers are constantly reviewing radio logs from a large number of newspapers from the years 1930-1962. This newspaper database, created by group members, is perhaps the most ambitious project undertaken in recent years.

Future articles in this OTR series will feature the history of individual programs, along with their stars and other available information. Where possible, we will include links to where you can listen to or download the program.

Until next time—73!

Clubs That Will Welcome You

- The Antique Radio Club of Illinois (ARCI)—Meets bi-monthly. Meets generally held at the American Legion Hall, Carol Stream IL but meets in June in conjunction with the 6-Meter Club of Illinois at the Dupage County Fairgrounds and once per year for Radiofest at the Willowbrook Illinois Holiday Inn. Check website for schedules, details and maps.) Contacts: President, Olin Schuler oschuler@comcast.net; Club Public Contact, Art Bilski, 630-739-1060, clubinfo@antique-radios.org. Website www.antique-radios.org.

- Antique Radio Collectors of Ohio—Meets first Tuesday of each month at 2929 Hazelwood Ave., Dayton, OH (4 blocks east of Shroyer Rd. off Dorothy Lane) at 7 p.m. Also annual swap meet and show. Membership: \$10.00 per year. For more info, contact Karl Koogle: mail to above address; phone (937) 294-8960; e-mail KARLKRAD@GEMAIR.COM.

- California Historical Radio Society—For info on current meetings, call the CHRS hotline: (415) 821-9800.

- CARS, the Cincinnati Antique Radio Society—Meets on the third Wednesday of each month at Gray's History of Wireless Museum, which is part of The National Voice of America Museum of Broadcasting, Inc., located in a building that is now on the National Historic Register at 8070 Tylersville Road, Westchester, Ohio. 45069. For more information contact Bob Sands at (513) 858-1755.

- Carolinas Chapter of the AWA—Hosts four "mini-swap-meets" each year (in January, May, July and October) plus an annual conference, "Antique Radio Charlotte," on the 4th weekend in March. Executive committee meets approximately quarterly. For more info, visit the website at CC-AWA.ORG or contact Ron Lawrence, W4RON, Chap-

ter President, P.O. Box 3015, Matthews, NC 28106-3015; phone (704) 289-1166; e-mail W4RON@carolina.rr.com.

- Central Ohio Antique Radio Assn.—Meets at 7:30 p.m., third Wednesday of each month at Devry Institute of Technology, 1350 Alum Creek Rd., Columbus. (1-70 Exit 103B.) Contact: Barry Gould (614) 777-8534.

- Delaware Valley Historic Radio Club—Meeting and auction begins 7:30 p.m. on the second Tuesday of each month. Location: Telford Community Center on Hamlin Ave. in Telford, PA. Annual dues: \$15.00, which includes a subscription to the club's monthly newsletter The Oscillator. For more info contact Delaware Valley Historic Radio Club, P.O. Box 5053, New Britain, PA 18901. Phone (215) 345-4248.

- Houston Vintage Radio Association (HVRA)—Meets the fourth Saturday (January thru October) at Bayland Park 6400 Bissonnet, 9 a.m. in SW Houston. Each meeting includes an auction and program. Annual two day convention held in February includes three auctions, old equipment contest, technical talks, swap meet, and awards banquet. One day MEGA auctions held in the spring and fall. A newsletter, The Grid Leak, is published bi-monthly. Event postings, announcements, photos and other features are available on HVRA web site: www.hvra.org. Membership is \$20/yr. Address: HVRA, P.O. Box 31276, Houston TX 77231-1276 or call Bill Werzner, 713-721-2242; email: werz1943@gmail.com

- Hudson Valley Antique Radio & Phono Society—Meets third Thursday of month, 7 p.m. Meeting, swap meet, and membership info: Peter DeAngelo, President, HARPS, 25 Co. Rt. 51, Campbell Hall, NY 10916. (914) 496-5130.

- Indiana Historical Radio Society—Active since 1971.

Meets quarterly in Feb., May, July and Sept/Oct. Flea market, old equipment contest and auction at all events. The IHRS Bulletin published quarterly since 1971. Meet details and club information at website www.indianahistoricalradio.org. Contact Herman Gross, W9ITT, 1705 Gordon Dr., Kokomo, IN 46902, 765-459-8308, email w9itt@comcast.net.

- London Vintage Radio Club—This Ontario, Canada club meets in London on the first Saturday of January, March, May, June and November. Annual flea market held in Guelph, Ontario in September in conjunction with the Toronto club. Contact: Lloyd Swackhammer, VE3IIA, RR#2, Alma, Ontario, Canada N0B1A0. (519) 638-2827. E-mail contact is Nathan Luo at lvrcreditor@yahoo.com.

- Mid-Atlantic Antique Radio Club (MAARC)—Meets monthly, usually on the third Sunday of the month at the Davidsonville Family Recreation Center in Davidsonville, MD. (But meets once or twice a year in Northern Virginia—check website for schedules, details and maps.) Contacts: President, Steve Hansman, 855 Arundel Drive, Arnold, MD 21012, (410) 974-0561, email: shans01a@comcast.net; Membership Chair, Geoff Shearer, (703) 818-2686, email: gshearer2@verizon.net. Website www.maarc.org

- New Jersey Antique Radio Club—Meets second Friday each month, 7:30 p.m. Holds three annual swap meets. Visit the website, www.njarc.org or contact Phil Vourtsis, 13 Cornell Pl., Manalapan, NJ 07726, (732) 446-2427, pvourtsis@optonline.net.

- Northland Antique Radio Club (Minneapolis/St. Paul)—Hosts four events with swap meets each year (in February, May, September and November) including an annual conference, "Radio Daze," for two days in mid-May. Annual dues are \$12.00, which includes a subscription to the club's quarterly newsletter. For more info, visit our web site at www.northlandantiqueradioclub.com.

- Northwest Vintage Radio Society—Meets the second Saturday of each month at Abernethy Grange Hall, 15745 S. Harley Ave. Oregon City, OR. Meeting starts at 10:00 a.m. Membership \$25.00 per year. Guests welcome at all meetings and functions except board meetings. Spring show, the second Sat. in May. For more information, contact Mike McCrow 503-730-4639; e-mail: tranny53@comcast.net.

comcast.net.

- Oklahoma Vintage Radio Collectors—Meets second Saturday of each month, (except for April, October, and December), at Hometown Buffet, 3900 NW 63rd St., Oklahoma City, OK. Visitors welcome. Dinner/Socializing, 6 p.m., meeting, 7 p.m. Swap meets on second Saturday in April and October at 8 a.m., Midwest City Community Center, 100 N. Midwest Blvd., Midwest City, OK. Membership \$15/year including monthly Broadcast News. Info: contact Jim Collings at (405) 755-4139 or jrcradio@cox.net. Website: www.okvrc.org.

- Ottawa Vintage Radio Club—Meets monthly (except June and July) in the Conference Room, Ottawa Citizen, 1101 Baxter Rd., Ottawa, Ontario, Canada. Contact: Lea Barker at (613) 829-1804 or check www.ovrc.org. Membership: \$10 Canadian/yr.

- The Pittsburgh Antique Radio Society welcomes visitors to our Saturday flea markets, contests and clinics held at least four times yearly. A fall auction is included in September and our annual luncheon program is on the first Saturday in December. An annual Tri-State Radio Fest is held in April. Our journal, The Pittsburgh Oscillator, is mailed quarterly. For more information visit us at <http://www.pittantiqueradios.org>, email President Chris Wells at radioactive55man@comcast.net, or phone Treasurer Tom Dixon at 412-343-5326.

- Society for Preservation of Antique Radio Knowledge (SPARK)—Meets monthly at Donato's Pizzeria, 7912 Paragon Rd., Centerville, OH. Annual swap meet. Membership, \$18/year. Write SPARK Inc., P.O. Box 292111, Kettering, OH 45429; e-mail sparkinc@juno.com or call John Pansing at (937) 299-9570.

- Texas Antique Radio Club—Meets alternate months in Kyle and Shertz, TX. Contact: Doug Wright, 625 Rolling Hills Dr., Canyon Lake, TX 78133. e-mail dwwjw@gvtc.com; website www.gvtc.com/~edengel/TARC.htm

- Vintage Radio and Phonograph Society (VRPS)—Meets monthly on the third Saturday. Located in the Dallas, Fort Worth Metroplex, our current activities are annual convention, auctions, swap meets, repair training sessions and monthly programs. For details visit our website www.vrps.org, or by contacting VRPS President Jim Sargent at (817) 573-3546 or bsargent@swbell.net.

RADIO DAZE DISCOUNT FOR AWA MEMBERS

Radio Daze, a premier source of parts and supplies for radio restoration, now offers a special discount for AWA members. The discount is a generous 8% off of catalogue prices, and shipping on domestic orders is free (by ground service of Radio Daze's Choice) for orders of at least \$50.00. Orders under \$50.00 will still receive the discount, but a flat rate of \$5.00 will be charged for shipping.

International orders also qualify for the discount, and shipping will be at a flat rate of \$15.00. For orders that would ordinarily ship for less than \$15.00, there will be a flat charge of \$5.00. Expedited shipping, if requested, will be charged at normal rates.

Radio Daze will check the membership status of each AWA customer for the first order placed in each calendar year, keeping the status on file for the balance of the year.

To shop on line or request a catalogue, go to www.radiodaze.com



Members' Corner

News of Particular Interest to the AWA Membership

MEMBER SERVICES COMMITTEE REPORT

By Richard Neidich, Chairman
RGNeidich@aol.com

The AWA Board of Trustees has just concluded its spring meeting. The Membership Services Committee reported progress in several areas, including the recently released 2012 *AWA Review*, on-track budget versus actual financial status, and efforts to migrate the membership database to *PastPerfect's* "Contacts" capability. *PastPerfect* is the tool adopted by the AWA Museum to catalog and track museum artifacts as well as capture images of our document collections. Its features can be reviewed at <http://www.museumsoftware.com/>

The "Contacts" capability will support a multiple user environment and permit the system to support maintenance of multiple membership classes. It will also simplify the updating of our e-mail database to maintain membership contact information, currently a manual, labor intensive effort.

In preparation for our annual budget review process and the Convention Membership Forum in August, we invite you to pass along any suggestions to improve or expand our membership services—including, but not limited to, such things as web site changes, publication content topics and other ideas for future implementation.

MUSEUM NEWS

By Lynn Bisha, W2BSN
Associate Curator, AWA Museum

I am happy to report that the new Museum building is progressing on time for the Grand Opening of August, 2013. A new sub floor has been installed as a protection against water incursion and new flooring will be on soon.

We have completed the inventory, photographing, appraisal, and tax documents for a complete museum recently donated to AWA and moved to our own museum campus in April. It is now wholly owned by AWA. We also moved a large Telegraph collection to our museum in April. Some of the pieces from these two collections will be set up for preview at the convention this August. I am sure you will not want to miss it!

It is hard to do justice to the incredible effort put forth by the Museum volunteers regarding the transfer of the donated museum collection. It involved 200 mile round trips once a week for 36 weeks, and included the photographing, bar coding, packing, moving and sorting of all items. A 54-foot fold-over tower and tri-band beam also had to be taken down and disassembled.

A large truckload of items not to be retained was picked up by the Rich Estes group for auction, and the remainder was brought back to our museum in one 20-foot truck and three 26 footers. The team members worked tirelessly and put in many 12 and 14 hour days.

I thought it appropriate to list them here: Lynn Bisha,

Joe Granica, Bob Hobday, Sandy Macmillan and wife Caroline, Ron Roach, Bruce Roloson, his friend Bob Stiles (tremendous work with the cars), Dan Waterstraat and wife Sue, and Warren Wiedemann.

The second donation, of Western Union equipment from the Philadelphia area, was handled by Duncan Brown, Ron Walker, Dan Waterstraat and Roy Wildermuth. This effort required careful photo documentation of the installation prior to disassembly, including careful recording of the wiring, so we will be able to reinstall some of this as a working museum display.

The team spent four days of travel, disassembling and packing. Maybe I should mention the speed governor on the truck. It did make the travel time a little long!

In both of the above cases, the Donors specifically wished to remain anonymous, and the AWA will make every effort to comply, even after this equipment is installed in the Museum.

As the fall of this year comes to an end, we will begin merging the original AWA Museum in the Bloomfield Academy Building with our Collections in the new Museum building. This timing will get us ready for the 2013 May preview and August Convention Grand Opening.



Boxed, barcoded and inventoried, the contents of the donated museum await installation in their new home.



The pleasant Spring Meet weather brought out many tailgaters. Richard Neidich photo.



At the Spring Meet auction, Ed Gable looks for bids on a Variac unit being displayed by Duncan Brown.



Felicia Kreuzer discusses the Titanic's Marconi equipment. Richard Neidich photo.



The AWA Spring Board Meeting in mid-session. Richard Neidich photo.

Some of the duplicates in the large donated museum collection will be going to Rich Estes for auction. This will help us with the development fund.

On March 14th, AWA Museum Deputy Director Bob Hobday and Curator Emeritus Ed Gable were guest speakers at Harris Corporation in Rochester, New York. Harris, a world-wide leader in the design and manufacture of radio communications equipment, was celebrating *Engineer's*

Week, recognizing the contribution of design engineers in the success of their company.

Bob spoke on the Antique Wireless Association's plans for the future Museum, whose location is quite close to that of the Harris firm. Ed, who had a 32-year career with Harris/RF Communications, prepared a two-theme program that began by introducing many of the new engineers to the history of communication starting with the Marconi years.

That was followed by the history of the 1961 start of *RF Communications* in Rochester, their eventual acquisition by Harris in 1969, and a fifty-year retrospective of the product lines. Ed didn't have to do too much research on the subject, since he was there during those formative years.

Both presentations were well received, as was a show and tell session featuring artifacts from the Museum. The most popular touch and feel items were an 852 transmitting tube and...a slide rule. The presentation was web-broadcasted to six other Harris locations within the U.S. and Canada. The following Saturday saw a special Museum opening for Harris employees. It was a great joint effort.

On March 17, Bob Hobday and I opened the Museum for our AWA secretary, Bill Hopkins. Bill was there with Jeffery Beach to make a short video about what some of the professors at Nazareth College do in their off hours. Bill chose to highlight his amateur radio hobby, as well as the AWA Museum. This turned in to a fun adventure, and Jeff was given a one-on-one tour while doing his videotaping.

There were several equipment demonstrations, culminating in the demo of the 1kw rotary spark transmitter. Later, we went down to the library and Building 3 to further Jeff's knowledge and his video collection. Bill's video is a work in progress, and we hope that he will share the end product with us. It will also be noted that Jeffery Beach was quite impressed by the Museum, and we probably have not seen the last of him.

On May 5th, the annual Spring Meet was held at the East Bloomfield Veteran's Memorial Park. We were allowed to use the Veterans Hall for refreshments and our guest lecture. The Veteran's Park Annex, which used to be the AWA annex building, was made available to us for the AWA Flea Market and Auction. An ample parking lot provided plenty of space for the tailgaters and the weather cooperated in spectacular fashion. Blue sky, sun and a temperature in the mid-60s brought a nice crowd to the event.

Guest Lecturer Felicia Kreuzer gave a well attended talk on the Marconi equipment on the Titanic. The talk then turned to her efforts, with husband Jim, to help with the installation of a replica Titanic radio room at the museum in Branson Missouri.



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