

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

October 2013

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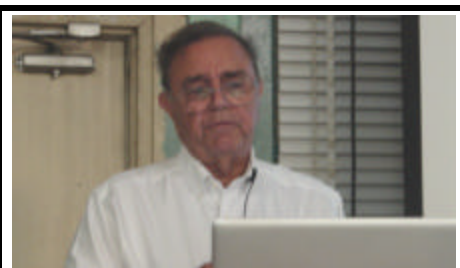
MEETING/ ACTIVITY NOTES

Reported by
Marv Beeferman

The ON-LINE Broadcaster

The New Jersey Broadcaster is now on-line. To date, over 120 of your fellow NJARC members have subscribed, saving the club and your editor a significant amount of money and work. Interested? Send your e-mail address to mbeeferman@verizon.net. Be sure to include your full name.

Last month's meeting featured a talk by member Robert Forte on the MKII-B2 Type 3 spy radio (sometimes referred to as the B2) and his friendship with Jean Claude Guet, a member of the British SOE (Special Operations Executive). The SOE was formed to conduct espionage, sabotage and reconnaissance in occupied Europe and to aid local resistance movements. Robert originally presented his talk at InfoAge's WWII Symposium and again captivated his audience at our September meeting.



MEETING NOTICE

The next NJARC meeting will take place on Friday, October 11th at 7:30 PM at Princeton's Bowen Hall (70 Prospect Ave.). Directions may be found at the club's website (<http://njarc.org>). This month's program will include a talk by Steve Klose on the Armstrong plaque project that was reported in the July 2013 *Broadcaster*.

Robert's B2 was contained in an unobtrusive leather suitcase that allowed an agent to travel inconspicuously. It consisted of a receiver, transmitter, power supply, a box of spares and a key. The crystal operated transmitter produced an RF output power (CW only) of approximately 20 watts. The full frequency coverage was divided over 8 ranges, using 4 tank coils with a reversible A and B side. The transmitter circuit was based on two tubes, an EL32 for the oscillator and a 6L6 for the PA.

Robert pointed out that the SOE was highly dependent upon the security of radio transmissions. The radio normally used AC power but could quickly switch to DC when the Germans would selectively cut power to a neighborhood to locate a transmitter when the signal died. In another example, codes were printed on silk. Unlike paper, which would be given away by rustling, silk would not be detected by a casual search if it was concealed in the lining of clothing.

Through a serendipitous meeting, Robert became friends with Jean Claude Guet who actually operated a B2 out of occupied France during the war. He parachuted into France with three other team members with orders to prevent the 2nd SS Panzer Division from reinforcing German troops at the beaches of Normandy on D-Day. They siphoned off the axle oil from the division's transport rail cars, replacing it with abrasive grease. The team also worked with the French Resistance, eventually forcing the surrender of more than 75,000 German troops in Limoges. Following the death of Mr. Guet, Robert obtained copies of many of the artifacts and forged documents that

Guet had accumulated during his service.

Robert also talked about another member of the group, Violette Szabo. She was employed as a courier on the assumption that a woman would be less likely to be suspected of illicit activities. She normally moved about on a bicycle, but was a passenger in a car that raised the suspicions of German troops at an unexpected roadblock. A brief gun battle ensued where her Maquis minders escaped but she was captured after running out of ammunition. She was interrogated and tortured during the following months and executed about February 5th, 1945 at the close of the war.

The consignment auction organized by Ray Chase (see the September *Broadcaster*) resulted in some nice items going to good homes at reasonable prices and a little extra income for the club. The Westinghouse RA/DA (RC) receiver sold for \$100, the Thompson horn speaker for \$105, the Radiola 18 for \$40 and the RCA 143 tombstone for \$300. Considering what is being paid on the internet, tube prices were fair. Eight ST 45's, tested good, went for \$50.



THE JERSEY BROADCASTER is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are \$25 per year and meetings are held the second Friday of each month. The Editor or NJARC is not liable for any other use of the contents of this publication.

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Following the installation of a new transformer and a walkdown of the system, full power was returned to InfoAge on Friday, September 6th and all went well. This is just in time to support the "Camp Evans Base of Terror" which is resurrected each Halloween to provide significant funding to the InfoAge mission. The theme is an abandoned military base that has been taken over by creative and sick individuals who love bringing your inner child to tears. The "base" is open every Friday and Saturday night in October and NJARC participation includes a "mad scientist" laboratory that energizes the undead with arcs and sparks. If you're interested in volunteering to help with the club's display, contact Ray Chase at 908-757-9741. InfoAge could also use some extra ghouls, zombies and ghosts or behind the scenes help with makeup and effects; if interested, please contact Dan Lieb at danlieb@infoage.com.

With the help of New Jersey Natural Gas (NJNG), InfoAge is also planning steps to significantly increase its energy efficiency and reduce energy costs. With the assistance of the Environmental Defense Fund, opportunities have been identified for lighting retrofits for four of the main InfoAge buildings to reduce energy load and carbon emissions. Retrofits have been planned to upgrade older fixtures to new electronic ballasts and super-efficient 28-watt lamps which are expected to save between 10 to 20 percent in annual energy costs.

On Friday, September 20th, member Steve Rosenfeld and I attended the Kutztown radio meet. As usual, vendors filled both pavilions and buying seemed brisk but Steve and I didn't come home with much. I saw a few early battery sets but nothing struck my fancy...perhaps most of the deals were done on Thursday and early Friday morning. Photos of the event are provided in this month's *Broad-*

caster and a video, courtesy of Bob Bennet, can be found at his "Radiowild" on YouTube.

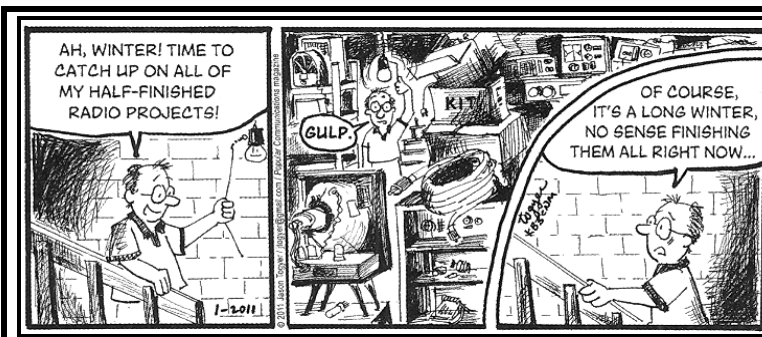
In the June 2013 *Broadcaster*, we ran an article by Robert Forte on a visit to the home of Hugo Picciani of Brooklyn, New York. Hugo is an 85-year-old master mechanic who has one of the best and oldest collections of early radios and artifacts in the metro area, some going back to 1915. His collection was originally up for sale, but Ray Chase has received a call from him indicating that he wants to donate it free and clear to our museum. Although all the details have not been finalized, let's hope that this very significant contribution pans out. Although we presently don't have the room to display most of the items, our future expansion in a few years will easily accommodate some exciting new pieces.

Bits and Pieces

- A video of the new AWA museum may be found on YouTube at <http://www.youtube.com/watch?v=J76Xl45yrfc>.
- "A Journey to the Center of a Tube" on YouTube is a look through a microscope at all the pieces inside a vacuum tube. It can be seen at <http://youtube/WnZRJmCZb8>.
- The storage unit auction of radios mentioned in last month's *Broadcaster* has been moved to October 19th. Photos of the collection may be found at <http://reidgreene.homestead.com/index1.html>.

Upcoming Events

November 2nd: Repair Clinic at InfoAge
November 8th: Monthly meeting at InfoAge - Talk by Joe Taylor on the history of the moon bounce project (tentative)
November 23: NJARC Winter swapmeet at Parsippany
December 7th: Holiday Party at InfoAge (no meeting this month)



Winter Blues

(Courtesy of Popular Communications, January 2011)

REDISCOVERED DETECTORS

By
Marv Beeferman

In 1998, I attended the Henry Ford deaccession auction with Ludwell Sibley. Ninety-nine percent of the items were out of my price range, but I did manage to capture a box lot of interesting variable capacitors and three brass cylinders, each about an inch and a half in diameter with a hard rubber base and two brass pins. I let these sit for a few months but my curiosity finally took over. With a little difficulty, I was able to remove the cylinders from their bases and discovered that they covered three different, expertly machined mineral detector assemblies. In 1999, I gave two of these detectors to our crystal set guru Al Klase for examination and he eventually wrote an article for the *Broadcaster*. Al came up with some interesting conclusions regarding vintage and construction but I was still curious where the detectors were used. We'll get back to Al's article in a little.

Fast forward to last month's NJARC meeting where Ray Chase was offering some of the duplicate books from his collection for half-price. I was attracted to Rupert Stanley's *Text Book on Wireless Telegraphy* from 1917 and brought it home. While thumbing through its pages, I was surprised to discover exact line drawings of all three of the detectors and descriptions of their construction. Since the preface to Stanley's book is dated 1914, the detectors probably date to about this time. I also learned that the design was typical of Telefunken detectors and they were not specific to a particular application; more likely, they could be used and were interchangeable with various receiver designs of the period. (Note: like all things in a collection scattered here and there, I could not locate the two detectors that Al reviewed so some of the photos included in this article are from Al's original article.)

In the first detector (shown in the attached FIG. 133 "a"), a gold point makes contact with a selected crystal of iron pyrites. The 1-1/4" base is made from ebonite. It is described "as made and used by the Telefunken Co." Mounted on the base is a brass pillar into the top of

which is screwed a crystal cup with the pyrites crystal held in with Wood's metal. In front of the pillar is a silver, U-shaped spring carrying a little gold point. The spring is pressed forward by means of a screw until the gold point makes sensitive contact with the crystal. A pointed crystal of antimony may be used to make contact instead of the gold point and sensitivity is said to be increased by this means. The detector is fitted with plug contacts so it can be easily connected to or replaced in a receiver.

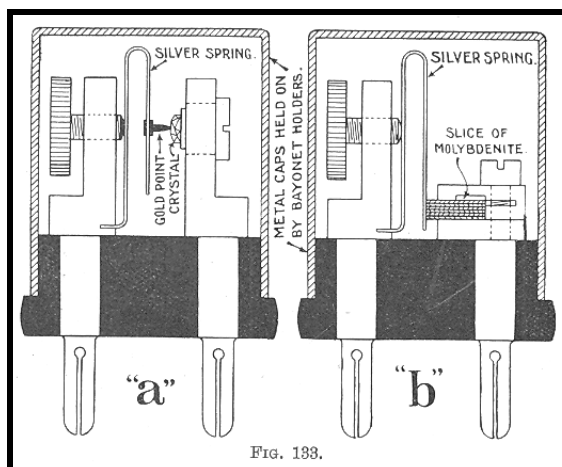


FIG. 133.

The second molybdenite detector was also made and used by the Telefunken Co.; it was not as sensitive as the iron pyrites detector but was "very reliable and robust." As shown in FIG. 133 "b", a flat piece of molybdenite is firmly held by screws between two brass plates with

its front edge projecting. Contact is made on this edge by a U-shaped silver spring, pressed towards it by means of an adjusting screw. If the detector becomes insensitive over time, its molybdenite face could be lightly cleaned with sandpaper to expose a new sensitive surface. This detector was described as "suitable for short range work, for strong signals and for use with portable outfits."

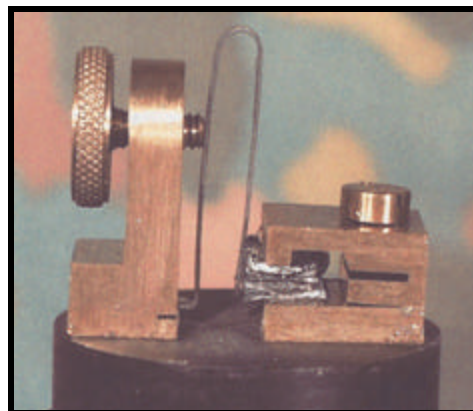
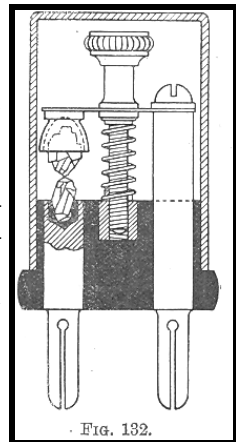


FIG. 132 (to the right) illustrates the Perikon detector, "much favored by amateurs because it is exceedingly sensitive and easy to adjust, though it requires continual adjustment." On one of the ends of the two brass plug contacts is a cup with a



small piece of tellurium. The other plug is extended to a pillar which carries a spring arm; on its extremity is mounted a zincite crystal in its cup. The adjustment of the crystals is made by means of a screw which carries a steel spring.

Contact between a crystal of zincite and one of tellurium was found to give better results than the original form of the Perikon detector. This consisted of a crystal of zincite in contact with a crystal of

copper pyrites, bornite or chalcopyrite.

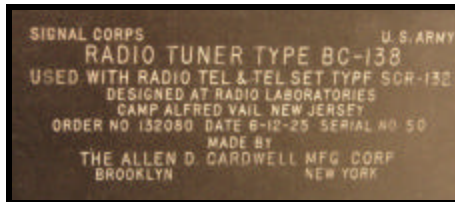
The Perikon detector is very sensitive and does not require a potentiometer voltage in series with it. Unfortunately, it is easily made insensitive by transmitter discharges close to it.



THE BC-138: A CAMP VAIL ARTIFACT

By
Marv Beeferman

One of the buys that I came home with from this year's Antique Wireless Association conference was a BC-138 tuner. I'm usually not interested in collecting military electronics, but the markings on this item intrigued me:



So how did Al Klase do in his 1999 evaluation? Pretty close to an A+. Al quickly identified the perikon detector "showing the unmistakable red-orange color of zincite." (Al also noted that zincite is a rare mineral except in the Franklin area of New Jersey.) He also identified the molybdenite detector, "an early favorite of the Telefunken company." Since the screw threads are standard SAE types, Al guessed that the detectors may have been made in the United States.

Al also cleaned the contact surfaces of the detectors with isopropyl alcohol and checked them out in his laboratory crystal set. He found the perikon detector's performance to be just OK - "but not nearly as sensitive as Galena or a modern germanium diode." He found that the molybdenite detector just worked until he provided a little DC bias with a potentiometer across a pen-light battery. Then, performance was about on par with the perikon unit.

Finally, Al noted the following:

"Detectors of these kinds were used in commercial applications because of their ruggedness. A galena detector requires a very delicate touch from the catwhisker, making it a poor choice for use on a vibrating ship in rough waters. Also, the rectifying junction of a galena detector can be easily destroyed by a distant lightning strike or RF from a transmitter."

Next step is to find a photo of one of these detectors in actual use. Any help out there?

I'm quite familiar with "Brooklyn, New York" since I was born there but "Camp Alfred Vail" and its associated radio laboratories did not strike a note. Although it was a little pricey, my curiosity got the best of me and I bought the tuner.

Aided by further research, my interest in the BC-138 was rewarded with some interesting history. On the other hand, it may have initiated a journey that I might not be ready to begin (more on this later). In any case, let's begin with Camp Alfred Vail.

At the outbreak of World War I, the Army recognized that Signal Corps strength was insufficient to furnish the communications this larger Army needed. The search for land for additional training camps led the Army to a site in New Jersey formerly home to the Monmouth Park Race Track (closed by a "moralist movement") and luxury hotel. Notwithstanding the desolation of the site in 1917 - largely overgrown and infested with poison ivy - it afforded the Army significant advantages; proximity to Hoboken (a port of embarkation), proximity to the passenger terminal in Little Silver, some good stone roads, and access to water. The Army leased 468 acres on May, 1917 with an option to buy.

The Army originally called the installation "Camp Little Silver," based merely on its location. It was renamed "Camp Alfred Vail" in September 1917 to honor the New Jersey inventor who helped

Samuel Morse develop commercial telegraphy.

The camp ultimately prepared several battalions for war. A total of about 1,000 officers and 9,000 enlisted men served at the post in 1918 alone. But in addition to wartime training, the Army conducted research and development work at the radio laboratories and associated airfield on the post. The particular demands of tank and aerial warfare in World War I necessitated a special Army laboratory devoted exclusively to developmental work. This laboratory would be entirely independent of the commercial laboratories. It would be a place where trained specialists could focus their energies on problems in wireless communication. Thus, Camp Vail became a focus for pioneering work on air to ground radios and direction finding by radio. It was at this Camp Vail radio laboratory that the SCR-132 (a 100-mile telephone transmitter/receiver with an 80-foot, portable, collapsible mast) and its associated BC-138 tuner were developed.

The purchase of Camp Vail was authorized in 1919 and the Signal Corps School relocated to the camp from Fort Leavenworth that same year. The school was designated "The Signal Corps School, Camp Alfred Vail, New Jersey." The Signal Corps Board followed in 1924. The installation received permanent status and the name "Fort Monmouth" in August 1925, just three months after order No. 132080 was placed with the Allen D. Cardwell Mfg. Co. of Brooklyn for serial number 50 of my BC-138 tuner.



**Camp Vail inductees from Iowa
receive their vaccinations.**

The BC-138 is the tuner for the SCR-132, a ground telephone and telegraph set designed to provide "telephone" communications up to 100 miles and telegraph communications up to four or five times that distance. The set was originally intended for use with the SCR-135,

mounted in bombers. But since the SCR-135 became obsolete, the 1931 manual indicates that "it is contemplated that radio set, type SCR-132, will be used in army and corps nets, and will be issued to infantry division signal companies, to operation companies of signal battalions, and to certain units of the Coast Artillery Corps and the Air Corps."

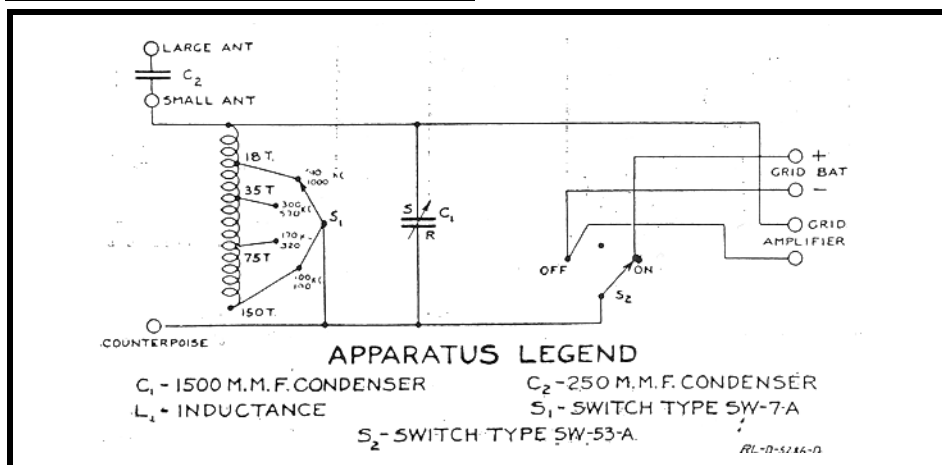
The transmitting equipment of the SCR-132 consisted of a BC-127 transmitter, a GN-32 motor generator, and PE-40 power unit. It provided C.W., M.C.W. and telephone operation over a range of 150 to 350 kHz. The receiver consisted of a BC-138 tuner, a BC-118-A amplifier and BC-131 receiver (Signal Corps version of the SE-1420) with a range of 100 to 1,000 kHz. The receiver components were installed in a chest that mounts on four legs and probably accounts for the excellent condition of my tuner.

The BC-138 tuner is very simple in design. It consists of a fixed condenser, a variable condenser and variable inductance. The lower control varies the capacity of the condenser, the upper left controls varies the inductance of the coil in steps and the upper right control places grid bias on the first tube of the amplifier. The binding posts at the left are for a counterpoise and antenna. Those at the lower right are connected to the receiver's amplifier input and the biasing battery is



connected at the upper right.

I wish I could include a picture of the integrated receiver with all its components but the poor quality manual I'm working from would not do it justice. But one could dream to someday join the remaining components together to replicate the original. Considering that the BC-131 receiver is a version of the SE-1420 and the rarity of the BC-118-A, you could imagine the cost of such a project. But one never knows and it's always good to have a little hope. For the present, I'll be content to merge my BC-138 tuner with an antenna, detector and perhaps an amplifier from the same vintage and see how it does on the broadcast band. Whatever the outcome, hats off to Camp Vail.



WILL AM RADIO BE LOST IN THE STATIC?

Edited by
Marv Beeferman

The following is based on the article "A Quest to Save AM Before It's Lost in the Static" by Edward Wyatt that appeared in the "NY Times" on Sept. 9, 2013. The lone Republican member of the F.C.C. that Mr. Wyatt refers to reminds me of past attempts by his party to defund National Public Radio. Although the argument used was that government had no place in getting involved in a function that had no constitutional basis, there was probably a hidden agenda of not supporting what was considered a "left leaning" organization. Is the value of AM radio really being defended here, or we again looking at an-

other hidden agenda - the support of conservative talk shows and religious programming? You be the judge...Ed

In his recent *New York Times* article, Edward Wyatt states that the digital age is killing AM radio. Long surpassed by FM and more recently cast aside by satellite radio and Pandora, he notes that AM is now under siege from a new threat; rising interference from smartphones and consumer electronics that reduce many AM stations to little more than static. Except perhaps for members of the NJARC and other vintage radio clubs, its audience has sunk to historical lows.

However, it may have at least one, albeit lonely, savior. Ajit Pai is the lone Republican on the F.C.C. and is on a personal quest to save AM. He is urging the F.C.C. to undertake an overhaul of AM radio, which he calls "the audible core of our national culture." He sees AM, largely in the realm of local news, sports, conservative talk and religious broadcast-

ers as vital in emergencies and in rural areas. (Not to mention antique radio collectors and DXers...Ed).

One of the points made by Mr. Pai is that, because of its longer wavelength, it can be heard at greater distances in emergencies. He cited Fort Yukon, Alaska where the AM station KZPA broadcasts inquiries about missing hunters and transmits flood alerts during the annual spring ice breakup. "When the power goes out, when you can't get a good cell signal, when the Internet goes down, people turn to battery-powered AM radios to get the information they need." (Think hurricane Sandy...Ed).

Let's look at some numbers. By 2011, AM listenership had fallen to 15 percent of all radio listening. Although five of the top 10 radio stations in the country, as measured by advertising dollars, are AM (WCBS, KFI, etc.), the remainder only accounts for 21 percent of the wealth. Nearly all English-language AM stations have given up playing music, and a third

of the 30 Major League Baseball teams now broadcast on FM.

AM, however, remains the realm of conservative talk radio, including roughly 80 percent of the 600 radio stations that carry Rush Limbaugh. Talk radio has helped keep AM alive. Mr. Pai says he was not promoting AM to advance conservative talk radio, but part of his prescription treads a traditional Republican path. For example, he wants to eliminate outdated regulations like one that requires AM stations to prove that any new equipment decreases interference with other stations, a requirement that is expensive, cumbersome and difficult to meet.

Other considerations by Mr. Pai include:

- Examining a relative new technology known as HD (not high definition) which has allowed some stations to damp static by transmitting a digital signal along with their usual analog wave.
- Mandating that all AM stations convert to digital transmission to reduce interference. Such a conversion, however, would cost consumers who would have to replace hundreds of millions of AM radios.
- Have the F.C.C. consider FM translators which send duplicate AM broadcasts over FM airwaves and help reduce interference.

Why try to salvage AM? Critics say its decline is simply natural selection at work, and many now support converting the frequency for use by other wireless technologies. But the F.C.C. says it is behind Mr. Pai's ideas but is a long way from committing to a major overhaul.

In reality, even if the F.C.C. reduces regulation and provides compensation for AM stations, it cannot repeal the laws of physics. Nearly every recently manufactured electronic consumer product emits signals that can interfere with AM broadcasts. An increase in the construction of tall buildings in suburban areas and beyond continue to block AM signals. Finally, the F.C.C. requires most stations to turn off or greatly reduce signals at night.

Mr. Pai says that unless the problems with AM radio were fixed, people would keep fleeing. With plenty of other options, "they will switch the dial to something else." *Since most people rarely give much thought to or actually care how a signal gets to them, it probably will involve device switching instead of any dial switching...Ed).*

DANGERS OF ELECTRICAL STORAGE SPOOLS

By
Marv Beeferman

Whether it is for radio restoration or repair work or around the house activities, an extension cord is a basic tool that gets the power to where it's needed. However, based on a posting on the AWA website by K2OEQ linked to safety expert Chris Loomis, we might want to think twice about how we use extension cords that are kept on storage spools.

The problem arises when only enough cord is unrolled to reach the item you need to power. Most people do this to prevent a tripping hazards and to keep things looking neat. However, electrical cords are rated by their insulation factor and are designed to be used in environments without extreme temperatures. By not unspooling the entire cord, the temperature that the cord is exposed to is altered. This can lead to a temperature in the center of the cord bundle to become hot enough to melt all the insulation from

portions of the wire. This is particularly applicable to cheaply made products.

Before using an extension cord wound on a reel spool, check carefully to see if there are any cautions indicating its proper use. You might find something like "Caution: Unreel cord before use." Unfortunately, this is not the case with all reels. I checked out one I recently purchased from Home Depot. Its tag had numerous warnings but none relating to unreeling all the cable.

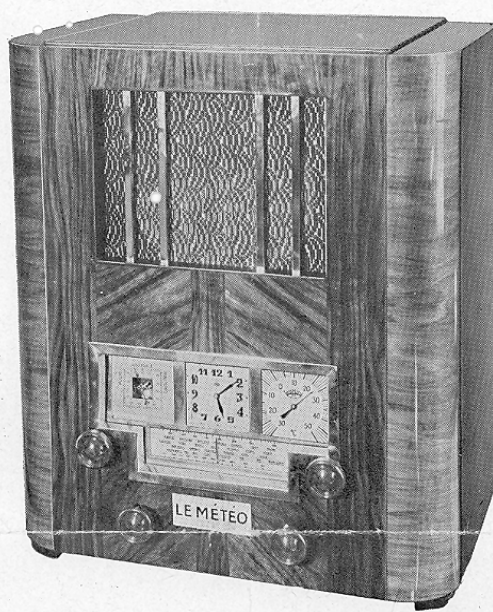
Although most of us try not to exceed the rating of extension cords and ensure they are UL rated, it's probably best to work with them with most of the cable unreel. Better safe than sorry.



This cable reel has overheat protection; it will switch off power if it gets too warm.

LE MÉTÉO

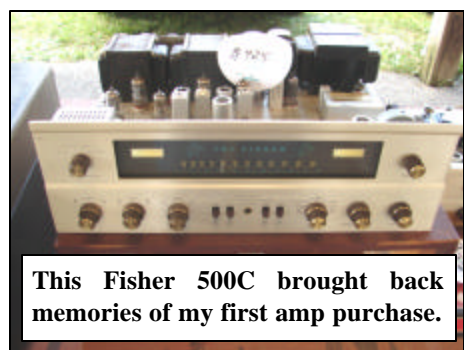
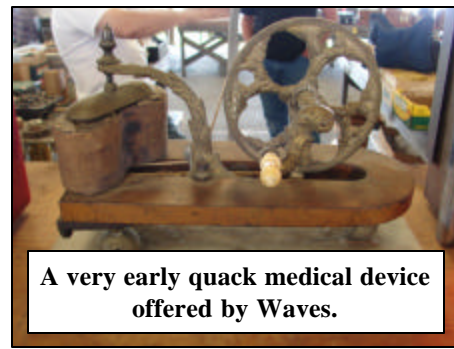
TOMBOLA



I noticed this radio as part of a French advertisement at member Ray Chase's table during last month's Kutztown swapmeet. "Trois instruments de précision: Pendule, Thermomètre, Baromètre" That's right - not just a simple radio, but one housing three precision instruments; a clock, a thermometer and a barometer. Le Météo translates to something like "weather forecaster."

This six tube (two 78's, a 6A7, a 77, a 43 and a 25Z5) superheterodyne runs off AC or DC. Although the date is not stated, it appears to be of about mid-thirties vintage. The advertisement prices the radio at 2,490 Fr. but it is offered at a reduced price of 1,060 Fr.

Kutztown - September 2013





New Jersey Antique Radio Club's

== Fall Swap Meet ==



**Parsippany PAL Building
Smith Field**

**Route 46 @ 33 Baldwin Road
Parsippany, NJ 07054**



Saturday November 23rd, 2013



Refreshments Available

(70) 8 Foot Tables

\$25.00 for members

\$30.00 for non-members

Reserve Additional Tables \$20.00

At the Door \$25.00

Open to the Public

8am to 12 noon

Vendor setup at 7:15 AM

\$5.00 ENTRANCE FEE

CLUB DONATION

For Directions

**Visit our website: www.njarc.org
or Mapquest**

33 Baldwin Road, Parsippany N.J. 07054

Vendors Make Your Reservations Now!

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