Your Entry to the Fascinating World of Vintage Communications

Volume 4, Number 2, Summer 2014

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From The Editor

Welcome to the Summer issue of The AWA Gateway. In this issue, we begin a series covering all the additional things you may need, or become interested in, as you pursue a hobby of collecting and restoring radios. These may include parts, tubes, service literature and test equipment. To kick things off, we begin an article on John Rider’s monumental collection of radio schematics and data, otherwise known as “The Perpetual Troubleshooter’s Manual.” Other highlights of the issue include coverage of the AWA Museum’s Edwin Armstrong artifacts; a retrospective on kids’ radio programs of the 1930s and 1940s; a look at radio innovations of the late 1920s; the conclusion of our “Play it Again” series and a review of the
From The Deputy Director

Hi everyone, I have some fantastic news for you. It’s about the Voice of America Delano Station Rescue!

After almost six decades of service, and shut down since 2007, the Jack R. Poppele Memorial VOA Station in Delano, California, is scheduled to be sold for scrap. Just like the fate of the dinosaurs, extinction is imminent. However, last February saw the formation of “The Collins Radio Heritage Group,” an alliance between the AWA and the Collins Collectors Association to preserve and share the history of Collins Radio and Rockwell Collins. As a tribute to the legacy of the VOA, the world’s “voice of freedom,” as well as to Collins Radio technologies, and the Collins people who built the Collins 821A-1 250,000 watt transmitters at the Delano VOA Station, the group undertook to rescue the VOA Delano Station control room and one of the transmitters.

We are proud to announce that the recovery is now complete. A team of volunteers has dismantled and shipped the transmitter and control room to the Antique Wireless Museum in Bloomfield, NY for preservation and display next year as part of Phase 2 of the Museum’s construction plan. AWA Museum Staff is very busy designing the new VOA Exhibit and the other displays in Phase 2.

What is the Voice of America? That is a question that cannot be answered in a few words given the gigantic scope of VOA operations. In essence, the VOA is you speaking your thoughts, words, and suggestions of freedom to the peoples of the world. President Dwight Eisenhower said the purpose of the VOA “is to submit evidence to the peoples of other nations...that the objectives and policies of the United States are in harmony with and will advance their legitimate aspirations for freedom, progress, and peace.”

The Antique Wireless Museum now has an absolutely amazing artifact of communication history to display, and with it an awesome responsibility to tell the powerful story of the VOA’s history and continuing positive impact on freedom through
out our world. Imagine standing right in the actual
VOA station control room, listening to VOA pro-
gramming and seeing the actual Collins transmitter
used by VOA as one of the “voices of freedom”.

If you ask a young person under 35 years old (by
the way, that is young to me), they probably have
not heard of the Voice of America and what a major
long-term impact it has had in the struggle for free-
dom since 1942. They do not know that people
risked their very lives to listen to VOA. It is not their
fault! In the U.S., we assume freedom of news and
public information. But that has not been, nor does
it continue to be, the case in many countries around
the world.

Our challenge at the Museum, therefore, will be
to tell the amazing story of the VOA, the Collins
Radio people, and the technology that built the
transmitters. The VOA display at the Museum will
provide an outstanding stage in which to tell this
fantastic and historically significant story!

The future vision includes coordinated VOA dis-
plays in both Bloomfield, New York and Cedar Rapids,
Iowa (the home of Rockwell Collins), as well as
streaming video and audio linked to these displays
and to the CRHG website. The presentation of this
beautiful piece of engineering will serve as a tribute
to the VOA, the Collins Radio technologies and the
people who made it happen.

Would you like to be part of the completion of the
Phase 2 of the Museum and the VOA Project? Dona-
tions in support may be sent to the Antique Wireless
Association, c/o Robert Hobday, P.O. Box 421,
Bloomfield, New York 14469. If you have any ques-
tions about the project, please e-mail me at
N2EVG@ARRL.net.

—Bob Hobday N2EVG, Deputy Director, AWA Mu-
seum

AWA Gateway Columnists

JIM COOK, W0OXX
Radio Reflections
The son of a radio technician, Jim became a li-
censed amateur radio operator at age 15 and ob-
tained commercial radiotelephone licenses before
he was 20. He worked as a transmitter operator for
two radio stations while studying Electrical Engi-
neering at the University of Kansas. After graduation
he became an electronic circuit designer for Texas
Instruments. Later he redirected his career into elec-
trical power engineering and recently retired after
34 years in the facilities engineering group for Hall-
mark Cards.

ANDY OOMS
Enjoying Antique Radio
Andy is a retired labor relations and human re-
sources executive who has had a lifelong interest in
radio — including AM DX-ing, short wave listen-
ing, old-time radio programs and antique radios. In
his varied business career, he has worked on the
space shuttle project, at one of the last RCA radio
production facilities in the U.S., and for the Alyeska
Pipeline Service Company. Since retirement, he has
done some writing, camp-hosted at various state and
Federal forests and parks, and taught English,
American Literature and employment Strategy in Viet
Nam and the Philippines.

ERIC P. WENAAS, PH.D.
Book Reviews
Dr. Wenaas has had a lifelong passion for antique
radios. He received BS and MS degrees in Electrical
Engineering at Purdue and a Ph.D. in Interdisciplinary
Studies in The School of Engineering at SUNY Buffalo.
He spent most of his career at Jaycor, a defense com-
pany in Southern California — eventually becoming
President and Chief Executive Officer. Since his retire-
ment in 2002, he has written numerous articles for
AWA and other publications. In 2007 he published a
critically acclaimed book Radiola: The Golden Age of
RCA—1919-1929. For this work, he received AWA’s
Houck award for documentation in 2007.

RONALD N. YEAPLE, PH.D.
Communications History at the AWA Museum
Dr. Yeaple is retired from the faculty of the Simon
Business School at the University of Rochester. Prior
to joining the faculty, he was Executive Vice Presi-
dent of the Ritter Company, a $30 million biomedical
products company. Previously, he held engineer-
ing and product planning positions at Xerox Corpora-
tion and General Dynamics Corporation. He holds
7 patents in acoustics, biomedical instrumentation,
etc. and has authored four books and numerous journal articles and book chap-
ters. Dr. Yeaple earned a Ph.D in Electrical Engineer-
ing and an M.B.A. from the University of Rochester
and Bachelor and Master’s degrees in Electrical En-
gineering from Cornell University.
When we think of college-age entrepreneurs who had the vision to see the potential for major new businesses, we think of people like Bill Gates, Michael Dell and Mark Zuckerberg. But in 1914, Edwin Armstrong, an undergraduate at Columbia University, invented and patented a circuit using the new deForest Audion amplifying vacuum tube that revolutionized the design of radio receivers. By feeding part of the output back to the input, he achieved much greater amplification, creating a much more sensitive radio.

This was just the first of three major inventions by Armstrong that transformed the radio industry. Four years later, in 1918, he patented the superheterodyne circuit, which makes tuning a radio much simpler and more stable, and is still the basic circuit used in most AM radios today.

Prior to the introduction of the superheterodyne, a typical broadcast receiver might require the adjustment of half a dozen or more knobs and switches to tune a station. A superheterodyne radio can be tuned from station to station with just a single knob. With the introduction of this circuit, radio rapidly became a mass consumer product, with over six million radios in use by the mid-1920s.

Armstrong’s third major invention was FM radio. Unhappy with the static and tinny sound of AM radio, he set out in the 1920s to develop an entirely new system for radio that would provide the full fidelity of music without static, even during lightning storms.

In 1920, Armstrong met David Sarnoff, the president of RCA, who initially was impressed with the potential for FM broadcasting. From May 1934 until October 1935, Armstrong conducted the first field tests of FM broadcasting from an RCA laboratory on the 85th floor of the Empire State Building, using a spire on the top of the building as an antenna. The FM signals were successfully received some 80 miles away.

Following this successful demonstration, Sarnoff began to see FM as a threat to AM broadcasting, which RCA dominated. He refused to license Armstrong’s patents on FM and initiated lawsuits claiming that RCA had invented FM. In 1945 he successfully lobbied the FCC for changes in the assignment of broadcast frequencies for FM that he hoped would prevent FM from becoming dominant. This change in broadcast frequencies made obsolete all the FM radios that had been sold up to that time and was devastating to the early FM radio stations.

A patent fight between RCA and Armstrong was won by RCA, and Armstrong was no longer able to claim royalties on FM receivers or television receivers (television sound uses FM). These costly legal battles eventually brought financial ruin to Armstrong, and on January 31, 1954, he took his own life. After his death, many of these lawsuits were settled in his favor, making millions for his widow and restoring his reputation as the true inventor of FM broadcasting. But it was too late for Armstrong himself to enjoy the fruits of his
magnificent invention. Despite these setbacks, FM broadcasting eventually became hugely successful. In 1961, General Electric introduced stereo FM broadcasting, which brought even more enjoyment to the experience of listening to FM radio. Today FM has become the preferred way to listen to music, while AM has settled into a niche for talk radio.

Why isn’t Edwin Armstrong better known? He was truly the unsung hero of radio. He was not a self-promoter. He perhaps was naïve about expecting the excellence of his technologies to overcome the raw power of companies like RCA who were threatened by them. But in the decades after his death, as the superheterodyne circuit and FM broadcasting became recognized as the standards for the highest quality of radio technology, Armstrong received the most prestigious honors and recognition that the profession of electrical engineering can bestow.

REFERENCES

Notations and documents associated with Armstrong artifacts at the Antique Wireless Museum

THE ANTIQUE WIRELESS MUSEUM
LOCATION: 6925 Routes 5&20, East Bloomfield, NY, 14469 (for Google Maps, search for 6925 State Route 5, East Bloomfield NY)
HOURS: Tuesday 10:00 a.m. to 3:00 p.m., Saturday and Sunday 2:00 p.m. to 5:00 p.m. Except closed on holidays.
ADMISSION: $7.00 for adults, kids and teens are free, and AWA Members are free.
WEB: www.antiquewireless.org

BEHIND THE FRONT PANEL: THE DESIGN & DEVELOPMENT OF 1920S RADIOS by David Rutland. Published 1994 by Wren Publishers. Remastered and republished December, 2013 by California Historical Radio Society, Richard Watts Editor. 192 pages; 5½” x 8½”; 40 illustrations; 25 photographs; 75 references; Paperback; $19.95

Author David Rutland wrote this classic book to describe circuit designs employed in radios of the 1920s, the parts that made them work, and the historical reasons that so many different types of circuits were developed. The focus of the book is on battery-operated sets, but the last chapter describes how AC replaced batteries in the late 1920s and the impact of this change on circuit designs. The book, originally published in 1994 by Wren Publishers in Oregon, has been out of print for many years. Fortunately, it has been remastered from the original by Richard Watts and published in December of 2013 by the California Historical Radio Society (CHRS).

Rutland, an electronics engineer with over 25 years of experience in the design of vacuum tube circuits, explores the whys and wherefores of the components and circuits of the early broadcast radios. By using simplified descriptions and illustrations, supplemented by 25 photographs of actual radio component parts, he provides a very readable explanation of what goes on inside the old battery radios.

His story begins with the invention of the radio tube at the turn of the 20th century and concentrates on the engineering design and development through the 1920s. Design examples are taken from over 45 actual radios.
manufactured in the decade that saw broadcast radio start as a national pastime and end as a national necessity.

The book is written with three distinctly different themes, all of which are seamlessly integrated in a single compelling story. The dominant theme is the description of many different types of antique radio circuits used in the 1920s, which the author conveniently divides into the following major categories (although not in this exact order): detectors, radio frequency amplifiers, tuned radio frequency amplifiers (TRFs), audio frequency amplifiers, reflex circuits (combined audio and RF amplifiers), and superheterodynes. In addition, he addresses selected circuits that do not conveniently fit into these categories: one-knob tuning control circuits, a concept that was popular in the mid-1920s; screen-grid vacuum tube circuits, introduced to the market circa October 1927, that obviated the need for neutralization techniques in TRF receivers; and power supply circuits that replaced batteries, operating from AC lighting lines.

Rutland devotes one or two chapters to each of the above categories, with every chapter addressing a number of different variations of each category. For example, he first explains the basic operation of the crystal detector using an untuned circuit as an example, and then explains how a tuned circuit detector reduces interference. He then compares one- and two-circuit tuners and explains the pros and cons of each. He then moves on to vacuum tube detector circuits in the next chapter and explains three different variations—battery-biased, grid-leak biased and regenerative.

Rutland uses a simplified schematic diagram for each circuit type showing only those components pertinent to the basic principles involved. He describes the functionality in easy-to-understand language without resorting to equations or highly technical language. Rutland also uses simplified diagrams of actual radios manufactured in the 1920s to illustrate certain points.

Examples include the ubiquitous Radiola III regenerative receiver first manufactured by RCA in 1924, the Grebe CR-13 receiver manufactured in 1923 employing both regeneration and tuned radio frequency amplification — which according to Rutland became a standard for later sets, and the Triydn manufactured by Crosley in 1924 and 1925. This model used both regeneration and the reflex principle in which three tubes perform the function of five by passing both audio and radio frequency signals through two of the tubes, thereby producing two stages of RF amplification as well as two stages of audio amplification.

A second theme is the explanation of why each new circuit was developed. As Rutland introduces each new circuit, he explains the advantages of the new circuit and the shortcomings of the circuit or circuits it replaced. Rutland begins with crystal set circuits that he says were popular at the beginning of the broadcast era because they did not require batteries and were easy to assemble — making them the least expensive alternative.

Rutland then moves on to vacuum tube detectors and in particular the regenerative detector, which was vastly more sensitive than the crystal detector. According to Rutland, the regenerative detector was the first really practical circuit for broadcast receivers. However, the circuit was so successful that as sets with regenerative detectors proliferated, so did the chirps and whistles it generated, which often interfered with the neighbor's radio reception. According to the author, that caused engineers to develop radio frequency amplifiers, which isolated the regenerative detector from the antenna and also increased the sensitivity of the radio.

Yet another theme is the explanation of the many components engineers developed to implement new circuit designs. An example of such component is the variometer, which Rutland explains was designed to provide continuous control of inductance by splitting a coil in two parts and rotating one within the other. He goes on to introduce the variocoupler and explains the differences between these two very similar devices.

Photographs of these two, and many other, components and actual sets are grouped in a series of 25 photographs on thirteen unnumbered pages located in the center of the book. They include coils, radio and audio frequency transformers, tuning capacitors both individual and ganged, and more. Also included are photographs of the front and rear panels of classic receivers by selected manufacturers.

The reader will also learn all about esoteric circuits with unfamiliar names that are part of the antique radio lore — Neutrodyne, Superdyne, Technidyne, Isofarad, Counterphase, Syncrophase — not to mention “losser” circuits, a term dubbed by the editors of QST that appears in the Merriam-Webster unabridged dictionary to this day: “an element inserted into an electric circuit (as of an amplifier) for providing impedance so as to prevent resonant electric oscillation.” The reader will also learn who invented these circuits and components — men like Armstrong, de Forest, Hazeltine, Tuska — and the companies who manufactured complete receivers incorporating these circuits.

*Behind the Front Panel* is a classic in antique radio history and is a must for any serious radio historian or collector. It can be purchased from Antique Radio Classified, Amazon.com and other book dealers. Most dealers offer a discount from the suggested retail price.
PART 14: RADIO SERVICING OVERVIEW

This will be the last installment in our “Play it Again” series, and I’d like to use it to expand on the power supply troubleshooting procedures we originally covered in Part 8 of this series: “Servicing AC Power Supplies” (Gateway Volume 2 No.4). We’ll begin by plugging the radio to be checked into the lamp test rig you put together in Part 7: “Power For AC Sets” (Gateway Volume 2 No.3). You’ll recall that it was simply a 100-watt bulb wired in series with an AC plug and an AC socket.

First test the power transformer. Put a good pilot lamp in the set, but remove all tubes. The test lamp should not glow at all and the pilot lamp should light. One exception is a very large transformer with heavy gauge primary wire. The primary resistance is so low that the test lamp may glow faintly. A bright glow indicates a transformer short. A dim glow suggests shorted turns.

Measure the AC voltage from each side of the high voltage winding to the center tap. There should be no more than about a 3V difference. A difference of 10V or more indicates shorted turns. Such a transformer will still function, but will get very hot after an hour or so and eventually fail.

If the pilot lamp doesn’t light, the primary may be open or the switch or line cord may be bad. Check with your ohmmeter. Next check the speaker field coil, filter chokes (if any) and all audio transformer windings for continuity with your ohmmeter. If any of these major parts are bad, stop here and put the set aside. Why keep working on a set that will never play again unless you can find replacement parts? If the speaker is bolted together, you can remove an open field coil and have a motor repair shop rewind it.

Now measure all resistors and replace any bad ones. Open bleeders must be repaired before powering up. Otherwise, excessively high voltages can develop and damage other parts. Old carbon resistors have often greatly increased in value. The original tolerance was ±20%. Replace any which are outside those limits.

If all is well at this point and the set uses electrolytic filter capacitors, I replace them now even if they test good. I won’t risk major parts by trying to use old electrolytics which can short at any time. Cut the old units out of the circuit. Don’t wire replacement capacitors across the old ones no matter how tempting it may be to use them for tie points.

If you use “rebuilt” electrolytics (modern replacements installed in old cans), watch out for cases where an original filter capacitor can was insulated from the chassis with fiber washers or a paper sleeve. Be sure to replace this insulation. Note: when the set is operating, there will be about 100V between the can and the chassis. You will get shocked if you touch both at the same time.

I also replace the bias filter capacitor, the coupling capacitor between the AF amplifier plate and power output tube grid in R-C coupled stages, and any tone control capacitors connected between plate and ground. Leakage in these capacitors cannot be tolerated. If the filter capacitors are paper instead of electrolytic, I evaluate them and the bypass capacitors later during power up.

You will encounter filter capacitors in values no longer made. Today’s standard values for 450V units useful in antique radios are 1, 2.2, 4.7, 10, and 22 µF. I use the nearest value for replacement, i.e., 10 µF to replace 8 or 12 µF units or 22 µF to replace 16, 20 or 24 µF units.

Now we can power up the set. Leave it connected to the lamp test rig, install the rectifier tube only and turn on the set. Be sure to connect the speaker field coil. If the lamp glows brightly, the paper filter capacitors, which we have left until now, are probably shorted. You will have replace them with electrolytics because you can’t get high-value paper capacitors today.

If the paper filters are good, I leave them in place. In my experience, if they have not failed in 65 years, they are not going to. Measure voltages at all B+ points in the set including the tube socket lugs. There should be voltage at all plate and screen connections. Voltages will be higher than the diagram values because there are no tubes in the set drawing current.

At this point, you have located and corrected (I hope!) all major defects. Install all tubes, remove the lamp test rig and plug the set into the AC line. Be ready to pull the plug in case you overlooked something. Measure the B+ voltages again at all points in the power supply and at each tube socket. In the case of fixed bias, measure voltage from the output tube grids to the filament or cathode — not to ground.

Note: If you have the manufacturer’s data sheet for the
model you are working on, it will give you the voltage to be expected at each test point. —ed

If any voltages are missing or deviate markedly from specified values, go over that part of the circuit again to find the cause. Look for shorted bypass capacitors and open IF and RF coils. Compare tube voltages with maximum values in the tube manual. If the voltages are all within limits, record the readings for future reference in case of trouble. I recommend putting a 1-2A fuse in series with the transformer primary to protect your radio. Use an in-line holder to simplify installation.

Never assume that past repairs have been done correctly or that the circuit has not been changed. Check any non-original wiring or replaced parts carefully against the diagram.

This is a good place to end a series on basic restoration. I have enjoyed writing it, and I hope it has been of benefit to you. I leave you with this recommendation: you need one other book besides a tube manual if you are serious about electronic restoration. It is “Fixing Up Nice Old Radios” by Ed Romney. This is the best book I have seen on electronic restoration. Ed is an “Old Timer” whose father was a wireless operator. The book is easy and fun to read yet contains just about all you will need for electronic restoration of old sets. Get a copy!

Note: this book is now (August 2014) out of print and some dealers are charging up to $200.00 (!) but a Google search for the title turned up at least two dealers who had priced it at about $35.00. —ed

Company Chronicles

E.H. Scott was born in New Zealand and spent his early years in Australia. He was orphaned at age fourteen when his mother died suddenly, his father having died in a railroad accident several years before. During World War I Scott served in the Australian-New Zealand Army Corps. While in the army, he invented and patented a device (the “Telecator”) for diagnosing troubles in auto engines. Rights were purchased by the United States Government for a total of $46,000. On being discharged at the end of the war, Scott decided to move to the U.S. and make his home in Chicago.

During his early years in America, Scott wrote a column on automobile care that was syndicated in fifty newspapers in the U.S. and Canada. Becoming intensely interested in radio, he also began writing articles on the construction of radio receivers. In 1922, he originated the pictorial-style wiring diagram, which made it possible for non-technical radio fans to build their first sets. Eventually Scott, working out of a well-equipped laboratory for testing radio circuits, was supplying radio articles to 112 different newspapers.

Scott’s entry into radio manufacturing began four years after his move to the United States. Deciding to pay a visit to his native New Zealand, he wanted to take with him a radio capable of receiving U.S. broadcasts. Building a superheterodyne circuit using Remler components, he arranged for two Chicago stations to send him special broadcasts at pre-determined times. The distance involved was over 8,000 miles and the Chicago stations were low-powered (1,000 and 500 watts).

Few radios of the era would have been up to this challenge, but Scott was able to receive the broadcasts from both stations, picking them up for over an hour. In fact, during his thirteen weeks in New Zealand, he was able to log 117 programs from 19 different stations, all at least 6,000 miles distant. This established four world’s records for consistent night-after-night reception of stations in this distance range.

Ever the showman, Scott set out to prove that his radio was not a freak, but could be reproduced by any skilled builder. Sending to Chicago for a set of duplicate parts he built another receiver that performed as well as the first. He called this radio the “World’s Record 9.” Back in the United States, he began promoting the set,
s卖出邮购计划的建设。

事件，他开始自己的品牌高质IF变压器给电路——改变他的名片从Scott无线电实验室Scott变压器公司。Scott开发了一个数量的“世界纪录”设计，公开他们在无线电的压倒。所有设计指定Scott的“Selectone”变压器。完整的套件可以为某些型号。

后来，随着他的声誉增长，他越来越依赖于通过在报纸和杂志上发布设计来销售，而不是通过自己的套件模型进行市场营销。这些模型使用了不断增长的“Selectone”组件。因为Scott没有RCA许可证，Scott不能合法地制造完成的超外差接收器。所以当公众开始对自制无线电失去兴趣时，他必须想出一个替代的营销计划。

计划是把他的接收器通过定制接收器卖家来销售，他们会把可玩的成品用Scott组件组装起来。这从1929年的一则广告中可以看出Scott的立场：

“……有成千上万的人想要最好的无线电，他们知道最好的不能通过大规模生产的方法制造，而只能通过手工艺的定制方法制造。今年，Scott产品将不直接销售给消费者，也不通过零售商，而是专门通过专业定制接收器卖家销售。我们采取这种政策，因为我们相信你，并认识到你的能力，使我的产品比任何大规模生产工厂能做的都更好，你们的市场保护将导致你们的业务成长，反过来，我们的业务也会成长……”

然而，1930年后Scott的广告和邮寄材料采取了不同的策略。1930年3月的广告展示了实验室“……在实验室标准中制造所有Scott接收器。”一年后，一本小册子为1931年全波模型提供给定制接收器卖家的折扣，声明这些接收器“只由经验丰富的实验室工人在小批量中制造……所有必须通过Scott先生的个人检查，他们才能离开实验室。”

最终（1932年）RCA提出了专利侵权诉讼，并胜诉，Scott接受了RCA的许可证。Scott Transformer公司于20世纪30年代末和战争时代达到高峰。后来，Scott被赶出公司，销售下降。公司合并于1951年，Scott去世的那一年，公司陷入破产。应该指出的是，H.H. Scott，著名的高品质设备制造商，与E.H. Scott无关，这两家公司没有任何联系。

I n the Winter 2014 issue of The AWA Gateway I wrote about a number of publications related to my radio interests, mentioning that the highly regarded Monitoring Times had ceased publication due to the retirement of the founding publishers. Although I had not written very much about Internet resources for those interested in radio (the amount of information available being so great I didn’t know where to start or stop), Gateway reader and long wave radio expert Kevin Carey helpfully suggested that the online successor to Monitoring Times be brought to your attention.

So check out The Spectrum Monitor, at www.thespectrummonitor.com. This monthly resource is written by many of the same authors that the print publication had, so it covers much of the current state of the radio hobbies and businesses as well as antique radio subjects by author Marc Ellis, our Gateway editor. I can recommend it highly, and thank you, Kevin.

Now on to my personal radio memoir: at the age of five or six I heard the intro to a broadcast of Terry and the Pirates, a juvenile adventure series. The radio version of Terry and his band of adventurers evolved from a newspaper comic strip. The group was constantly engaged with exotic events and characters (the Dragon Lady is one) at various distant and romantic sites, frequently somewhere in Asia. The events occurring in Asia during World War II enhanced the appeal to American readers and audiences during that period.

I knew none of that when I first heard that program opening in 1943, an enchanting mix of bells, oriental musical instruments, and some probably fake Asian language sounds, evoking a very active harbor area market in Hong Kong or Singapore. I was hooked, struck with a sense of wonder that there was such interesting stuff on the radio.

Reportedly, before my time one or more of my older sisters became entirely too engaged with the Little Orphan Annie program. When one of them carried on too emotionally about missing out when some event prevented her from hearing an episode, our mother banned our family from listening to kid serials. But becoming aware somehow of Terry, my curiosity led me on a sporadic quest to find out more about what became known as after school programming. I was able to learn more when visiting friends or relatives, sneaking a listen when my parent was away, and from classmates.

My listening years began in the early 1940s, but from at least the mid-1930s through the next 20 years kid programming was some part of the life of every American child of listening age below age 14. Listening to such programming was often random. from April till October there was enough daylight to keep us outside all day in the summer months, and from the end of the school day until after the juvenile programming hours during school months. Portable radios were still uncommon, so not much listening was done outside. However winter afternoons were perfect for listening to adventure, with darkness outside, and sometimes wind, rain, or snow hitting the windows.

Program scheduling contributed to some listening randomness. The youth time slot was from about 4 or 5 p.m. (after the soap operas or daytime serials enjoyed by many women were over for the day) and until 6 p.m. (when news reports and commentators took over until prime time adult programming). During that 4 to 6 period, one had to be alert because most of the programs, 15 or 30 minutes each, moved around a lot between various days and starting times. Some programs ran on Monday, Wednesday, Friday one week, and Tuesday, Thursday the next week, alternating with another similarly scheduled program.

The programs sometimes changed networks as well, and some stations carried a few of these programs even if not on the network they were affiliated with. Occasionally stations changed their network affiliation, and some smaller city stations were affiliated with more than one network.

I don’t believe that anyone could keep up with all of the after school adventure programs. Program life cycles were sometimes short, and unfortunately we could only listen to one station at a time. Programs that I specifically remember include Terry and the Pirates, Jack Armstrong All American Boy, Sky King, Straight Arrow, Wild Bill Hickok, Clyde Beatty of the Circus, and The Chal-
lenge of the Yukon. Sponsors included Quaker Puffed Wheat, Quaker Puffed Rice, Wheaties, Cheerios (Cheerioats until the late 40s), Kellogg’s Sugar Corn Pops, Kellogg’s Pep, and Nabisco Shredded Wheat. A cereal serial pattern is obvious.

An Internet forum for old time radio a few years ago had a comment thread relating to the use of advertised products by the personalities who sometimes endorsed them. One of the era’s actors on multiple series on several networks was Howard Culver, the star of Straight Arrow. That show was sponsored by Nabisco Shredded Wheat. The widowed Mrs. Culver wrote on the forum that her husband had enjoyed the product. Then she wrote: “Mrs. Straight Arrow, however, hated the stuff.”

One non-cereal sponsor was Peter Pan peanut butter. I mention this only because the announcer reading the peanut butter commercials on Sky King was a young Chicago personality named Myron Wallace. This was of no interest to Sky King’s fans, of course, but Mr. Wallace did well in the broadcast field eventually becoming famous as Mike Wallace of 60 Minutes.

A partial list of similar juvenile programs that you may have heard of (although not part of my listening past) includes Superman, Captain Midnight, Dick Tracy, Little Orphan Annie, Roy Rogers, Tom Mix, Mark Trail, Flash Gordon, Shandu the Magician, Hopalong Cassidy, Red Ryder, and The H-Bar-O Rangers (later the B-Bar-B Rangers) with Bobby Benson.

The shows tied in with daily and Sunday newspaper comics, movies, books, pulp fiction magazines, and dime novels. One could enjoy the same character in different adventures simultaneously by reading a book, seeing a movie, listening to the radio, and reading the “funnies” in the paper. Even the daily comic strip of a character was not necessarily coordinated with the longer Sunday strip. Amazingly a kid could track several story lines involving the same character at the same time, not bad preparation for the reality of adult life.

The majority of juvenile programs involved cowboys, other Western types, or aviation heroes. Famous cowboy actor Gene Autry, also well known for his recordings of Rudolph the Red-nosed Reindeer and Frosty the Snowman and his ownership of the Los Angeles Angels American League baseball team, had a more adult oriented prime time drama and music Western show, Melody Ranch. The rest of the juvenile programs were detective, adventure, or sci-fi stories. Military scripts were quite popular during World War II, but not during the Korean War (which however was pretty well covered in comic books).

Many other programs were enjoyed by adults as well as children, the more famous of these being The Shadow, The Lone Ranger and The Green Hornet. The latter two and The Challenge of the Yukon were all produced by George Trendle at WXYZ, Detroit. This was unique because almost all other network radio originated in Chicago, New York, and Los Angeles. As an interesting tie-in between shows, The Green Hornet (character name Dan Reid) was the (fictional) nephew of The Lone Ranger (character name John Reid). Of course both were invested in righting wrongs and fighting evil.

Trendle’s programs expanded to a regional network of seven Michigan stations, and then to the beginning of the Mutual Broadcasting System — which started with WXYZ, WOR New York, WLW Cincinnati, and WGN Chicago. I found out only recently that George Trendle never scripted a minority in a negative role. He was ahead of his time; all bad guys, at least one per program, were Caucasian.

Although we can question the maturity of much current radio programming, there is very little aimed at youngsters. Larger cities have Radio Disney affiliates, but those are basically pop music outlets, little or no drama.

Network radio began in the mid-twenties and by the thirties was represented by four well-established national systems. National and local programming together made for a fascinating variety of listening choices, day and night. Let’s look at the fantastic influences of network radio in our next Gateway article. Other aspects of old time radio coming up will cover late night broadcasting, the value of radio broadcasting on farms and rural communities, and more.
What first attracted you to our fascinating hobby? Perhaps your interest stemmed from a vintage radio that happened to cross your path. Maybe it was an old set from the family attic or one that you saw at a friend or relative’s house. Maybe you spotted it at an antique store or flea market and just had to take it home. That first acquisition whetted your appetite for others, and you soon began acquiring the beginnings of a collection.

Now you’ve got the bug in earnest, and have begun to haunt garage sales, swap meets, and flea markets for more sets. But at this point you’ve probably started to realize that a serious collector has to be on the lookout for more than just receivers.

For example, in order to repair your relics, you need a stock of parts, tubes, service literature, and test equipment. And before you can even think of playing most pre-1930s radios, you have to get your hands on accessory speakers and/or headsets. Old catalogues and advertisements in vintage magazines help date your finds and relate them to the era in which they were manufactured.

At first, you may be drawn to these radio “peripherals” for their practical value in repairing, dating or playing the sets in your collections. But it’s likely that you’ll soon begin treating at least some of these accessory items as collectibles in their own right. The parts, tubes, test equipment, literature, or advertising begin to add depth to your collection and color to your displays.

Eventually, like some specialized collectors, you may become more interested in certain accessory items than in the radios themselves. That’s why, now that our series on the evolution of the broadcast receiver has been completed, I thought it might be a good idea to spend some time on the “non receiver” kinds of collectibles. If you are new to the hobby, this will help introduce you to the many such items that are waiting to pique your interest and add excitement to your radio hunting expeditions.

YOUR OWN SCHEMATIC LIBRARY?

After several years of experience as an antique radio columnist, I can state with authority that most people become preoccupied with radio schematics and service literature soon after acquiring their first set. Certainly the majority of the letters and queries I’ve received are from readers looking for schematics and technical information for their latest finds. Accordingly, I’ve decided to kick off this series with a discussion of such literature. Let me hasten to say that owning your own schematic library is not a necessity. There are many individuals and organizations who will supply you with information on specific radios for a reasonable fee. However, if you have the space and the inclination, it can be very satisfying to build up your own resources in this area.

When this series on radio peripherals was originally published in 1994 the internet, with its marvelous potential for disseminating and sharing information, was still in its infancy. Acquiring schematics and other technical data for a radio restoration project was nowhere near as easy as it is now. About the most complete and reasonably accessible sources for this information was the remarkable multi-volume library published by John Rider.

Most serious collectors attempted to acquire as many of the volumes as possible, and lucky indeed was the person who had managed to acquire a complete set and who had enough shelf space to keep all the volumes accessible. Today, many individual schematics may be downloaded free of charge from sites like www.nostalgiaair.org and the Rider manuals themselves are available as scans on DVD at reasonable prices. As you might expect, prices of individual volumes have fallen well below those quoted in this article.

However, I still enjoy having and using my complete

Rider manuals are easily identifiable by their massive proportions and quaint “antenna and towers” motif. At left is my “RCA Red” edition that includes volumes one through three, unabridged.
set, which was put together piece by piece over a period of several years. It’s reassuring to know that the reproduction of the schematics and data in it are as good as it would be possible to get. And even though the actual volumes are no longer in high demand, these manuals are such an important part of our radio heritage that all collectors should have a little bit of background information about them. Accordingly, I’m including the rest of this article, beginning with the following section, just as it was printed in 1994.

**RIDER’S MONUMENTAL MANUALS**

A very good way to set about building your own reference library is to keep your eyes open for volumes of John Rider’s Perpetual Trouble Shooter’s manual. Rider began publishing this series some time in the late 20s or early 30s, adding a new volume practically every year with some gaps during World War II. The complete set contains 23 tomes ranging in size from very large to massive, and requiring several feet of shelf space. The series covers virtually every radio released from the start of publication to the early 1950s, when the last volume was published.

The individual volumes still turn up regularly at radio meets. Their hefty binders are easy to identify. Most are dark blue with a quaint cover illustration, in silver, of an antenna strung between two towers. However, the volumes were sometimes produced in special editions (and colors) for promotional deals cooked up by tube manufacturers. From a practical point of view, volumes one through thirteen should be highest on your want list. These cover radios manufactured through about 1942, and thus include all of the “golden age” prewar sets.

Pick up as many volumes as you can, however. In recent years, there has been growing interest in early postwar radios and, in any case, you’ll add to the value of your Rider’s set by making it more complete.

**COST AND AVAILABILITY**

The earliest (one through four or so) and latest (after about volume 16, and particularly 20-23) tend to be somewhat rare and expensive. Asking prices for the more common books in the middle of the run fluctuate around fifteen dollars, depending on condition and the mood of the owner. As for the rest, it’s whatever the traffic will bear. I had to pay forty bucks for the last volume (21) that I needed to complete my set. Keep your eyes open for alternate forms of the early books. There is an abridged version of volumes one through five that is cheaper and easier to find than the individual tomes. Or you may be lucky enough, as I was, to locate the combined (and unabridged) volumes one through three offered as a promotion by RCA. It’s similar in size and design to the normal Rider books. But the cover is red instead of blue, and is decorated with a vacuum tube instead of the usual antenna-and-towers motif.
The last half of the 1920s was a time of significant improvements in radio technology. For the first time, radio beacon stations were installed for aircraft navigation. Phonograph records were created and played using vacuum tube amplifiers, improving the sound quality far beyond what was possible with mechanical recording. More powerful audio systems were developed for installation in auditoriums and motion picture theaters to show the new “talking pictures.” These developments also benefited radio broadcasting and home receiver design.

Most of the radios being sold still used TRF (“Tuned Radio Frequency”) technology but the receivers were easier to use and provided more enjoyment for the listeners. An increasing number of radios used AC power, avoiding the expense and nuisance of batteries. This was initially made possible by the development, in 1925, of the Raytheon Gaseous Rectifier, which provided an economical and reliable way of rectifying alternating current to provide the direct current needed for radio power.

Radios that had been designed to use batteries could be converted to AC power using “battery eliminator” power supplies incorporating the Raytheon rectifier. By the end of this decade, RCA had introduced the popular type 80 full-wave rectifier tube that was widely used in AC-powered radios until octal based tubes were introduced in 1935.

Single-knob tuning was replacing the less convenient “three dialer” tuning. This was accomplished by mechanically linking the three variable capacitors, either by mounting them on a common shaft or by using metal belts to ensure that they all turned together.

In preparing these articles, I often rely on my collection of radio magazines published during the decades I am researching. While browsing through issues from the 1920s, I discovered an ad for the “Brandola” receiver in the October 1924 issue of Radio Broadcast magazine. This is one of the earliest I have found for a TRF radio receiver with single knob tuning.

Another improvement made during the era was the replacement of headphones with loudspeakers, originally in the form of horn speakers. These were better than headphones, but they had poor audio quality. By the end of the decade, electrodynamic cone speakers provided better sound with better frequency response.

For more expensive radios, it became common practice to mount the power supply on a separate chassis with the electrodynamic speaker. The speaker’s electromagnet coil received its DC supply voltage as it acted as a filter choke for the power supply.

While type 71-A and 45 power triodes were the most commonly used audio output tubes, type 50 tubes were introduced to take audio output power to higher levels. Sometimes these tubes were arranged in a push-pull parallel configuration for even higher output power.

Tetrads such as type 24-A, which had a screen grid between the control grid and the plate, were used as RF amplifiers in newer radio designs to improve performance. They not only avoided problems with unwanted oscillation but also provided higher gain.

By the mid-1920s, radio interference was common and frequency assignments became controversial. At that time, Herbert Hoover was U.S. Secretary of Commerce, overseeing radio regulation. Hoover took an active role in developing legislation to avoid the conflicts...
among the various users of radio.

At the same time, radio amateurs and engineers began to explore the “short wave” bands. The term “short wave” does not have a precise definition, but generally refers to frequencies above the standard broadcast band, ranging from approximately 1.5 MHz to 30 MHz. References to frequency and wavelength can be confusing in articles about early radio.

Wavelength was the preferred designation during the early years of radio development, but the relationship between frequency and wavelength can be easily shown by the following formula:

\[ f \text{(frequency in kHz)} = \frac{300,000}{\lambda \text{(wavelength in meters)}} \]

The frequency unit used at that time was cycles or cycles per second. “Hertz” replaced cycles as the international unit of frequency in 1960 to honor Heinrich Hertz, one of the first scientists to explain and demonstrate radio waves. From that time, radio frequencies were expressed in kilohertz (kHz) or megahertz (MHz).

When amateur radio operators were required to limit their transmissions to wavelengths below 200 meters after World War I, they were surprised to discover that these shorter wavelengths had some significant advantages for long-distance communications. Commercial broadcasting stations also realized that using shorter wavelengths could expand their broadcasting reach to a world-wide audience.

Radio listeners at home learned about short wave broadcasting and wanted an inexpensive way to listen to these new international stations. Articles appeared in radio magazines describing short wave converters that could be inserted between the antenna and their existing broadcast band receivers to give them access to these higher frequencies. Radio manufacturers began to offer short wave converters to meet this demand and, later, to include short wave bands as an option in broadcast receivers.

I have a nice example of an early short wave converter in my antique radio collection. It was manufactured by the Stewart-Warnor Corporation, a company that also manufactured automotive products such as speedometers and dashboard instruments. This con-

Early electrodynamic speakers were sold as radio accessories as shown in this item from a 1929 Allied Radio catalogue offering units by Silver Marshall.
verter is packaged in an attractive wooden case that probably complemented the appearance of a Stewart-Warner radio that was in production at that time.

The circuitry was simple, consisting of only two vacuum tubes: a type 24-A RF amplifier and mixer, and a type 27 local oscillator. By “mixing” the short wave signal from the antenna with a signal produced by the local oscillator, the converter produced a lower-frequency signal that could be tuned by a standard broadcast radio. Many radio magazines printed lists, wavelengths and schedules of foreign short-wave broadcasting stations.

A major technical improvement was just being offered as the 1920s came to an end: it was the superheterodyne radio receiver, which has been the subject of other articles in recent issues of the AWA Gateway. Edwin Howard Armstrong, the same man who invented the regenerative detector receiver, developed this important circuit during World War I, but it required more tubes than other receivers in use at that time and needed more refinement before it was suitable for home use.

Nevertheless, this new circuit fascinated radio enthusiasts in the 1920s. Although most home radio manufacturers didn’t adopt the circuit until the early 1930s, an article titled “How to Build a Super-Heterodyne Receiver” appeared in the November 1923 issue of Radio Broadcast magazine. That design used seven vacuum tubes, which made the superheterodyne more expensive to build and operate than other receivers that were available at that time. It used an intermediate frequency of 50 KHz, a low IF frequency compared with later designs but common in the 1920s. Radio Age magazine published a similar article in their December 1924 issue.

Meanwhile, the stock market crash of October, 1929 started the Great Depression making life difficult for nearly everyone, including radio designers and manufacturers. Sales declined and a number of companies that produced radios and vacuum tubes either merged or went out of business. Nevertheless, innovative companies survived by producing new radios with less expensive circuitry that could still provide low-cost entertainment for their customers.

Members’ Corner
News of Particular Interest to the AWA Membership

FROM THE MEMBERSHIP SERVICES COMMITTEE
CHAIRMAN

The 2014 AWA Convention

As you read this, you may be fortunate enough to be attending the 2014 AWA Convention, or perhaps you may be back home after having attended it. If you attended, you probably spent time visiting the AWA Museum, shopping the flea market, visiting with friends, enjoying the banquets and attending the auction, the old equipment contest and the many topical presentations. If you were not able to make it this year, the AWA website contains sets of photos from the week-long event, put up after the conclusion of the convention on August 16.

Why Not Join the Club?

If you are not an AWA member, consider joining! In addition to the quarterly mailings of the AWA Journal with Association news and articles on every phase of radio collecting, history and restoration you will, this year, also receive a free copy of the AWA Review, a book-length collection of longer, scholarly articles largely focused on various aspects of radio communications history and published annually. Another important membership benefit will be your free admission to The AWA Museum.

Membership dues in AWA are only $35.00 per year in the U.S.; $40.00 elsewhere. If you have a few extra dollars, consider a Sustaining Membership, in which you make a tax deductible donation of $75.00 in addition to your membership dues. This helps sustain the operation of the AWA Museum. You can join or renew on line at http://www.antiquewireless.org/joinrenew, which is a lot more convenient than sending a check by U.S. Mail.

MUSEUM MILITARY DISPLAY GETS FACELIFT

The gift of a working B-17 Radio Compass from Roy and Sue Wildermuth has been installed and the radio “command sets” contributed earlier are also being set up for operational use. The goal is to include as many working examples of World War II technology as possible.

In keeping with the 2014 Convention theme of “Hallicrafters,” a Hallicrafters BC-610 transmitter is being put on display along with several other Iconic WWII pieces. According to Military Curator Roy Wildermuth, “The display should be dynamic and undergo annual upgrades in order to continue to attract visitors.”

The AWA Museum is open Tuesdays 10 a.m. to 3 p.m. and Saturdays and Sundays 2 to 5 p.m. It is closed holiday weekends and on Tuesdays, if that day is a holiday.
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, oshuler@comcast.net; Club Public Contact, Art Bilski, 630-739-1060, clubinfo@antique-radio.org. Website www.antique-radio.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, Chapter 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 on the third Wednesday of March, June and September at 7:30 p.m. Swap meets: “Cabin Fever” in January and outdoor tailgate in July. December Christmas party. For more info contact Barry Gould at 614-442-1518 or Dave Poland at 614-890-5422 or http://coara.org/.

- 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 website: 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 and Phono Society [HARPS] meets the 3rd Friday of the month 7:30 PM at the Episcopal Church of Suffern Annex, 65 Washington Ave., Suffern N.Y. 10901 for info contact Rev. Dale Cranston at (845) 357-1615 or dale.cranston@gmail.com.

- Indiana Historical Radio Society — Active since 1971. Meets in Feb. (Lawrence), May (2-days, Kokomo) and Oct. (Greenfield). Flea market, old equipment contest, and auction at all events. Meet details and club info at website www.indianahistoricallradio.org. $15.00 annual dues includes the IHRBS Bulletin published quarterly. 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, and November. Annual flea market held in Guelph, Ontario in June. Contact: Dave Noon, VA3DN, 19 Honeysuckle Cr., London, ON NSY 4P3, Canada. Email: va3dn@execulink.co. Website: http://lvrc.homestead.com/index.html.

- 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.

- The New Jersey Antique Radio Club — Meets the 2nd Friday of the month the 7:30 p.m. at either Info Age 2201 Marconi Rd. Wall Township N.J. 07719 or Bowen Hall, Princeton University. We hold three annual swap meets and four seasonal repair clinics. Visit the club’s website for details www.njarc.org or contact NJARC President Richard Lee (914) 589-3751 or president@njarc.org.
• 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 website 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 Saturday in May. For more information, contact Mike McCrow 503-730-4639; e-mail: tranny53@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 — Usually meets the second Wednesday of every month (except July and August) in the Conference Room, Ottawa Citizen, 1101 Baxter Rd., Ottawa, Ontario, Canada. Auctions in October and May. Call Paul Guibord (613-523-1315), or check www.ovrc.org for details.

• 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. Email: dwjw@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.
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 our 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 Museum campus is located in Bloomfield, New York. Membership in the AWA includes free admission to the world famous facility. It is crammed with too many treasures to describe here, but you can see some of the exhibits on our web site www.awawireless.org.

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.

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.